

Indian Hemp Drugs
Commission, V. III
Appendix 1894

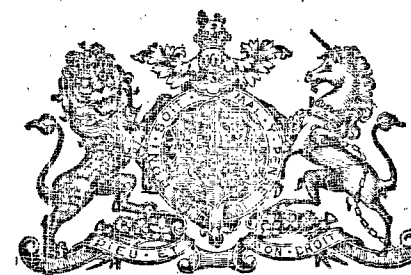
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Indian Hemp Drugs Commission.

VOL. III.

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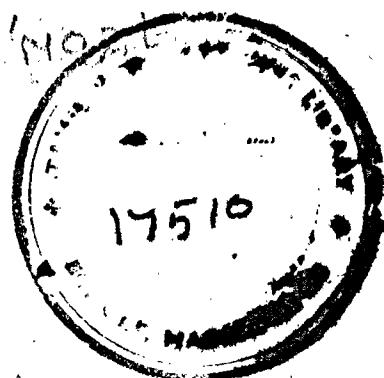


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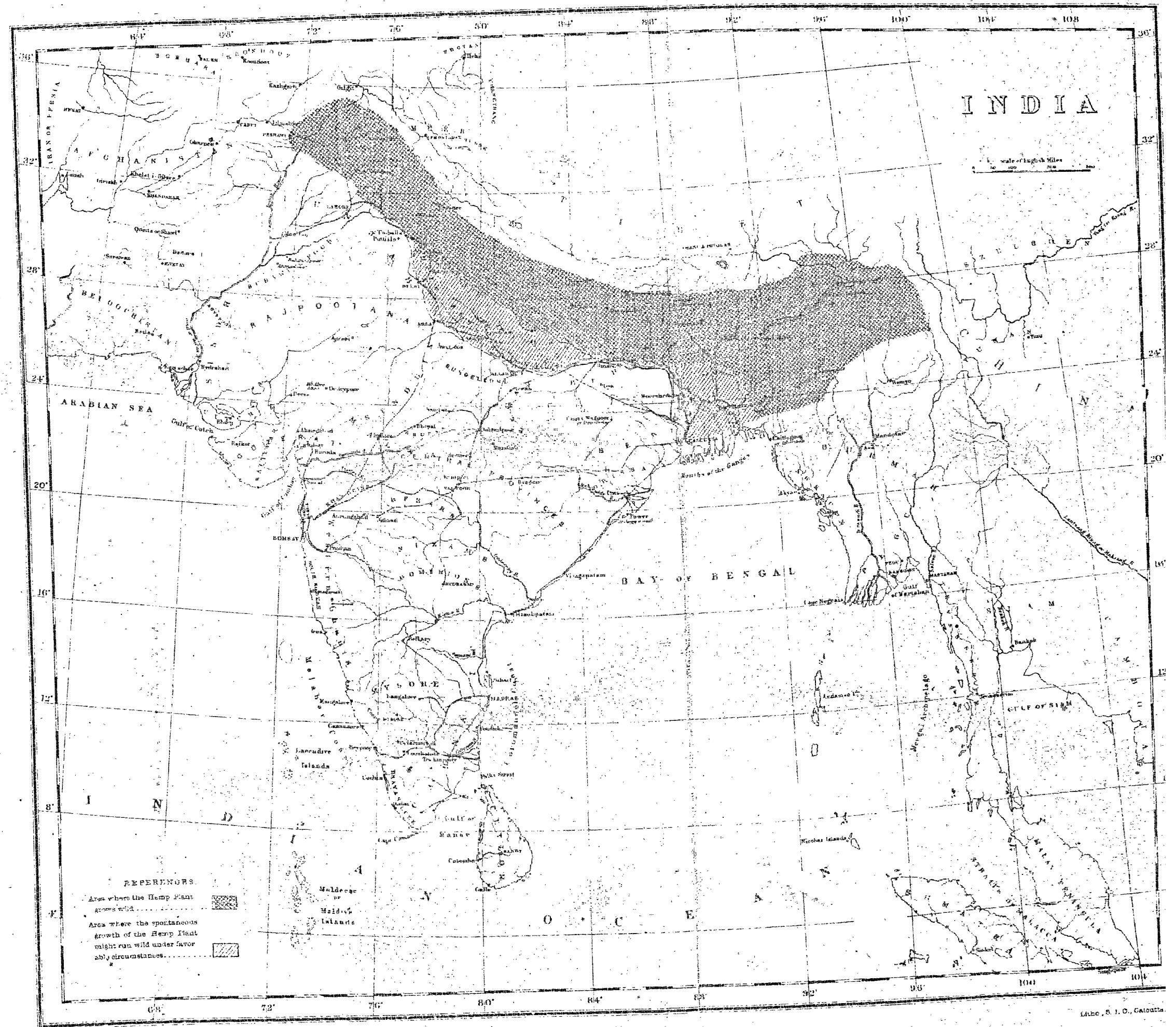
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thoroughly investigated, each variety of the drug being separately treated so far as that can be conveniently done. In conducting this branch of the enquiry, the Commissioners should avail themselves freely of the evidence of medical experts. They should endeavour to ascertain what proportion of the population habitually consumes hemp-drugs, and should thoroughly examine the testimony in support of the commonly received opinion that the use of hemp-drugs is a frequent cause of lunacy. They should ascertain whether, and in what form, the consumption of the drugs is either harmless or even beneficial, as has occasionally been maintained.

6. Full information should be compiled regarding the administrative arrangements in force in each province for controlling the growth of the plant, the manufacture and sale of the drugs, and their importation from other provinces or from Native States, and for imposing duties on cultivation and sale. It is understood that charas is imported into the Punjab on a considerable scale from foreign territory, and the question of the importation of hemp-drugs generally from foreign territory should receive the special attention of the Commission. The various systems employed for taxing the drug or the cultivation of the plant should be reviewed, with especial reference to the comparative incidence of this taxation in different parts of India, and to the comparative efficacy of the taxation imposed in restricting consumption, whether by the mere weight of the tax, or by the method and stage of imposition. It is known that the rates vary considerably in different provinces, but the precise effect of the variations is not fully understood. In this connection the Commissioners should notice any case in which the proximity of a Native State affects the production or consumption of the drug in British territory.

7. There are two points connected with the subject-matter of the enquiry which call for special investigation. The first of these is the danger lest prohibition, or restrictive measures of a stringent character, may give rise to serious discontent, and be resented by the people as an unjustifiable interference with long-established social customs. In some parts of India the use of hemp-drugs is, it is believed, common among fakirs and ascetics held in veneration by large classes of the population. In Bengal it has been stated that an infusion of the leaves of the plant is commonly offered to every guest and member of the family on the last day of the Durga Pujah: it has no ill effects, and its use is not considered reprehensible in any way. The Governor-General in Council desires that the Commissioners will endeavour to ascertain to what extent these and similar customs prevail in Bengal and other parts of India, and how far the use of hemp drugs forms a part of social, or possibly religious, ceremonial or observance, and they should, if possible, take the evidence of witnesses drawn from the classes among whom the use of hemp-drugs is chiefly prevalent. The Commissioners should state their opinion whether the prohibition of the use of hemp-drugs or any restrictive measures which they may deem practicable would be likely to give rise to political discontent in any parts of India or among any classes of the population. It is believed that in some parts of the country bhang is, in a special degree, the poor man's narcotic, and the possible unpopularity of a measure which would deprive the very poorest of the population of the use of a narcotic to which they have always been accustomed should not be overlooked.

8. Another point to which the attention of the Commissioners should be directed is the probability or possibility, that if the use of hemp-drugs is prohibited, those who would otherwise continue to use them may be driven to have recourse to alcohol, or to other stimulants or narcotics which may be more deleterious.

9. Finally, the Governor-General in Council requests that the Commissioners, if they should be of opinion that the prohibition of the consumption of any hemp-drug should not, or could not, be enforced, will indicate, for the consideration of the Government of India, any reforms and improvements which their investigations may lead them to recommend in the existing arrangements of each province for controlling the cultivation of the hemp plant, and the manufacture, sale, and taxation of hemp-drugs. In framing their recommendations regard should, of course, be had to the considerations which have been stated in paragraphs 7 and 8 of this Resolution. Absolute prohibition, or repressive measures of a stringent nature, may involve inquisitorial proceedings of an unpopular character, and afford opportunities for the levy of blackmail; and in framing regulations for the prohibition or for the restriction of the use of hemp-drugs these considerations should be borne in mind.

If the Commission should be of opinion that the cultivation of the hemp plant for the production of drugs, or the consumption of any hemp drug, should be absolutely prohibited, it will be their duty to state the regulations which should be adopted for this purpose.

10. All Local Governments and Administrations have been requested to render every assistance to the Commission, to collect and place at its disposal whatever information may be available, and to make to the Commission any suggestions regarding the enquiry which local knowledge and experience may suggest.

11. The Governor-General in Council directs that the Commission shall assemble in Calcutta on the 1st August 1893.

J. F. FINLAY,

Secretary to the Government of India.

BENGAL MEMORANDUM.

1. There is a uniform system throughout the Lower Provinces.

2. Hemp drugs, of which ganja is the principal, constitute one of the chief sources of excise revenue in Bengal.

3. In excise matters there is one central controlling authority, which is vested now in the Commissioner of Excise, acting under the general control of the Board of Revenue. The excise department of each district is managed by a selected Deputy Collector under the personal supervision of the Collector, who is primarily responsible for the administration of the excise of his district. In the more important districts there is a Special Deputy Collector mainly for excise work. With the appointment of a Commissioner of Excise under section 33 of the Bengal Excise Act, VII of 1878, from the 4th April 1889 the connection of Divisional Commissioners with excise ceased, but recently (from 1st April 1893) they have again been brought into touch with the department by executive arrangement, in accordance with which annual and other reports and proposals involving any change in principle and policy pass through them.

4. The Excise Commissioner is assisted in the work of inspection by two Deputy Collectors under the designation of Inspectors of Excise. The subordinate district agency consists of Superintendents, Deputy Inspectors, Sub-Inspectors, clerks, jamadars, and peons, who are variously employed in the management of central distilleries, in the inspection of shops, in the collection of revenue, and the compilation of statistics, and in the detection and prevention of excise offences, and who are controlled by the Excise Deputy Collector acting under the orders of the Collector.

Regulation II of 1793, section 7, and clause 10 of section 8.
Act II (B.C.) of 1866, sections 18 to 24.
Act IV (B.C.) of 1866, sections 35 to 41.

The system of excise on hemp-drugs is based on the Bengal Council Act, VII of 1878, and the Regulation and Acts noted on the margin, as well as on the Board's Excise Manual and the circulars issued by the Board from time to time.

5. The following sections or parts of sections of the Bengal Excise Act relate specially to hemp-drugs:—

4, 15, 16, 35, 54, 62, and 63.

The following Board's rules have special reference to those drugs:—

Sections XIX, XX, and XXI of the Board's Excise Manual, 1891.

6. The wild hemp plant is found in nearly every district, and it grows abundantly in several places. No ganja or charas is made from the wild plant, as the narcotic element, which is essential to the preparation of either drug, is entirely absent or very imperfectly developed in the uncultivated plant. But the green leaves of the wild plant are dried and, under the name of bhang, extensively consumed, especially in Bihar. The cultivation of hemp plants, except under a license, is strictly prohibited, so are unlicensed sales of hemp drugs, including bhang, and their unlicensed possession in any quantity in excess of 20 tolas. (In the case of charas and Garhjat ganja the limit is 5 tolas.) The use of untaxed bhang is general, and the facility with which bhang can be made from wild plants baffles all effort to bring it under adequate taxation. Most of the licensed shops are situated in the urban areas, but, excepting in about half a dozen districts, the townspeople also would seem to use untaxed bhang. For instance, in the Rajshahi Division not a single license is taken for the sale of the drug. It is also suspected that licensed shops do not always confine their business to the duty-paid drug. An attempt was made lately to get the wild plant extirpated with a view to bring the cultivation of bhang under proper control, if possible; but the plant grows so abundantly that the attempt was considered impracticable, and has since been abandoned under the order of Government. Although wild hemp is so very common everywhere, bhang is prepared for the market in only three districts, *viz.*, Monghyr, Bhagalpur, and Purnea, where the plant growing luxuriantly in the alluvial char lands of the Ganges is considered to yield a superior quality of leaves. Wholesale dealers are allowed to collect the leaves under permits granted by the Collector. They next bring the drug in bags to the licensed golas, where it is weighed and stored in the presence of a responsible officer. It is then allowed to be exported to other districts or issued for retail sale under the same rules as ganja.

7. It will be seen that bhang does not really come under excise control until it is collected and stored in golas, and the rules so far are defective. But the difficulty of introducing a stricter system lies in the fact that the plant, as it stands on the ground, has very little marketable value. If it is growing on waste land, any one can have it; on the other hand,

the cultivator on whose land it is found is only too glad to get any one to remove this troublesome weed, and all that the collector of the drug has to pay are wages for gathering and drying the leaves and cartage to the gola.

8. The cultivation of the hemp plant for the production of ganja is permitted under special licenses. Prior to the passing of Act II (B.C.) of 1876 persons engaged in the cultivation of ganja apparently were not required to take out licenses, though by section XXIII of Act XXI of 1856 the Board of Revenue were empowered to "place the cultivation, preparation, and store of the drugs under such supervision as may be deemed to be necessary to secure the duty leviable thereon," and by section I of the same Act the cultivators of ganja and bhang were prohibited from selling the drug to any one other than a licensed vendor or other duly authorized purchaser. Unlicensed cultivation was prohibited under section 13 of the Bengal Council Act, No. II, 1876. The same provision has been retained in section 54 of the present Act, VII (B.C.) of 1878, and every cultivator has to take out a license for which no fee is charged.

9. During the first half of the present century the district of Jessore was celebrated for its ganja, and large quantities of the drug were prepared there for the market. The cultivation in Jessore was entirely suppressed in 1875. Ganja is now cultivated in a compact tract of country with a radius of about 16 miles lying in three districts, *viz.*, Dinajpur, Rajshahi, and Bogra. The whole tract, though situated in three districts, is for the purposes of ganja administration, placed under the jurisdiction of the Collector of Rajshahi, who is styled the Superintendent of the Ganja Mahal, the Sub-divisional Officer of Naogaon, who is in immediate charge, being designated Deputy Superintendent. The cultivation and manufacture of ganja and its sale by cultivators are regulated by clauses 3 to 27, section XX of the Excise Manual, pages 154 and 158.

10. Any person who intends to cultivate the hemp plant for the purpose of making ganja must first apply in writing to the Sub-Deputy Collector at Naogaon, who is also the supervisor of the Ganja Mahal, for a license authorising him to cultivate. The license is ordinarily granted, unless there be any valid objection, and remains in force for one working season only.

11. In February and March the supervisor or one of his three assistants visits each manufacturing yard or *chatter* as often as possible to take note of the outturn, and to see that the drug as manufactured is forwarded to the public gola or stored in some secure authorized place in the premises of the cultivators, or of such wholesale dealers as purchase the standing crop and prepare their own drug.

12. The manufacturer of the drug, whether a cultivator or a wholesale goladar, is bound to give notice three days before he commences to cut his crop to the supervisor or to an assistant supervisor; the rule also requires him to send into the public gola all the ganja he manufactures, unless he has a secure private place of his own. But hitherto the rule regarding storage in the public gola has not been enforced owing to practical difficulties, and the cultivators have been permitted to keep the manufactured drug in their own houses. A cultivator has to obtain a license from the supervisor to retain ganja in his own private gola until it is disposed of to a licensed purchaser. This license shows the quantity and the kind of ganja covered by it, and has to be returned to the supervisor endorsed with the names of the purchasers to whom the ganja may subsequently be sold, and the quantity sold to each.

13. A cultivator may sell his standing crop to a duly licensed wholesale purchaser, but not without the written sanction of the supervisor of ganja cultivation. Every purchaser licensed to purchase ganja for export is bound to keep for the inspection of the supervisor, or other excise officer, a statement of his purchases and sales on pain of forfeiture of his license.

14. Owing to the area within which cultivation is permitted being extremely limited, and to the close supervision exercised there, there is every reason to believe that unlicensed cultivation has been all but suppressed. The manufacture of the drug entails a series of elaborate processes, and cannot be successfully carried on in secret, at all events to any appreciable extent, and it may be safely affirmed that the manufacture of ganja is now confined in these provinces to the very limited tract which has been specially set apart for the purpose. Isolated cases of one or two plants being grown in the inner courtyards of houses are occasionally detected, but these only show how effectually unlicensed cultivation has been put down.

15. But much remains to be done to bring the manufacture of the drug, and more especially its storage in private houses, under more effective control than is exercised at present. Manufacture begins almost simultaneously in every part of the tract, and it is physically impossible for the limited excise staff to visit the *chatters* or manufacturing yards with sufficient frequency and to check the outturn.

16. Again there is no Government monopoly in ganja as there is in opium, and Government is not concerned with either the wholesale or the retail trade beyond seeing that the drug pays duty before passing into consumption. The difficulty of having a public warehouse is that the ganja stored in it would consist of numerous small parcels, all belonging to different individuals, and this would lead to much confusion. Again, the drug has to be frequently aired, turned, and handled in order to keep it in good condition, and it is next to impossible to secure this periodical examination when the ganja is stored in public golas situated at a distance from the houses of the cultivators. It is mainly owing to these difficulties that cultivators have so long been allowed to keep the ganja in their own houses, but the so-called private golas are often mere open sheds, and are not the secure warehouses that the rules contemplate. A properly built gola would be beyond the means of the average cultivator. But even with suitable buildings there would be no security unless one key remained with a Government official, whose presence would then be necessary every time the gola had to be opened.

17. The present system of storage is admittedly defective, and it cannot be denied that some ganja is smuggled or otherwise illicitly disposed of. But owing to the comparatively bulky nature of the drug there is reason to think that the extent of smuggling is not large. The small number of cases detected also point to the same conclusion. The privilege of growing ganja is valued, and the cultivators, who are generally well-to-do men, are averse to doing anything that may cause forfeiture of their licenses, not to speak of other penalties; and it is the general opinion of those who have any experience of the ganja tract that the cultivators as a class honestly and faithfully carry out the engagements.

18. Garhjat ganja, as its name implies, comes from the Garhjat or Tributary States of Orissa, and is in use only in the three districts of the Orissa Division. Its cultivation and manufacture is apparently under no control. Small quantities of Garhjat ganja are imported into Puri under excise rules, but more is smuggled there as well as in the other two districts, the extended frontier and the jungly nature of the country affording great facilities for such illicit dealings and rendering detection extremely difficult.

19. The resin from which charas is manufactured is not produced in abundance in the plant in Bengal, and charas is not made here. It is obtained from Amritsar and Mirzapur, where again it is imported from Yarkand and other places in Central Asia. Charas used at one time to be imported from Nepal also, but the trade has apparently died out.

20. The importers of ganja and other hemp drugs are the wholesale dealers of those drugs. They are licensed.

As regards ganja the following procedure is observed:—

A licensed wholesale merchant or retailer of another district who wishes to purchase ganja from the cultivators has in the first place to apply for a pass to the Collector of his own district, which is granted on payment of a fee of Rs. 2. The pass having been granted, a duplicate of it is sent by the officer granting it by the same day's post to the Collector of Rajshahi, who on receipt of it prepares a license to purchase, and transmits it to the supervisor of the ganja cultivation at Naogaon for delivery to the purchaser. The license is granted subject to the condition that the purchaser shall, when he has made his purchases, collect the whole of the ganja in a place to be approved by the supervisor until it is ready for export. The importer on reaching the place of purchase has to give up to the supervisor the original pass granted to him by the Collector of his own district, and receives the license authorizing him to purchase. He then makes purchases and stores the ganja in the place approved by the supervisor. The ganja purchased for export is weighed, first without straw or covering, and then with the covering, and both the aggregate and net weights of each package are entered on the back of the license or permit and on the importer's original pass. The ganja is packed and sealed in bales or bags in the presence of the supervisor or one of his assistants.

Choor ganja from which all the woody fibre has been removed is packed in bags only which are sealed on each seam and at the mouth. No small or detached twigs of ganja are inserted in the bundles of flat ganja, but any such twigs as may be detached in the process of preparation are made up into separate bales or bags and charged with the duty leviable on round ganja. When the drug purchased has thus been weighed, packed, and sealed and made ready for despatch, the supervisor returns to the exporting merchant the original pass after having endorsed on it all the particulars as regards the weight and number of bales, the name of the purchaser and of the charandar or person in whose charge and custody it is conveyed, the mode of conveyance by which the ganja is to be transported, the places, warehouses, or shops to which the transport is made and the period for which the pass is current. The supervisor at the same time sends the license or permit with the necessary entries endorsed on the back to the Collector of Rajshahi for entry of the weights on the duplicate pass, which is then forwarded to the Collector of the importing district. A report of these particulars is at the same time made by the supervisor to the Collector of Rajshahi, a duplicate of this report being forwarded by him by post to the

Collector of the importing district. Any ganja found on weighment by the supervisor to be in excess of the quantity entered in the import pass is kept in the public gola and warehouse, a rent of Re. 1 per maund being charged for the first month, and 4 annas per maund for subsequent months. This quantity is not allowed to be exported without a fresh import pass, but the cultivator may sell the same to other goladars.

Siddhi or Bhang.—No person is permitted to purchase siddhi for export to another district or obtain siddhi for sale without a pass on payment of a

fee of two rupees, and a license from the Collector of the district to which the siddhi is to be conveyed or in which it is to be stored. The pass and the license must be countersigned by the Collector of the district in which the siddhi is bought or obtained. Siddhi, whether obtained locally or imported

from another district, must be stored in a warehouse in the same way as ganja is stored. A licensed wholesale merchant or retailer of another district

who wishes to purchase siddhi in the producing district is bound to purchase it from the wholesale dealer of that district in the same manner as ganja is purchased. But when he wishes to obtain his supplies from any local fields or places where the siddhi-yielding plant grows wild, he is allowed to do so in the presence of an excise officer deputed by the Collector for the purpose. Such officer is bound to weigh the drug before it is removed, and to report to the Collector its weight, condition, quality, &c. As a matter of fact, however, wholesale dealers of other districts always obtain their supplies from the licensed golars of Monghyr and Bhagalpur.

21. *Charas.*—No person is allowed to import charas into Bengal excepting under a pass from the Collector of his district. No fee is required for the pass. The importing merchant on arrival presents the

pass to the Collector of the exporting district, who returns it to him after endorsing on it the quantity of charas to be imported; similar entries are made by him on the back of the duplicate copy of the pass sent to him by the Collector of the importing district, and it is then returned direct by post. When charas is imported from Nepal the pass need not be endorsed except in the importing district.

The charas, on its arrival in the district from which the pass was issued, is produced for examination and comparison with the pass before the

Excise Deputy Collector. The whole consignment is liable to confiscation, and the importer is liable to other penalties of the Excise law for each of the following offences:—

- (1) Selling any portion of a despatch before arrival at the Collectorate from which the pass was given.
- (2) Being in possession of a quantity greater or less than that shown to be the quantity covered by the pass, unless the difference is fully explained and full duty paid.

22. *Garhjat ganja.*—Any licensed wholesale or retail vendor of ganja wishing to purchase Garhjat ganja from the cultivators in the Tributary Mahals has to apply to the Collector of his own district for a pass, stating the locality or localities and the Tributary State in which the ganja is to be purchased and the quantity for which the pass is required. It has lately been ordered by the Board as an experimental measure that the sources of export of Garhjat ganja should be confined to those States which are under the immediate control of Government.

A pass is granted for any quantity not less than one maund on payment of a fee of Rs. 2.

A duplicate copy of such pass is sent to the Superintendent of the Tributary Mahals, who issues instructions to such authorities as may be subordinate to him in the specified locality or localities to superintend the weighment, packing, sealing, and despatch of the drug. The local authority, on production

of the pass as aforesaid, weighs the ganja, superintends its packing, and seals the bales or bags in which it is packed in such a manner that they cannot be opened without breaking the seals.

When the bales are ready for despatch, the local authority returns the original pass to the importer after endorsing on it the locality in the Garhjat Mahals from which the ganja is transported, the weight and number of the bales or bags of ganja transported, the distinguishing marks by which the bales or bags may be known, the name of the purchaser and of the person in whose charge and custody it is conveyed, the mode of conveyance, the route to be taken, the point of crossing the frontier and such other particulars as he may think it desirable to note. He is required

to submit at the same time a copy of the endorsement to his immediate superior. Every pass must be surrendered to the Collector of the importing district or to the sub-divisional officer (if the ganja is consigned to a

sub-division) within three days of the expiration of the period of its currency. After crossing the British frontier, the importer is bound to take the consignment to the first police-station for inspection. The importer is not authorized to make sales during the journey, and any police or excise officer may challenge and examine consignments during transit. The rules as to storage and levy of duty on Rajshahi ganja apply *mutatis mutandis* to Garhjat ganja.

Any vendor licensed to retail Rajshahi ganja may sell Garhjat ganja under the same license.

23. Both the wholesale and retail dealers are under control and are licensed. The wholesale licenses are granted free and the retail licenses are annually sold by auction.

24. Before ganja is allowed to be stored in a warehouse the Excise Deputy Collector of the importing district, or where the gola is situated in a sub-division, the sub-divisional officer, is required to ascertain by personal inspection of the consignment that the seals of the bales or bags are unbroken, and that the weight and sorts correspond with the weight and sorts noted on the pass given in the producing district. He opens some of the bags, and having ascertained that they contain flat, round, or choor ganja as invoiced, reseals them. He examines the general quality and the condition in which the drug is received, whether dry or damp or in process of deterioration or decay. If any of the particulars do not agree with the entries in the pass under which the ganja is imported, the circumstance is reported to the Collector. The full duty, at the rate chargeable on the sort of ganja in which the deficiency or defect is found, is at once levied on any deficiency of weight and on any broken bundles. Any bale or bag received without the original seal may, if the Collector thinks fit, be confiscated.

A wholesale dealer can sell ganja only to another duly authorized wholesale dealer, or to a retail dealer duly licensed. Stock is taken annually in each ganja and siddhi warehouse between the 25th and 31st March at the head-quarters of the district by the Excise Deputy Collector, and at the sub-divisions by the sub-divisional officer. The ganja and the siddhi goladars are held responsible for any deficiency in excess of 2½ per cent., and duty is levied on such excess on or before the 31st March of each year. Each warehouse is secured by two reliable locks, the key of one of which remains with the goladar, and that of the other with the officer in charge of the warehouse. No gola can, therefore, be opened except in the joint presence of the goladar and the officer in charge.

25. Every importer of charas is bound to keep an account of the quantity received and expended, and if he wishes to dispose of the drug to the public, he must take out a separate license for retail vend.

26. Ganja and siddhi golars are liable to periodical inspection by the Collector, the Excise Deputy Collector, and the sub-divisional officer. The inspecting officer is required to test the stock in hand and to examine the ganja registers and the treasury receipts to ascertain that the duty has been properly levied on all ganja issued, and finally that the collections have been duly credited to Government.

27. Retail licensees are bound to act according to the excise law and rules, and licenses are granted to them under certain conditions, which they must observe on pain of forfeiting the license. (Vide forms of licenses Nos. 63, 116, and 124, pages 267, 312, and 318, respectively of the Manual.)

28. Retail shops are also liable to inspection by Excise officers. Retail vendors pay duty according to the prescribed scale at the time of obtaining their supplies from the golars, and the drug is issued in the presence of a responsible officer (generally a gazetted officer), and the consignment is protected by a pass during its transit from the gola to the licensed shop.

29. The excise revenue from ganja and other hemp drugs is levied in two ways, viz., (1) in the form of license fees, and (2) in the form of duty at a fixed rate per seer on the quantity issued for retail vend.

30. *License fees.*—For some time prior to 1860, no fee was taken on licenses for the retail sale of ganja. Duty only was charged at the rate of Re. 1 per seer. During the year 1860-61 a fee was imposed on licenses for the retail vend of ganja, and licenses were issued at a fixed rate of monthly fees till the introduction of the auction system in 1876.

Licenses are now put up to auction and sold to the highest bidder at or above the upset fee. The term of a license is one year, except in Calcutta, where it is three years. The Sadar Excise Deputy Collector

Clause 14, section III.

Clause 71, section XX.

Clauses 70 and 72, section XX.

Clause 73, section XX.

Clause 74, section XX.

Clause 43, section XX, Excise Manual.

Clause 51, section XX.

Clauses 52 and 53, section XX.

Clause 55, section XX.

Clause 5, section XXI.

Clause 75, section XX.

Excise Report, 1860-61, paragraph 39.

generally presides at the annual auction sales. A shop is put up to auction at an upset price approved by the Board. In the event of the upset price not being obtained in any particular case, a lower offer may be accepted with the sanction of the Commissioner. A sum equivalent to the fee for two months is taken at the time of sale as advance fees, and one month's fee is paid on the date on which the currency of the license commences, and one month's fee on the first day of every succeeding month until the whole of the fee due on the license has been realized. In cases of siddhi, charas, and majum (a sweet preparation of siddhi) shops, however, only one month's fee is taken in advance.

A brief account of the earlier laws and rules for regulating the sale of hemp drugs is given in Appendix A.

31. *Duty*.—The different rates of duty on ganja, bhang, and charas levied from time to time are given in paragraphs 36—38. No duty is levied separately on majum as duty is paid on the siddhi used in its preparation.

The present rates of duty as well as those that will come into force from 1st January 1894 on different sorts of ganja and bhang and charas are shown below:—

	Present.	Rate per seer from 1st January 1894.
	Rs. A.	Rs. A.
Ganja, choor ...	8 0	9 0
„ round ...	7 4	7 8
„ flat ...	6 0	7 4 (small twigs).
„ Garhjat ...	3 8	6 0 (large „).
Charas ...	8 0	8 0
Bhang ...	0 8	0 8

In the Orissa Division, however, owing to the competition of Garhjat ganja, the duty on different sorts of the Rajshahi ganja is leviable at the following reduced rates:—

	Present.	Rate per seer from 1st January 1894.
	Rs. A.	Rs. A.
Choor ...	6 8	7 8
Round ...	6 0	6 4
Flat ...	4 8	4 8

32. *Exportation of ganja*.—Exportation from the producing district, or from one district to another, or from one licensed warehouse to another in the same district by wholesale vendors is allowed without prepayment of duty within the Lower Provinces of Bengal or Assam, as, according to the system in force in these provinces, duty is levied on the drug as it passes into the hands of the retailers.

But before the exportation of ganja is allowed to foreign territory or to any district not within the Lower Provinces of Bengal or Assam, full duty is levied in the exporting district. Ganja when exported by sea to a country beyond the boundaries of British India is not liable to duty, and rebate is allowed on proof of export.

Licensed retail vendors are required to pay duty at the prescribed rate before removing the ganja from the wholesale dealer's warehouse. The duty is calculated upon the actual weight of the drug issued.

33. *Siddhi*.—Duty is realized on siddhi in the same way as on ganja. A retailer, when he applies to supply himself locally, is required to prepay the duty on the quantity applied for.

34. *Charas*.—Duty on charas is levied at the rate of Rs. 8 per seer, of which one-half is levied at the time of taking out the pass for the importation of the drug. The payment of the second moiety is made on the arrival of the drug in the district in which it is to be sold or stored, as the case may be.

35. To provide against evasion of payment of duty as regards ganja and siddhi, the following precautions are taken:—

- (1) The warehouse must have only one door, which is secured by two locks, one of which at least is Chubb's; the key of one is kept by the owner, and that of the other, which must be Chubb's, by the excise officer in charge of the warehouse.

(2) No delivery of the drugs is made except in the presence of an excise officer (generally a Deputy Collector), and under an order from the Collector or from an officer duly authorized by the Collector to grant passes, and no pass is granted until the full amount of duty has been levied, as evidenced by the treasury chalan.

(3) A ticket is attached to each bale or bag showing the actual quantity contained in it, and whenever ganja is taken out of a bag, the quantity so taken out is noted on the ticket and the balance struck after each transaction. These entries are made by the officer issuing the drug and initialled by him.

(4) The gola licensee is not allowed to sell any quantity of ganja by retail vend under his license.

(5) The goladar is bound to give access to the store whenever required by the excise officer in charge or his official superior.

Besides, as already stated, at the end of each year stock is taken of the quantity of ganja or siddhi in the gola by the Excise Deputy Collector or the sub-divisional officer, as the case may be, and duty is levied on all deficiency in excess of 2½ per cent.

36. Rates of duty on Rajshahi Ganja from 1853—

KINDS OF GANJA.	From 1853 to December 1859.	From January 1860 to February 1864.	(a) From February 1864 to 1871-72.	(b) From 1872-73 to 1877-78.	(c) From 1878-79 to 1881-82.	(d) From 1st April 1882 to 31st July 1887.	(e) From 1st August 1887 to 31st December 1887.	(f) From 1st January 1888 to 10th September 1888.	(g) From 20th September 1889 to 31st March 1891.	(h) From 1st April 1891 to 31st March 1893.	(i) From 22 March 1893 up to the present d.
	Rs.	Rs.	Rs.	Rs. a.	Rs. a.	Rs. a. Rs. a.	Rs. a. Rs. a.	Rs. a. Rs. a.	Rs. a. Rs. a.	Rs. a. Rs. a.	Rs. a. Rs. a.
Choor ...	...	...	4	4 0	4 0	5 0 4 0	6 3 4 0	6 8 5 0	7 0 5 8	7 0 5 8	8 0
Round ...	...	...	3	3 0	4 0	5 0 4 0	6 4 4 0	6 4 5 0	6 4 5 0	6 4 5 0	7 4
Flat ...	1	2	2	2 8	3 8	4 8 3 8	4 8 3 8	4 8 3 8	4 8 3 8	5 0 3 8	6 0

Notes.—The figures in italics show the different rates of duty sanctioned for the Orissa Division since April 1892.

(a) Board's Circular Order No. 11 of May 1864.
(b) " " " No. 8 of December 1871.
(c) " " " No. 6 of January 1878.
(d) " " " No. 19 of ditto 1882.
(e) " " " No. 9 of August 1887.

(f) Board's Circular Order No. 24 of February 1888.
(g) " " " No. 7 of September 1890.
(h) " " " No. 60-2, dated 10th December 1890.
(i) " " " No. 15 of March 1893.

Duty on Garhjat Ganja.

(a) Vide paragraph 139 of the Excise Report for 1873-74.
(b) Vide paragraph 93 of the Excise Report for 1878-79.
(c) Vide Board's Circular Order No. 14 of January 1891.
(d) Vide Board's Circular Order No. 7 of July 1893.

	Rs. A.
Duty before 1st January 1877 (a)	0 8 per seer.
„ raised on 1st January 1877 (a)	1 0 „
„ raised in December 1875 (b)	4 0 „
„ fixed from 1st January 1891 (c)	2 8 „
„ raised from 1st April 1893 (d)	3 8 „

Garhjat ganja is not manufactured with as much care as Rajshahi ganja. It contains more leaves and seeds and less resin, and is much inferior to the Rajshahi drug in quality. A lower rate of duty is, therefore, fixed on it. It is only of one variety—flat.

37. *Duty on charas*.—The duty was fixed at Rs. 8 per seer under Government order, No. 3347, dated the 25th October 1880, referred to in paragraph 104 of the Excise Report for 1880-81.

38. *Duty on siddhi or bhang*.—It appears from paragraph 123 of the Excise Administration Report for 1874-75 that a duty of 4 annas per seer was levied in Calcutta in that year for the first time. It further appears from paragraph 82 of the Excise Report for 1879-80 that a duty of 8 annas per seer was fixed on siddhi from 1st April 1879 for the entire province.

39. The number of retail licenses for the sale of hemp-drugs is determined according to the *bond fide* demand of the drug at a place. This may be regarded as the guiding principle in opening a new shop. But the vast majority of the shops are of old standing, and the question in recent years has been one rather of elimination than of augmentation. In 1873-74 the number of ganja shops was 4,398, while in 1892-93 it was only 2,672. The object that the department has kept steadily in view is to do away with unnecessary places of vend. There is no fixed rule based on area or population, as the demand varies largely in different districts and in different parts of the same district. In December every year the Collector decides the number and sites of retail shops to be licensed during the next official year. As a rule no new shop is allowed to be opened unless there is a sufficient demand for the drug at the locality. An upset price is fixed as regards each license, based generally on the average fees paid in the last three years, any increase or decrease in sales being also taken into consideration. The Collector's proposals are reviewed and finally sanctioned by the Commissioner with the approval of the Board of Revenue. All the licenses are sold by public auction in March for the ensuing year.

40. As regards sites local opinion is not formally consulted, but attention is paid to any reasonable objection raised against any particular site, though most of the sites being old ones, it is seldom that they are objected to. Moreover, shops for the sale of hemp-drugs are not considered a nuisance, and are often accommodated in the same room where other business is carried on.

41. No rate is fixed at which any of the hemp-drugs must be supplied by wholesale to retail vendors. The retail price of each of the drugs varies considerably in different districts. The average retail price of each is shown below :—

						Rs. A.
Ganja	...	...	...	...	...	20 0 per seer.
Siddhi	...	...	...	...	...	2 8 "
Charas	...	...	...	...	...	40 0 "
Majum	...	...	...	...	...	3 0 "

42. The retail selling price of each of the drugs in the following districts is shown below :—

NAMES OF DISTRICTS.		RETAIL SELLING PRICE PER SEER.			
		Ganja.	Siddhi.	Charas.	Majum.
		Rs.	Rs.	Rs.	Rs.
Dacca	...	16	3-12	40	3
Mymensingh	...	16 to 25	3	...	...
Rajshahi	...	25	...	...	...
Purnea	...	14 to 20	1-8	...	...
Bhagalpur	...	12-8 to 20	1-8	...	...
Calcutta	...	12 to 16	1-12 to 2	35 to 40	2-8 to 4
Burdwan	...	20	2-4 to 2-8	36	...
Patna	...	12	1	...	...
Muzaffarpur	...	15 to 18	1	...	...
Lohardaga	...	15	5	...	...
Cuttack	...	12 to 16	5 to 6	...	...
Chittagong	...	12 to 18	3	...	...

43. Yes, a maximum amount is fixed for retail sales to, and possession by, the ordinary consumer, as regards each of the articles as shown below :—

Rajshahi ganja, siddhi, and majum or any preparation or admixture of the same, one quarter of a seer (20 tolas); Garhjat ganja (5 tolas experimentally); charas or any preparation or admixture of the same, 5 tolas.

Section 15 of Act VII (B.C.) of 1878.

No minimum price is fixed for any of these drugs.

44. A statement is given below showing the number of ganja cases during 1892-93 :—

NATURE OF OFFENCE.	1892-93.	
	NO. OF PERSONS.	
	Arrested.	Convicted.
Smuggling of ganja or siddhi	90	63
Illicit cultivation of ganja or siddhi	86	71
Unlicensed sale of ganja	154	128
Illicit possession of ganja	77	64
TOTAL	407	346

Of the 90 arrests shown under the head of smuggling, no less than 80 were made in Puri. Of the remaining 10, 5 took place in Bhagalpur, 4 in Dinajpur, and 1 in Shahabad. These figures give a fair indication of the extent of smuggling as also of the localities where it prevails. Some ganja is smuggled from Nepal into the districts bordering on that State, but the evil is not widespread, and does not appreciably affect the revenue. The drug is of inferior quality, so much so that considerable quantities of duty-paid Rajshahi ganja is annually exported to Nepal from the North Gangetic districts.

Garhjat ganja, on the other hand, is largely smuggled into Orissa. The drug is in great demand with the priests of the famous shrine of Jaggernath, and is affected by the attendants of other Orissa temples. It is usually brought in small quantities by pilgrims, mendicants, and others as an acceptable offering to the priests. The offence is most rife in Puri, and also prevails in Cuttack and Balasore, though no cases were reported from either district in the past year.

There are thus two distinct sources of illicit supply—Nepal and the Garhjat States of Orissa. The extent of smuggling from Nepal is small, and no special measures are taken

to check it; in fact none could be effectively taken, regard being had to the length of the frontier to be guarded.

Various attempts have from time to time been made to stop smuggling from the Garhjat and with varying success.

The chief difficulty lies in bringing the excise administration of these petty States under some sort of control. Some of them are now under the direct management of Government, owing to the minority of the Chiefs or other causes, and it is in contemplation to make a beginning with them.

In 1878 cultivation of ganja was prohibited within three miles of the frontier, and this was followed by a considerable increase in the consumption of the Rajshahi drug in all the three districts. The order was withdrawn in 1889, and consumption has since decreased considerably in Cuttack, though this result is not so apparent in Balasore or Puri.

At one time the importation of Garhjat ganja or siddhi was entirely forbidden (*vide* notification of 21st June 1882), but this is now allowed (*vide* notification of 23rd March 1892) under separate rules framed for the purpose, though little advantage has yet been taken of them to import the Garhjat drug. With a view specially to prevent smuggling, the limit of possession of Garhjat ganja has been experimentally reduced to 5 tolas.

45. Arrests for illicit cultivation were made in 25 districts, but all the cases were for growing a few plants (very often only a single plant) in the courtyards of houses more for the purpose of using the leaves as bhang than for manufacturing ganja, and the fact that not a single case occurred in Dinajpur, and only one in each of the districts of Rajshahi and Bogra, shows clearly that unlicensed cultivation for the manufacture of ganja is all but unknown even in the ganja tract.

46. Similarly, cases of unlicensed sale of ganja, though comparatively numerous, generally represent sales of the excised drug by petty dealers who obtained their supplies from licensed vendors, and are often the outcome of the licensed shops being too few to supply the local demand, or, in other words, these unlicensed men distribute the drug to a larger circle of consumers. This is particularly the case in the Dacca Division, where the consumption of ganja is large and where nearly a third of the arrests were made.

47. Nearly half the arrests for illicit possession were made in the Rajshahi Division, and of these all but two occurred in the three ganja-growing districts. In these cases the ganja was doubtless obtained clandestinely from the cultivators, but the quantities seized were not large.

48. It may be said generally that, except in Orissa, where there is smuggling of Garhjat ganja, in some of the north Gangetic districts, where Nepal ganja is introduced, and in the immediate neighbourhood of the ganja tract, where there is some consumption of untaxed ganja, in the rest of the province most of the drug consumed has paid duty, and that the majority of the cases of illicit cultivation and unlicensed sale do not mean any serious threat to the revenue.

The police and the excise detective staff are encouraged in their efforts to put down excise offences by the grant of liberal rewards in all important cases of seizure.

49. No material modifications of the present system are actually under consideration at the present moment.

The question of bringing the excise of the bordering Garhjat States in Orissa under some control so as to protect our own revenue, more especially with reference to the smuggling of Garhjat ganja, has been for some time under consideration.

50. *Column 3.—Area under ganja cultivation.*—It will be observed that, except in the past year, there has been no material increase in the area under ganja cultivation during the last twenty years. The column shows the quantity of land in which the crop finally matured, excluding such land as was cultivated, but in which the plants failed altogether, and therefore, although it would appear that cultivation was greatly curtailed during the years 1875-76, 1878-79, 1879-80, 1885-86, and 1891-92, this was not really the case in all the years excepting 1885-86, as the plants on large areas under cultivation were destroyed in those years by heavy floods, and such lands were not taken into account. The decrease in the area cultivated in 1885-86 was due to the smaller profits of the cultivators in the preceding two years. The high price which the drug had realized in 1891-92 owing to wholesale failure of the crop in the previous year, caused by inundation, induced a large number of raiyats to take up lands for ganja cultivation during the following year. Some raiyats are regular growers of ganja and annually set apart a portion of their holdings for the purpose; others are induced to take to ganja cultivation by the high profits of one year, to abandon it again when prices fall.

51. *Columns 4, 5, 7 and 8.*—These columns are blank, as no land is cultivated for the production and manufacture of bhang and charas in these provinces.

52. *Column 6.*—In this column the number of raiyats engaged in ganja cultivation, and not the number of licenses issued, has been shown. Cultivation did not require a license before the year 1876-77, when licenses were for the first time introduced under section 13 of Act II (B.C.) of 1876. Each cultivator has to take out a separate license.

53. *Columns 9, 11 and 12.*—These columns are blank except for 1878-79. Ganja and bhang are not as a rule imported from any other province. It, however, appears from the

Board's Excise Administration Report for the year 1878-79, from which extracts are given below, that ganja was actually imported during that year from Bombay and the Central Provinces :—

"During the year under report 10 maunds of flat choor ganja were for the first time imported into Calcutta from Bombay under a pass granted by the Excise Superintendent. The Commissioner states that the Bombay drug, though good-looking, is less narcotic than Rajshahi ganja, and has not therefore come into much repute on this side of India." As regards the Nimar ganja imported, it is stated as follows :—

"In consequence of short supply of ganja from Rajshahi, 8 maunds of Nimar ganja were imported into Monghyr from the Central Provinces and 32 maunds 34 seers of the same description of ganja were brought into Shahabad by a dealer. Of the latter quantity, 17 maunds 25 seers were sold locally, and the balance at Monghyr. The ganja produced in Nimar is inferior in quality to Rajshahi ganja, and does not meet with ready sale. Its wholesale price is cheap. On importation into Bengal, it is dealt with like Rajshahi ganja, and duty on it is levied at the rate of Rs. 4 per seer."

54. *Column 10.*—No information as regards the quantity of charas imported can be furnished prior to the year 1880-81, when a duty of Rs. 8 per seer was for the first time imposed on this drug under Government order No. 3317, dated the 25th October 1880.

Before this year charas used to be imported free, and apparently no account of the quantity imported was kept. This remark also applies to the figures in columns 33 and 43.

55. *Column 13.*—Complete information for this column is not available. The figures for the first four years show only exports to the North-Western Provinces, as exports to other places were not separately shown in the reports of those years. Similarly, the figures for some succeeding years represent exports to North-Western Provinces and Assam only. The figures for the last few years only represent the quantities exported to North-Western Provinces, Assam, Kuch Bihar, and Nepal.

56. *Columns 14 to 16.*—No information.

57. *Columns 17 to 21.*—Wholesale vendors who are the goladars pay no license fees, and their number is not reported.

58. *Columns 22 to 26.*—It will be observed that the number of licenses for the retail sale of ganja, charas, and majum has fallen off appreciably, while there has been very little fluctuation in the number of licenses issued for the retail sale of bhang. The number of ganja retail licenses issued in 1873-74 was 4,398, while 2,672 licenses only were issued in 1892-93, the average license fee being Rs. 55 and Rs. 413 respectively. The largest reduction in number was made in 1875-76 : since then there have been considerable fluctuations, but the object steadily aimed at has been to keep the number down as much as possible.

59. *Columns 27 to 31.*—In spite of the great falling off in the number of licenses, the revenue from license fees has remarkably expanded—that from ganja licenses from 2½ lakhs of rupees to 11 lakhs, that from charas licenses from Rs. 3,000 to Rs. 5,000, and that from bhang licenses from Rs. 13,000 to Rs. 33,000. The fees derived from majum licenses, however, show no improvement, but rather a slight decrease owing doubtless to a falling demand. The total license fees show an increase of nearly 9 lakhs of rupees, or 340 per cent.

The great increase in ganja license fees in 1875-76 and subsequent years was due to the introduction of the auction system and to keen competition at the time of settlement. In recent years much care has been bestowed in fixing the upset fee of each shop, so as not to leave everything to the chances of auction.

The sudden increase of revenue on account of license fees for charas shops in 1880-81 was owing chiefly to the better settlement of shops in Calcutta on account of an increased demand for the drug, and to the opening of 14 new shops in the district of Shahabad. It will be seen that the imposition of a duty of Rs. 8 per seer in 1880-81 seriously affected the total revenue : it decreased till the year 1884-85, from which time there was a slow, though steady, increase till 1888-90, followed by a rapid rise in the past three years.

The rate of duty on ganja has been several times enhanced since the year 1873-74, and this with the augmented license fees has caused a decrease in consumption from 8,125 maunds in 1873-74 to 5,451 maunds in 1892-93 ; but the duty receipts have risen from Rs. 8,36,355 in 1873-74 to Rs. 12,80,631 in 1892-93. The great increase under the head of license fees has already been noticed. It is satisfactory to note that though the consumption of ganja has been reduced in 20 years by nearly one-third, the total revenue has during the same period been more than doubled. The taxation on each seer of ganja was represented in 1873-74 by license fee Rs. 7 plus duty Rs. 2·5 = Rs. 9·5, while the figures for 1892-93 are—license fee Rs. 5 plus duty Rs. 5·8 = Rs. 10·8, or a rise of more than 3½ times. In view of the above facts it may be justly claimed for the department that the administration of excise on ganja has fully realized the principle of a maximum of revenue with a minimum of consumption.

The consumption of charas shows a large increase, though the quantity is still small, and it will be necessary ere long to raise the duty on it. The rate is the same as for choor ganja, while the proportion of narcotic matter is much larger in charas.

The great increase in the consumption of bhang is more apparent than real, and is due to larger use of the duty-paid drug.

60. The importance of hemp-drugs in these provinces will be apparent from the fact that out of a total excise revenue of 115 lakhs in 1892-93, ganja and its congeners contributed 21½ lakhs, or about 21 per cent., and occupy the second place, being next only to country spirits. Of the four varieties that are taxed, ganja, bhang, charas, and majum, ganja alone yielded more than 23½ lakhs. The revenue from majum, a sweet preparation of bhang in the form of confection, is insignificant, being under Rs. 2,000. The consumption of majum is practically confined to Calcutta, Patna, and Cuttack. The revenue from charas was under Rs. 10,000. It is consumed in the urban areas of a few districts in Central and Western Bengal. The revenue from bhang exceeded half a lakh. Its consumption is general, and the quantity (1,034 maunds) that paid duty represents but a small fraction of what was illicitly consumed.

61. The cultivation and manufacture of Rajshahi ganja that not only supplies the Lower Provinces, but is also exported to Assam, Nepal, North-Western Provinces, &c., is confined to a small well-marked area. It is a paying crop, and a year of good prices usually leads to extended cultivation in the next. From the time the drug is brought to the Naogaon head office, to be weighed, packed, and despatched to the consuming districts, the safeguards against fraud provided by the existing rules appear to be ample, and it may be safely affirmed that there is little room for evasion of duty during transit or in the subsequent stages, including storage in golas, issue to retail vendors and sale to consumers. There is likewise good reason to think that there is no unlicensed cultivation, and that no ganja is made for the market outside the recognized tract.

62. The weak points of the system may be said to be all connected with the process of manufacture and the storage of the drug in private golas prior to disposal to wholesale dealers. Manufacture begins simultaneously at different places, and its progress is not watched as closely as it ought to be. The outturn is not checked then and there, but a rough estimate is subsequently made by merely counting the number of bundles of each sort, which can hardly supply the place of an accurate weighment. Then the drug is stored in private houses, in mere sheds which are sometimes open and always insecure, and there is ample opportunity for petty pilfering by outsiders, even supposing the cultivators were all above suspicion.

63. The difficulty of working a scheme of public golas without a Government monopoly has been adverted to under section (c). In the case of opium the cultivator sells his produce outright to Government at a fixed price and has no further concern with it. The entire quantity purchased from the different cultivators is dealt with as one stock. In the case of ganja, however, the drug remains the cultivator's property and in his charge until he disposes of it to a licensed purchaser. It has therefore been found impracticable to introduce public warehouses where all the drug could be stored immediately after manufacture. In view of the attacks made against the Government monopoly in opium, it is not likely that any proposal to establish a similar monopoly in ganja would be received with favour. But with a larger establishment the existing checks on manufacture might be rendered more effective.

64. Four sorts of ganja are now made, flat large twigs, flat small twigs, round, and choor, and these distinctions are observed for the levy of duty and for the purposes of the wholesale trade but no twigs or woody matter are taken by the retail purchaser, and for retail sale the other varieties are also reduced to choor by the retail vendor. It would therefore be a good plan to have only one sort and abolish flat and round. Particular localities are said to favour particular sorts, but the fact that the consumption of choor increased very largely (from 424 maunds to 1,369 maunds) during the past year owing to the discovery that it was more lightly taxed in proportion to the amount of narcotic matter present in it, would seem to show that there can be no great objection to its general adoption. To the wholesale dealer this would reduce cost of carriage and save storage room ; to Government it would simplify accounts, and remove all chances of fraud to revenue for which differential rates afford some room.

65. The cost of daily average allowance of ganja is 3 to 6 pies, while the cost of liquor to the habitual consumer is much higher. The cost of liquor is almost prohibitive to the poorer classes in Eastern and Central Bengal, but even in Bihar, where liquor is cheap, the daily cost is seldom less than 9 to 12 pies. In this view ganja may be said to be insufficiently taxed. Competition, however, is annually raising the license fees, and the duty is also enhanced from time to time.

66. Under the present system the wholesale dealers (goladars) make very large profits in some districts. They pay no license fees and combine to create a monopoly. It would perhaps be a better plan to recognize the monopoly, but to obviate its evil effects by fixing a maximum price for sales to retail vendors. Government might also appropriate a portion of the profits by giving the wholesale license for a given area to the person who agreed to pay the largest amount for each seer sold, in addition to the duty.

CALCUTTA ;

K. G. GUPTA,

The 27th November 1893.

Commissioner of Excise, Bengal.

Statistics relating to Hemp Drugs in the Lower

Year.	Total population.	CULTIVATION OF HEMP PLANT FOR NARCOTICS.						AMOUNT OF IMPORTS FROM OTHER PROVINCES IN MAUND AND SEERES.				AMOUNT OF EXPORTS TO OTHER PROVINCES IN MAUND AND SEERES.				NUMBER OF LICENSES FOR WHOLESALE VEND.					NUMBER OF LICENSES FOR RETAIL VEND.				
		Area under cultivation.			Licenses for cultivation.			Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant (majum).	Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant (majum).	Total.	Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant (majum).	Total.	Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant (majum).
		Ganja.	Charas.	Bhang.	Ganja.	Charas.	Bhang.																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
		B.						Mds. s.	Mds. s.			Mds. s.													
1874	Not known.	2,407	...	...	2,410	...	...	...	...	...	...	681	17	...	...	...	...	...	...	...	4,335	75	293	79	
1875	Ditto.	2,278	...	...	2,663	...	...	...	...	...	...	632	15	...	...	...	...	...	...	...	4,394	65	276	75	
1876	60,208,117	1,200	...	...	1,209	...	...	...	...	...	...	633	8	...	...	...	...	...	...	...	3,340	64	250	80	
1877	60,208,117	1,816	...	...	1,868	...	...	...	...	...	...	743	26	...	...	...	...	...	...	...	3,178	64	245	70	
7-78	60,415,223	2,102	...	...	1,827	...	...	...	...	...	...	1,561	32	...	...	...	...	...	...	...	3,247	65	273	70	
18-79	60,432,487	1,410	...	...	1,305	...	...	60	34	...	...	1,68	17	...	...	...	...	...	...	...	3,244	61	177	72	
19-80	60,466,208	1,396	...	...	1,493	...	...	...	...	...	...	964	24	...	...	...	...	...	...	...	3,210	69	237	67	
20-81	60,563,216	2,230	...	...	2,075	...	...	...	3	17	...	948	2	...	...	...	...	...	...	...	3,411	100	263	63	
21-82	60,589,550	2,581	...	...	2,301	...	...	...	3	1	...	1,037	23	...	...	...	...	...	...	...	3,433	94	257	64	
22-83	60,599,859	1,991	...	...	1,739	...	...	...	1	36	...	1,043	15	...	...	...	...	...	...	...	3,271	69	255	56	
23-84	60,539,580	2,403	...	...	1,879	...	...	...	2	29	...	1,545	20	...	...	...	...	...	...	...	3,398	55	259	58	
24-85	60,589,850	2,614	...	...	1,625	...	...	...	1	24	...	1,370	14	...	...	...	...	...	...	...	3,109	39	258	58	
25-86	60,539,889	1,861	...	...	1,030	...	...	...	2	15	...	1,440	14	...	...	...	...	...	...	...	3,032	34	227	58	
26-87	60,601,460	2,191	...	...	2,333	...	...	...	3	32	...	1,877	28	...	...	...	...	...	...	...	3,040	21	265	62	
27-88	60,703,481	1,780	...	...	1,942	...	...	...	4	35	...	1,673	9	...	...	...	...	...	...	...	2,649	19	260	61	
28-89	60,703,481	2,423	...	...	2,449	...	...	...	4	36	...	1,779	0	...	...	...	...	...	...	...	2,922	18	272	48	
29-90	60,703,481	2,406	...	...	2,460	...	...	...	5	38	...	1,688	17	...	...	...	...	...	...	...	2,519	17	253	41	
30-91	60,703,481	2,600	...	...	2,882	...	...	...	7	34	...	1,624	0	...	...	...	...	...	...	...	2,586	23	242	37	
31-92	71,069,643	1,315	...	...	2,517	...	...	...	11	18	...	1,679	39	...	...	...	...	...	...	...	2,675	26	271	32	
32-93	71,271,080	3,514	...	...	3,429	...	...	...	11	26	...	1,510	10	...	...	...	...	...	...	...	2,672	31	283	33	

Note.—In column 6 the number of

Provinces for the years 1873-74 to 1892-93.

AMOUNT OF LICENSE FEES.					AMOUNT OF FIXED DUTY.					TOTAL REVENUE.					QUANTITY SOLD (RETAIL).					Revenue per head of population, column 41 ÷ column 2.	Population per retail license, column 2 ÷ column 20.	Remarks.	
On ganja.	On charas.	On bhang.	On other preparations of the hemp plant (majun).	Total.	On ganja.	On charas.	On bhang.	On other preparations of the hemp plant (majun).	Total.	From ganja.	From charas.	From bhang.	From other preparations of the hemp plant (majun).	Total.	Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant (majun).					
27	23	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46				47	48
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Mds. s.	Mds. s.	Mds. s.		Pie.				
2,41,494	3,103	13,387	2,282	2,60,266	8,30,355	...	...	...	8,30,355	10,77,849	3,103	13,387	2,282	10,96,621	8,125	27	...	...	...	...			
2,52,634	2,750	10,150	2,101	2,67,635	8,06,514	...	2,435	...	8,07,949	10,58,178	2,750	12,555	2,101	10,75,584	7,530	11	...	240	20	...	...		
3,59,690	2,583	9,438	2,261	3,73,982	7,60,659	...	2,505	...	7,63,167	11,20,349	2,593	11,946	2,261	11,37,128	7,389	8	...	250	32	...	3	16,175	
4,23,658	2,671	10,901	2,551	4,39,731	7,73,458	...	2,541	...	7,75,999	11,97,116	2,671	13,442	2,551	12,15,780	7,458	22	...	254	4	...	3	17,207	
5,11,766	3,141	10,616	2,818	5,28,341	8,73,891	...	2,140	...	8,76,031	13,85,857	3,141	12,756	2,818	14,04,372	8,193	34	...	214	0	...	4	16,592	
5,41,430	3,057	13,278	2,681	5,61,055	8,04,491	...	2,986	...	8,07,277	13,45,727	3,057	16,264	2,684	13,68,332	5,461	26	...	298	21	...	4	16,538	
5,23,680	4,547	10,040	2,273	5,45,533	7,61,494	...	10,314	...	7,71,508	12,90,163	4,547	20,354	2,270	13,17,343	6,137	17	...	618	26	...	4	16,956	
6,28,657	8,552	13,003	2,578	6,50,000	8,28,117	136	12,607	...	8,41,860	14,54,674	8,088	25,610	2,578	14,92,660	5,600	11	0	17	680	13	...	4	17,180
7,55,632	6,482	15,643	2,423	7,80,180	9,58,150	1,083	16,251	...	9,75,403	17,13,791	7,565	31,864	2,423	17,55,673	6,431	9	3	5	811	9	...	5	17,661
7,95,223	2,431	16,104	2,543	8,17,351	10,65,274	1,212	15,693	...	10,82,179	18,60,437	4,693	31,737	2,543	18,99,630	5,645	36	1	36	782	33	...	5	18,243
8,44,776	2,116	16,478	2,232	8,65,604	11,23,937	792	16,890	...	11,46,529	19,73,713	2,910	33,278	2,232	20,12,133	5,581	0	2	29	539	36	...	5	18,144
8,62,417	995	17,645	2,339	8,63,396	11,25,183	624	16,719	...	11,42,526	19,87,600	1,619	34,364	2,339	20,25,922	5,708	4	1	24	834	33	...	5	18,705
8,60,901	895	17,199	2,347	8,81,433	10,85,636	748	17,224	...	11,03,606	19,48,327	1,646	34,423	2,347	19,85,043	5,717	25	2	15	859	0	...	5	19,686
8,90,648	967	12,703	2,450	9,12,780	11,65,033	995	19,240	...	12,05,268	20,75,679	1,962	37,948	2,459	21,18,048	6,204	6	3	32	963	38	...	6	19,617
9,35,594	1,189	21,574	2,302	9,61,169	13,90,126	1,573	20,192	...	13,30,891	22,45,020	2,772	42,063	2,302	22,82,000	6,550	14	4	35	1,000	39	...	6	20,342
9,52,664	1,160	22,257	2,032	9,77,590	13,04,280	1,569	20,404	...	13,36,232	23,18,353	2,755	42,671	2,032	23,65,871	6,413	10	4	36	1,020	12	...	6	20,411
9,70,613	1,623	23,674	2,007	9,97,377	12,80,077	1,912	20,057	...	13,11,056	22,59,690	3,535	43,142	2,007	23,68,433	6,701	9	5	36	1,003	20	...	6	21,231
10,01,628	3,962	25,544	1,910	10,32,934	13,10,035	2,692	19,303	...	13,32,050	23,11,713	6,594	44,947	1,910	23,65,664	6,095	37	7	34	964	25	...	6	23,104
10,41,503	4,144	27,178	1,962	10,77,788	12,48,065	3,424	21,286	...	12,72,774	22,62,568	7,568	48,461	1,962	23,50,582	6,677	31	11	18	1,064	10	...	6	24,447
11,05,435	5,341	22,877	1,984	11,45,637	12,80,631	3,756	20,681	...	13,05,068	23,66,066	9,037	53,558	1,984	24,50,705	5,451	14	11	26	1,032	28	...	6	23,590

engaged in cultivation has been shown.

APPENDIX A.

(SEE PARAGRAPH 30 OF MEMORANDUM.)

Brief historical sketch of the modes of taxation of ganja.

It will appear from paragraph 1, section XI of Harrington's Analysis, Vol. III (1817), that with a view to check immoderate consumption, and at the same time to augment the public revenue, it was judged expedient to continue and extend the duties levied on liquors and drugs, when the sayer collections were resumed from the landlords in the year 1790. Rules and orders were accordingly issued from time to time which were subsequently enacted with modifications in Regulation XXXIV, 1793, as regards the Lower Provinces. It was enjoined in section XVIII of this Regulation that "no person shall manufacture or vend any such drugs ('bhang, ganja, charas, and other intoxicating drugs') without a license from the Collector of the zillah."

Daily rates of license fees.

2. In section II of Regulation VI of 1800 the following daily rates of duty on the sale of intoxicating drugs were laid down:—

	Rs.	A.
For cities (Dacca, Murshidabad, Patna, and Benares) ...	...	1 0
Towns or villages (1st class) ...	...	0 12
" (2nd ") ...	...	0 8
" (3rd ") ...	...	0 4

It is noteworthy that the manufacture and vend of "charas" (as well as that of madak) were prohibited by section 2 of this Regulation as "being of a most noxious quality."

Unlicensed sale of intoxicating drugs was again prohibited by section 17 of Regulation X of 1813, and vendors were enjoined to pay a daily tax for their licenses. The sale of charas was again prohibited.

3. Section 8 (1st clause) of Regulation VII of 1824 authorized the Board of Revenue to sanction the grant of leases of the duties leviable on the manufacture and sale of spirits, drugs, &c. Section 15 permitted the retail sale of charas under the same rules and restrictions as ganja, &c.; it was said that the restriction was withdrawn, as this drug was found on examination to be not more prejudicial to health than ganja or other intoxicating drugs.

4. In section 5 of Act XI of 1849 (I.C.), which was passed "for better securing the abkari revenue of Calcutta" the present limits of retail sale of ganja, bhang, charas, and other hemp-drugs, &c., were fixed. This provision was extended to the whole of Bengal by section 35 of Act XXI (I.C.) of 1856.

5. From the beginning of British rule up to the year 1853, hemp-drugs were taxed by means of a daily tax on its retail sale, and it appears from section 4 of Regulation VI of 1800 that it was paid monthly and on the last day of each month of the Bengali (or fasli) year. With the introduction of the farming system in 1824, it was usual to farm out the excise revenue of entire districts. This continued till 1847.

6. From 1853 the daily tax was abolished and a duty at Re. 1 per seer was imposed, and the retailer had to pay the full amount on a certain specified quantity in each month, whether he took it all or not. A series of rules called "Abkari Series" were subsequently framed by the Board in 1857, from which extracts are given below, which will show how the revenue was collected during the period of the fixed duty system:—

(Settlements—Ganja—clauses 16 to 20.)

"16. Retail vendors will engage to take supplies sufficient for a specified daily consumption and to pay tax at the rate of one rupee per seer upon such specified quantity."

"17. Retail vendors will pay their tax at such fixed intervals, not exceeding twice a month, as the Collector may determine, and will take their supplies from any registered golah or from a despatch in transit, under passes or delivery orders which will be granted by the Collector to the extent specified in their pattahs."

"18. If any extra quantity be required, a pass or order for such extra quantity will be granted on payment of duty at the rate of one rupee per seer."

"19. No tax or fee in excess of the one rupee per seer will be required from retail vendors. The settlement of the ganja mahal will thus be on the same principle as that of the spirit mahal under the sadar distillery system, the licensee specifying the quantity of ganja to which the retail vendor is entitled at the rate of one rupee per seer, with the privilege of taking further supplies under extra passes on payment of extra duty."

"20. Ganja vendors, who are unable to dispose, within the month, of the whole quantity of ganja to which their jama entitles them, may be permitted to draw the balance in the succeeding month without further payment of duty."

7. The fixed duty system continued up to 1860-61, or for about seven years, when a fixed fee of Rs. 4 per mensem was prescribed for each ganja license in addition to the duty at the prescribed rate on all quantities passed to the shop for retail sale, the previous rule regarding the quantity to be taken by each shop being at the same time withdrawn. A revised form of ganja license, necessitated by these changes, was issued with the Board's circular order No. 26 of 1st June 1860.

8. Thus there was a daily tax system from 1790 to 1853 (with farming system from 1824), fixed duty system from 1853 to 1860, fixed license-fee and duty system from 1860 to 1876, when the present system came into force.

ASSAM MEMORANDUM.

Both cultivated and wild hemp are consumed in this province. The cultivated hemp is entirely imported from Rajshahi in the form of flat, round, choor ganja by licensed wholesale vendors, who place the drug in registered warehouses, and the duty is paid by retail vendors when the ganja is taken from the registered warehouses. The vend of charas and bhang is at the present moment forbidden in Assam, no licenses having been taken out. The use and sale of wild hemp as an intoxicant is forbidden. But the possession of wild hemp as a medicine for cattle is permitted by a circular issued in 1882, a copy of which is enclosed. The wild plant grows freely in all parts of the province and especially in the hill tracts by dwellers in which it is illicitly sold in small quantities to the neighbouring plains people. It is also grown in the Bhutan Hills and is sold privily in small quantities when the Bhutias come down to trade in the cold weather. Similarly, men from Independent Tipperah sell the wild plant to the inhabitants of Sylhet. No pains are taken, it is believed, to extirpate the male plants by people who deal in wild hemp, of which the leaves and stalks as well as the flowers are sold. There is nothing to show that the trade in the wild plant is sufficiently large to compete seriously with excise ganja, unless possibly in the Khasi Hills, where the continuous decrease in the consumption of the Rajshahi drug can, I think, only be attributed to the cheapness of wild hemp, and the great facilities for its use. But the excise administration of this district is attended by abnormal difficulties owing to the fact that the Khasi Hills are parcelled out into the territories of many semi-independent Chiefs. On the whole, the consumption of wild hemp is small, is effectually checked by prosecutions from time to time, and cannot, I think, be checked in any other way. The wild plant is used by habitual consumers only as a *pis aller*, and when their supply of the excise ganja runs short. I do not think any more need be said about the wild plant.

2. With regard to excise ganja, we only use the three varieties above mentioned, and in our dealings with them are entirely guided by the excise system of the neighbouring province of Bengal. All our excise ganja comes to us from Bengal, and is dealt with in accordance with the Bengal Board of Revenue's Excise Manual. The three districts of Sylhet, Cachar, and Goalpara, in the matter of ganja consumption, entirely resemble the adjacent Bengal districts of Mymensing, Tipperah, and Rangpur. In the five districts of Assam proper, namely, Kamrup, Darrang, Nowgong, Sibsagar, and Lakhimpur, and in the three hill districts, namely, the Garo, Khasi, and Naga Hills, ganja is consumed chiefly by foreigners. The inhabitants of the first five districts are perhaps the largest consumers of opium in India; and in spite of the great decrease of opium shops, and the enormous increase in retail prices which our excise system has brought about, ganja has not, to any considerable extent, taken the place of opium. But these five districts contain about half the tea gardens of the province, and consequently possess a large immigrant population—men from Behar, Chota Nagpur, the North-Western Provinces, &c., who are many of them habitual consumers of ganja. In the three hill districts ganja is chiefly consumed by imported servants of the State—sepoys, police constables, &c. The duty on ganja, as I have already said, is the same as that in Bengal. The varying retail prices are regulated by (1) the cost of importation (which is very heavy in the hill districts); (2) by license fees, which are fixed by putting up each retail shop to auction sale. The results of sale usually agree roughly with the local demand and the probabilities of making a profit. Occasionally, however, a combination is formed among the bidders for keeping down prices. In such cases, it has occasionally been found necessary to let a whole district to a monopolist. This expedient is, however, very rarely adopted, inasmuch as it leads to an enormous increase in the retail prices and a consequent encouragement to smuggling and the use of the wild plant. This preface will probably make the following answers to the questions proposed by the Commission complete and readily intelligible:—

(a) The vend of the drug throughout the province is carried on under one uniform system under the general supervision of the Commissioner of Excise. The district administration is carried on by the respective Deputy Commissioners assisted by the Sub-Divisional Officers within the boundaries of their respective charges. No separate coercive establishment is kept up, and enquiry into the breaches of the Excise Law is made chiefly through the police. The Act in force is Act VII (B.C.) of 1878, as amended by Act IV (B.C.) of 1881, and also Act I (B.C.) of 1883 and the rules and circulars issued by the Bengal Board of Revenue under that Act. I append a list of circulars (with an abstract of their subject-matter) issued by the Chief Commissioner and by the Commissioner of Excise, Assam, for this province exclusively.

(b) I have already stated the extent to which wild hemp grows in this province and the steps taken to control its use. A perusal of Circular No. 28 of 1882, above alluded to, will make this quite clear.

(c) The cultivation of hemp for the production of drugs is entirely forbidden.

(d) Ganja is imported by licensed wholesale vendors, who hold licenses to open registered warehouses. These warehouses are under double lock and key, one key being in the hands of a Government officer, the other in those of the vendor. Ganja is imported, as in Bengal, under passes issued by the District or Sub-Divisional Officer, a fee of Rs. 2 being charged for each pass. When a retail

vendor desires to remove ganja from a registered warehouse, he pays the requisite amount of duty into the Treasury and receives a pass (without fee) which enables him to take the necessary supply of drug from the warehouse to his shop. The warehouses are usually small constructions of wood, lined with tin. In rare cases they are made of masonry. Transport is allowed from one warehouse to another under the cover of passes issued by the Deputy Commissioner.

(e) The number of wholesale vendors in a district is fixed by the Commissioner of Excise in accordance with local requirements. That is, new licenses are not given without careful enquiry, and without ascertaining that the existing licensed vendors are not sufficient in number to carry on the business of importation. An excess in the number of wholesale vendors might lead to an undue cheapening of the drug or to smuggling. In Sylhet, the most populous district in the province, there are 17 vendors. In the Assam Valley the largest number is in Kamrup, namely, 9. But the licensed vendors of several other districts draw their supply from Kamrup. The retail vendors are all licensed; they have to pay their license fees monthly in advance, two months' fees being paid at the date of sale. They are compelled to keep accounts of all purchases and sales of the drug. These are carefully scrutinized from time to time by Magistrates and Police officers, who can demand the immediate production of the license and accounts at any time.

(f) The tax on ganja consists of (1) duty collected as above, (2) and license fee paid monthly as above. Payment of duty can only be evaded by the collusion of the Excise Officer.

(g) The number and sites of retail shops are fixed by the Commissioner of Excise in consultation with the district authorities, who endeavour, as far as is possible by personal enquiries, and by consulting the police, mauzadars, &c., to discover the wishes of the people of the locality. An upset price is fixed on the average fees paid during the previous three years. Experience shows that a minimum upset price is a good guide to local demand. Statement appended gives the number of shops to population. The population varies so enormously in proportion to area in different parts of Assam, that it is impossible to make area a factor in fixing sites for shops. Shops are commonly placed in bazar and other centres of trade; and the vendors usually deal in other commodities, such as spices, &c. Complaints as to the location of ganja shops are carefully considered, but very rarely occur. Complaints by people living near spirit shops and specially by European planters are comparatively common. Ostensibly we have no local option, except as above described, that, as a matter of fact, if the people of any locality objected to, or desired the opening of a new shop, they would not hesitate to make their wish known to the district officials, or, if necessary, to the Commissioner of Excise. In the case of ganja, such references are extremely rare. In the hill districts and Assam proper, the shops are few and far between; in Sylhet and Cachar the number has been largely reduced of late years, and the only doubt possible is whether the reduction has not been too great. In 1890-91 the retail shops in Sylhet were reduced from 143 to 110, and in Cachar from 52 to 42. No complaints were made by the general public.

(h) No rate is fixed at which the drug is to be supplied by wholesale to the retail vendors. The rate is fixed by competition, and if the wholesale vendors of one district attempt to force the price too high, retail vendors have recourse to the "golabs" of a neighbouring district. In many cases the wholesale vendors also hold retail shops. The average retail price to consumers, district by district, is given below for the past two years. The circumstances which affect the retail price have already been stated:—

District.	AVERAGE RETAIL PRICE PER SEER IN						Remarks.
	1891-92.			1892-93.			
	Rs.		Rs.	Rs.		Rs.	
Cachar ...	12	to	16	16	to	25	(Average.)
Sylhet ...	14	"	17-8	15-6			
Goalpara ...	15	"	25	20			
Kamrup ...	10	"	25	20	to	25	
Darrang ...	25	"	40	25	"	40	
Nowgong...	25	"	30	20	"	25	
Sibsagar ...	30	"	35	30	"	35	
Lakimpur...	30	"	40	30	"	40	
Naga Hills ...	40	"	45	40			
Khasi Hills ...	20			25			
Garo Hills ...	12-8			15			

(i) The maximum limit of possession by ordinary consumers is, as in Bengal, 20 tolas. It has not been found necessary to fix any minimum price. But in this matter we simply follow the precedent of Bengal.

(j) The dried wild plant is smuggled into the province in small quantities from Bhutan and Hill Tipperah. Beyond the intervention of the police, no steps have been

considered necessary to defeat a practice which is carried on on a very small scale. We occasionally get information (for which rewards are paid by the Deputy Commissioners) from retail vendors and others.

(2) No modifications of the excise system with reference to hemp drugs are under the consideration of the local Government.

(4) The statement called for by the Commission is appended hereto. I add some explanations of the more important variations in consumption from year to year:

In 1874-75 there was a decrease in consumption in Cachar owing to a combination among the wholesale vendors to raise the price.

In the following year a similar cause produced similar effects in Sylhet, while the breaking up of the combination in Cachar led to a reduction in retail prices and increased consumption. In 1876-77 the combination in Sylhet continued and resulted in a further decrease in consumption, while in Cachar, Goalpara, and Kamrup the whole district was farmed out to a monopolist, who found his profit in charging high prices, which checked consumption. In 1877-78 the consumption in Sylhet increased owing to the breaking up of the combination among the goladars and a consequent fall in retail prices. The increase in Goalpara was attributed by the district authorities to the fact that opium had become too costly for common use and that people were taking to ganja instead. This was probably a mere guess, and does not appear in the explanations of subsequent years. In fact, careful inquiries have since shown that ganja is not taking the place of opium.

In 1878-79 there was an increase of the rate of duty in Sylhet alone, and this was followed by a large decrease in the amount of ganja taken from the district shops. Strange to say, however, there was also a decrease in the neighbouring district of Cachar, where the rate of duty was not enhanced till the following year. In Cachar the diminution was attributed to the high rates charged by the wholesale vendors in anticipation of an enhanced duty.

In 1879-80 when the enhanced rate of duty was extended to the whole province, an increased consumption of about three maunds in each case occurred in Sylhet and Cachar. There was a decrease in all the remaining districts, and especially in Goalpara, where the season was a bad one, and the price of food-grain was high. In the next two years consumption remained pretty steady.

In 1883-84 there was a somewhat large increase of 58½ maunds. This was chiefly due to the breaking up of the monopoly in Cachar, which resulted in a reduction of retail prices. In Kamrup there was an increase of over 16 maunds, but, as above explained, many districts (Darrang, Nowgong, the Khasi Hills, &c.) draw their supply from this district. In Sylhet there was a falling off of over 19 maunds, but no doubt many consumers drew their supply from Cachar.

In 1885-86 there was a very large decrease in consumption, entirely due to the decrease in the Sylhet district attended as before by an increase in Cachar.

In the following year the pendulum swung backwards, and in Sylhet and Kamrup, which had shown a large falling off in 1885-86, there was an increase in consumption. This, as before, was no doubt due to the breaking up of combination among the wholesale vendors.

In 1887-88 there was again a decrease in Sylhet and Cachar, in the former district amounting to as much as 73 maunds. The year was one of scarcity and high prices, but an increase in prices and decreased consumption would probably have occurred in any case. In Lakhimpur the rapid increase of the immigrant population induced the Commissioner to authorize the opening of a second registered warehouse (there had only been one heretofore). This appears to have led to a fall in retail prices and a small (temporary) increase in consumption.

In 1888-89 Sylhet and Cachar again show an increase between them of some 71 maunds. The year was a good one from an agricultural point of view, and probably the anticipation of good sales brought about the breaking up of the combination among wholesale vendors. Moreover, the increase in this year was less than appears at the first sight. The duty on choor and round ganja was raised; that on flat ganja remained the same. This stimulated the consumption of flat ganja, which consists largely of stalks and stems.

In 1890-91 the increased consumption continued, the year being again one of good harvests. So also in 1890-91, in which year the consumption in Cachar was greatly stimulated by the influx of foreigners in connection with the Lushai expedition.

In 1891-92 the decrease of 27 maunds odd was chiefly due to the partial failure of the crop in Rajshahi, which raised the wholesale price of the drug; nor was the quantity required available for import.

The decrease of nearly 80 maunds in 1892-93 occurred almost entirely in the district of Cachar, and was due to the fact that the whole district was leased to a monopolist. In other districts the decrease was more apparent than real, owing to an increased resort to the use of round and choor ganja in preference to flat ganja.

(m) As I have already pointed out at length, our system of administering ganja is derived from, and carried on, in conformity with the Bengal system. It would

be possible for us to vend ganja in the same way as we now vend opium. To take this step would give us an increased hold over the vendors, and a possibility of influencing retail prices more effectually than at present. The experiment is in fact being tried on a small scale in the Khasi Hills. But to adopt it for the province at large, we should require the co-operation of the Bengal Government. Probably the introduction of a similar system in Bengal would be necessary. With regard to opium the system, as is well known, is for Government to buy the opium from the cultivators, and to sell it directly after manufacture to the retail vendors. Whether such a system can profitably be applied to ganja is probably best known to the authorities in Rajshahi. In practice the present system works fairly well: all reasonable facilities for the sale of the drug are given, while it cannot be said that the number of shops is such as to create an artificial demand for ganja. The one drawback of the system lies in the violent vacillations in retail prices due to the forming and breaking up of the combinations among the wholesale vendors.

Circular No. 28, dated Shillong, the 26th October 1882.

From—C. J. LYALL, Esq., C.I.E., Offg. Secy. to the Chief Commissioner of Assam, Revenue Department,

To—All Deputy Commissioners, Plains Districts.

I AM directed to invite your attention to the Notification No. 27, dated the 20th October, published in the *Assam Gazette* of the 21st idem, declaring, under section 17A of the Excise Act, VII (B.C.) of 1878, as amended by Act IV (B.C.) of 1881, that the possession without a license of any "foreign exciseable article" (except spirituous and fermented liquors imported by sea, and kept only for private use and consumption and not for sale) in any quantity whatsoever, is absolutely prohibited in the plains districts of this province.

2. "Foreign exciseable article" is defined in section 3 of Act IV (B.C.) of 1881 so as to include not only exciseable articles manufactured or produced at any place beyond the limits of British India, but also all such articles produced or manufactured in places within British India, where no duty of excise is levied upon them. Such places are the Hill Districts in respect of country spirits and ganja, and the Act amending Act VII (B.C.) of 1878 was passed mainly with the object of preventing injury to the excise revenue of the plains districts from the introduction into them of untaxed spirits and ganja or bhang from the Garo, Khasi and Jaintia, North Cachar, and Naga Hills. If in your district any such importation, or importation from foreign territory, exists, you should take steps to make the prohibition widely known and understood. Magisterial officers should of course, especially at the outset, deal leniently with such cases of possession, where there is reason to believe that the importation was made in ignorance of the prohibition. It must be understood that this notification does not make the possession of wild ganja, whether green or dry, illegal, if it is grown in a plains district, but only if grown in a hill district, or beyond the British boundary.

3. In connection with the discussions which have preceded the issue of this notification, it has been brought to the Chief Commissioner's notice that the wild hemp plant, which grows abundantly both in the hills and plains of this province, is largely used, after being cut and dried, as a medicine for cattle. I am to invite your attention to sections 16 and 17, rule 2 of Chapter XV of the Board's Rules, Vol. I, edition of 1878, which bear upon this subject, and describe the different preparations of hemp which are "exciseable articles." Ganja is said by the Board to be made from the dried flowers of the female hemp plant, and some authorities say that it is only made from the cultivated plant. Bhang, again (which according to the Board is otherwise called siddhi, patti, or sabji), is said by them to be made from the dried leaves of the wild plant, and to be usually consumed in some liquid or to be mixed with sugar and ghi in the electuary called majum. Charas is the resin found on the flowers and leaves of the plant, in which the active intoxicating principle of all the preparations resides: it is not sufficiently abundant to be collected separately in most of the varieties of hemp grown in India, and is chiefly imported from Afghanistan and Yarkand. Thus, the danger to the excise revenue from the illicit use of wild hemp arises from its use as bhang, not as ganja properly so called. Its cultivation without a license is already prohibited by section 5 of the Excise Act. By section 2 of the Act the sale of bhang in any quantity without a license is forbidden. By sections 15 and 17 of the Act the possession of a larger quantity of bhang than a quarter of a seer, except by a licensed vendor, is prohibited.

4. But you will observe that in rule 2 of section 17 of Chapter XV of the Board's Rules it is said that "no restriction is imposed on the use of the hemp plant in its green state for medical or other purposes, or on its manipulation for the manufacture of fibre. But any preparation of the plant to be used, stored and sold as a narcotic or stimulant is prohibited, except under the rules framed under the Act." This rule mentions the medicinal use of the plant only "in its green state," but if, as appears to be the case, the wild hemp is also used as a medicine for cattle when dried, the Chief Commissioner desires that the rule may be liberally interpreted, and no penalty imposed when it is probable that the cultivation or the drying and storing of it was only for this purpose. Whether this was so or not is of course a question of fact.

5. This circular should be communicated to all judicial officers subordinate to you and also filed in the judicial side of your office.

for the years 1873-74 to 1892-93.

TRES.	AMOUNT OF FIXED DUTY.					TOTAL REVENUE.					QUANTITY SOLD (RETAIL).					Revenue per head of population, column 41 + column 2.	Population per retail license, column 20.	Remarks.
	Total.	Ganja.	Charas.	Bhang.	Other preparations of the hemp plant.	Total.	Ganja.	Charas.	Bhang.	Other preparations of the hemp plant.	Total.	Ganja.	Charas.	Bhang.	Other preparations of the hemp plant.			
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
Rs. a. p.	Rs. a. p.	Rs.	Rs. a. p.		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		Rs. a. p.	34. s.	M. s.	M. d. s.	M. s.	Rs. a. p.			
16,430 0 0	82,823 0 0	...	...		82,823 0 0	80,030 0 0	22 0 0	...		10,052 0 0	628 9	...	...	...	0 0 5	5,769		
17,758 0 0	86,823 0 0	...	...		86,823 0 0	1,04,581 0 0	...	...		1,04,581 0 0	808 9	...	...	...	0 0 5	9,141	(a) Represents registered warehouses.	
27,882 0 0	81,375 0 0	...	...		81,375 0 0	1,03,237 0 0	...	...		1,09,257 0 0	614 22	...	...	...	0 0 5	8,890		
53,501 0 0	64,241 0 0	...	...		64,241 0 0	1,18,742 0 0	...	...		1,19,742 0 0	633 37	...	...	...	0 0 6	15,031	* Figures not available.	
57,361 0 0	67,375 0 0	...	...		67,375 0 0	1,54,769 0 0	20 0 0	...		1,54,726 0 0	612 0	...	...	...	0 0 7	18,512	+ Excise ganja exported to Mysenag in Bengal.	
70,090 0 0	75,889 0 0	...	...		75,889 0 0	1,52,606 0 0	32 0 0	50 0 0		1,52,588 0 0	537 2	...	...	...	0 0 7	15,111		
72,030 0 0	83,006 0 0	...	...		83,006 0 0	1,55,063 0 0	72 0 0	...		1,55,135 0 0	570 27	...	...	...	0 0 7	16,315		
93,513 0 0	84,531 0 0	...	...		84,531 0 0	1,78,074 0 0	...	...		1,78,074 0 0	583 13	...	...	...	0 0 8	17,310		
1,02,395 0 0	84,385 0 0	...	...		84,385 0 0	1,88,780 0 0	...	...		1,86,790 0 0	574 15	...	...	...	0 0 7	17,068		
1,10,367 0 0	87,307 0 0	...	...	NIL	87,307 0 0	1,97,674 0 0	...	...	NIL	1,97,074 0 0	579 15	...	...	...	0 0 8	16,603	Figures under charas and bhang are given for the years in which such licences were granted.	
1,16,098 0 0	1,22,874 0 0	...	...		1,22,874 0 0	2,39,872 0 0	...	...		2,39,872 0 0	638 6	...	...	...	0 0 9	15,392	Rs. 5 shown in columns 20 and 39 against the year 1884-5 represents advance collection for 1885-86.	
1,21,563 0 0	1,23,225 0 0	...	...		1,25,225 0 0	2,46,783 0 0	...	5 0 0		2,46,788 0 0	634 35	...	...	...	0 0 10	15,846		
1,27,531 0 0	97,940 0 0	...	35 0 0		97,975 0 0	2,35,427 0 0	...	79 0 0		2,25,506 0 0	515 27	...	3 9	...	0 0 9	15,550		
1,21,614 0 0	1,23,579 0 0	...	93 0 0		1,25,671 0 0	2,47,171 0 0	...	114 0 0		2,47,265 0 0	680 30	...	3 6	...	0 0 10	15,159		
1,07,600 0 0	1,11,812 0 0	...	...		1,14,812 0 0	2,22,611 0 0	...	...		2,22,511 0 0	613 6	...	...	...	0 0 8	14,028		
1,05,528 0 0	1,32,633 0 0	...	...		1,33,533 0 0	2,32,081 0 0	...	...		2,36,061 0 0	677 18	...	...	...	0 0 9	14,882		
1,14,336 0 0	1,36,449 0 0	...	...		1,36,449 0 0	2,50,875 0 0	...	...		2,50,875 0 0	700 12	...	...	...	0 0 11	14,028		
1,35,608 0 0	1,43,860 0 0	...	...		1,43,820 0 0	2,70,523 0 0	...	...		2,70,523 0 0	728 27	...	...	...	0 0 10	19,267		
1,43,481 0 0	1,46,738 0 0	...	...		1,46,733 0 0	2,80,219 0 0	...	...		2,80,219 0 0	700 38	...	...	...	0 0 10	19,614		
1,61,069 0 0	1,36,515 0 0	...	...		1,39,545 0 0	3,04,633 0 0	...	...		3,03,633 0 0	620 25	...	...	...	0 0 11	19,975		

NORTH-WESTERN PROVINCES AND OUDH MEMORANDUM.

1. It will be convenient to first describe the kinds of hemp drugs in use in these provinces: then to indicate the sources of supply, dealing separately with—(1) home growth and manufacture and (2) imports. The system of administration will then be described. In connection with this the desired information concerning taxation, prices, and consumption will be given so far as it is available. Finally the contemplated changes in the present system will be discussed.

DESCRIPTION OF DRUGS IN USE.

2. The forms of hemp drugs in use in these provinces are—

1. Bhang.
2. Ganja.
3. Charas.

With bhang I include majum, which is a confection prepared from extract of bhang, ghi, and sugar.

BHANG.

3. Bhang consists simply of the leaves, flowers, and leaf stalks of either male or female plant. It requires no cultivation and no process of manufacture beyond drying and stripping the plant. Bhang is not smoked so far as I can discover, but is taken as a draught or as a confection in the shape of majum. Looking, however, at some of the specimens of so-called "wild ganja," which are smoked and which seem to me to differ very little from bhang, I hesitate to say that bhang could not and would not be smoked if ganja or charas were unprocurable.

4. Bhang is used everywhere throughout the provinces and more largely than other hemp-drugs by the better classes. The Brahmans of Muttra are said to be the largest consumers known. I have heard it said that a single man can take as much as a quarter of a seer in the day, and it is a jest against them that they wish Providence had made the Jumna a river of bhang.

Bhang is, I believe, little, if at all, used as a mere intoxicant. It is chiefly taken as a stimulant or refreshment and perhaps even more as a tonic medicine. It is supposed to have cooling properties and its use largely increases in the hot season. Natives regard bhang as a comparatively harmless preparation, and its use is not generally looked upon as disreputable. It is also very largely used as a medicine for cattle either when sick or worn out by fatigue, and for this purpose it is found valuable by cultivators. Its use for cattle is, I believe, most general in the localities where the plant grows wild about the fields, and can, therefore, be procured for nothing. A common reason given by persons who are found in illegal possession of bhang is that they mean to use it for cattle medicine.

GANJA.

5. Of ganja I need only say here, by way of definition, that properly speaking it is the unfertilized female flower. It is chiefly used in the eastern and central districts, and this is naturally explained by the circumstance that these districts are nearest the sources of supply. It is most in favour in the east. In the central districts it has more difficulty in contesting

Dehra Dun.	Bijnor.	the field with charas. In the western districts
Saharanpur.	Pilibhit.	marginally noted it is not sold at all. In Muttra
Muzaffarnagar.	Shahjahanpur.	and Meerut a small quantity is imported for the
Bulandshahr.	Kumaun.	use of domestic servants and followers of the troops.
Aligarh.	Garhwal.	In Agra it is comparatively little consumed.
Bareilly.	Naini Tal.	

6. It is chiefly used by the labouring classes and undoubtedly enables men, perhaps more than any other stimulant, to sustain severe and prolonged bodily labour. Used in moderate quantities, as it is generally taken, it does not seem to unfit people for their work. Excess in it is unquestionably deleterious. Ganja, so far as I can discover, is always smoked. I have found no case of its being used in any other way. It is most largely consumed in towns, but also finds consumers among the agricultural population. The habit is said to be spread by fakirs and mendicants who are greatly addicted to its use.

CHARAS.

7. Charas is the resinous extract of the hemp plant. As used it is always more or less adulterated with the powdered leaves or stalks of the plant or with other more foreign

substances. It is chiefly consumed in the western districts where ganja is at present unknown. These are the districts which lie nearest the Punjab, whence most of the supply comes. Charas is also consumed more or less extensively in the central districts and is making its way in the east. I attribute this to the constantly increasing price of the Bengal ganja, which was once almost exclusively used there. Now, however, it has to compete with the cheaper "pathar" ganja, which will be described later on. Practically speaking, I should say its use is exclusively confined to the lower classes of society. Its effects are much the same as those of ganja, with which it seems to be physiologically related. It is used for the same purpose and by the same classes of people. I should be slow to dogmatize on the point, but my observations lead me to believe that charas is the most injurious and least reputable of all the hemp-drugs, possibly because it may contain the active principle of the plant in the most concentrated form. There are indications that where spirits or opium are supplanted by hemp, charas is the sort of drug usually selected. Its use appears to be extending at the expense of other intoxicants. Its price fluctuates considerably probably in accordance with the conditions of Central Asiatic trade. For the last few years it has been comparatively cheap, while under our system of administration country spirits and opium have been becoming dearer.

Charas is always smoked.

LOCAL GROWTH AND MANUFACTURE.

8. Turning now to the question of growth and manufacture.

The hemp plant grows in all parts of the provinces, but in varying quantities. It grows absolutely wild in great profusion in all the montane and sub-montane districts.

I place in this category—

Gorakhpur.	Garhwal.
Basti.	Pilibhit.
Gonda.	Bareilly.
Bahraich.	Moradabad.
Kheri.	Bijnor.
Naini Tal (including the Tarai).	Saharanpur.
Kumaun.	Dehra Dun.

To these perhaps may be added Muzaffarnagar, where the plant is reported to grow freely in the low lands of the rivers. In Shahjahanpur and Meerut, too, the produce is considerable.

9. In the districts of Hardoi and Fatehgarh hemp is cultivated to a small extent. It is sown either alone or with the spring crops, and is harvested after they have been reaped. It receives no care beyond that given to the crops with which it is mixed. In the Hardoi district and probably also in Fatehgarh, it is supplemented to some extent by self-grown plant produced about wells or houses and on small waste patches and headlands. All this plant is converted into bhang, which is of a superior quality, technically known as "tatia" (from a village in Fatehgarh district), and commands a much higher price than the wild bhang of the sub-montane districts. Part of the produce is locally consumed and part exported, so it is difficult to ascertain the precise amount of the produce. But I think about 1,000 maunds annually would be a very close estimate. Part of the Hardoi produce is taken across the Ganges to the conterminous district of Fatehgarh and thence exported as Fatehgarh bhang. The annual exports are about 800 maunds. Excluding for the present the hill districts, where hemp is grown for fibre, this is the only case in these provinces where the hemp plant is openly cultivated for commercial purposes.

10. Beyond these districts the hemp plant flourishes widely, though it is not produced in sufficient quantities to render it of any commercial importance. I would not venture to positively assert that it is always of purely indigenous growth, though its wide diffusion leads me to believe that this is the case. It may be seen growing about wells and temples; and in such places, it is no doubt the produce of seeds scattered by travellers and fakirs who use hemp drugs. It is also found in and about houses and in gardens, where it is either introduced in the same way or deliberately sown. In all these cases I think the plants, if not the result of cultivation, are knowingly permitted to grow, and are subsequently used by the people who live in those places. The plant may also be seen springing up in a scattered way in waste places and lowlands.

In some districts the amount produced by these forms of sporadic growth is considerable and is a constant source of complaint by the drug contractors who have the monopoly of vend. These conditions obtain, broadly speaking, to a greater or less extent in all parts of the province lying north and east of the Jumna. In Bundelkhand and most of Mirzapur, in fact in all the country in and adjoining the hill system of Central India the plant is much more rarely found. But that it can be grown and with some perfection in this tract also is shown by the occasional presence of plants and by the existence of considerable cultivation in Gwalior and in some of the Bundelkhand Native States which interlace with British territory.

11. In the Himalayan districts the plant is cultivated and yields fibre which is of some economic importance. It supplies the people with material for their cloth and cordage, and was once a valuable monopoly of the East India Company. In most cases the plant is grown primarily for the fibre, and charas is gained as a subsidiary product. But in some places the charas is said to be the primary object of the cultivation. So far as I can discover, fibre is nowhere extracted from the plant grown in the plains. In some localities, where it grows wild, the stalks are utilized for making thatches, screens, &c.

12. Where grown for fibre in the hills, the plant is sown in the best soil and receives careful cultivation. But both in hills and plains it can and does grow without any care or cultivation of a sufficiently good quality to yield drugs. The brief and material conclusion is that besides a very large and general spontaneous growth, wherever people choose to grow the hemp plant, they can and do grow it in any part of the provinces, and it can be grown under conditions where suppression would be impossible.

13. Under the rules now in force under section 11, Excise Act XXII, 1881, the cultivation of the hemp plant in these provinces is free to all parties. The possession of the drug is permitted to cultivators, to owners of land in which the plant grows spontaneously, to licensed vendors or to persons duly authorized to supply licensed vendors. Its possession by other persons in larger quantities than one quarter of a seer of bhang and five tolas of ganja or charas, is prohibited under sections 22 and 23, clause (k), Excise Act.

Section 12 (d) permits any cultivator to sell intoxicating drugs prepared from his plants to any person licensed to sell drugs or specially authorized to purchase the same. This permission to cultivators is considered to extend to the sale of their bhang by owners of spontaneous produce. Bhang requires no preparation or manufacture, being only the dried plant stripped of its stalk.

The rules are silent on the subject of manufacture or preparation of drugs. This is probably because outside the hill districts there has hitherto really been no manufacture or preparation in the proper sense of the word carried on in the provinces except a little quasi-surreptitious manufacture of ganja which will be noticed further on. Excepting the wholesale contractor in Saharanpur, no persons are specially authorized to purchase under section 12 (d). The business is entirely in the hands of the contractors, who are licensed to sell.

14. In the few cases abovementioned, where the plant is cultivated, the produce is stored by cultivators themselves in their own houses. It is sold to contractors, and when bought for export, is weighed and sealed before the tahsil officials, and exported under pass in the usual way (hereafter described). The produce of the wild plant is similarly treated. The real control lies in the restrictions on sale and transport. But the rules governing cultivation, collection of wild plant, preparation and manufacture, are, I think, susceptible of improvement. So far the rules, however, have worked well enough, partly because the supply of drugs has been ample and cheap and partly because the people generally have not known or realized how far they might go without violating the law and rules. They see that all excisable commodities are a Government monopoly, and, except where hemp is cultivated or collected for sale, they have a belief that its cultivation would render them liable to penalties. The ignorance is shared by some of the officials, who occasionally take cognizance of cases where a few plants are found growing in or about a man's house. In such cases he never pleads that he is entitled to grow them; he always denies the fact or alleges that the plants grew spontaneously without his knowledge. If drugs were forbidden or made prohibitive in price the case would at once alter, cultivation, collection, and manufacture would have to be placed under such control and restriction as might be found possible.

15. The question of manufacture as well as growth of bhang has, perhaps, been sufficiently explained in the foregoing paragraphs. In the case of ganja the manufacture and growth cannot well be separated. The hemp plant, as I have stated, can be, and is grown everywhere, but the production of good ganja requires either the extirpation of the male plant or the isolation of the female plant. The regular cultivation of ganja in this way is not carried on openly anywhere in these provinces. The whole of the ganja offered for public sale is imported. At the same time it would be incorrect to say that ganja is nowhere grown or manufactured. Careful enquiry has elicited reports from several districts that a small amount of ganja is surreptitiously made. I have endeavoured to verify this by obtaining specimens of the local manufacture. It is naturally difficult to obtain a clandestine article, but I have succeeded in getting specimens from Ghazipur and Sultanpur, which have been handed over to the Commission. In appearance the Ghazipur ganja is better than the ordinary "pathar," and not much inferior to Bengal "baluchar" (flat). The other is much the same as "pathar." I hope to obtain further specimens which will be duly submitted. These two samples are clearly made from unfertilized flowers, and the people who made them knew the necessity of preventing fertilization. In Ghazipur the male plants are extirpated and the ganja is prepared from the female flower by a process which closely resembles that employed in Bengal. It sells, I am informed, for two annas per tola. The method of cultivation and manufacture in Sultanpur has not been described.

16. The deduction is significant and instructive. Ganja, of fair or good quality, can be made, and is made, locally. People understand the principle of its manufacture. If this

happens in a few districts, it may happen in any district. There can be no doubt it would happen very generally if the import of ganja were prohibited. The distinction between the male and female plants is everywhere recognized (though the names are sometimes transposed), and it is generally known that the latter yields ganja and the former bhang only. But as yet it is not everywhere or generally known that proper ganja can only be made from the unfertilized flower. Such knowledge, however, would soon spread.

Ganja of a certain sort is also made in Nepal territory, and there is reason to believe in the adjoining parts of this territory. It is introduced by Nepalese who come down for one reason or another and who primarily bring it for their own use, but possibly also do a little trade in it. I will submit a specimen which was procured by the Collector of Basti from a fakir who wanders in and out of Nepal and could not clearly say on which side of the frontier it was grown. The ganja is no doubt very inferior, but compared with the purely wild female plant it seems to me to indicate some preparation from a plant specially grown or tended.

17. Besides these cases it has also been ascertained that wild ganja is collected and used in the Kheri district. I have procured a specimen of this and submitted it to the Commission. It is simply the unprepared flower of the wild female plant fertilized and fructifying. The Deputy Commissioner reports that the people do not understand the necessity for keeping the flower barren. This stuff is locally smoked as ganja, but it is recognized to be of very inferior quality and has no commercial value. In Bara Banki also the wild female plant is collected and smoked under the name of ganja. The specimens indicate an absence of any form of special cultivation or manufacture. There are indications that wild ganja is similarly used in other districts, but the matter is not certain, and I have seen no specimens. The Kheri experience shows that the produce of even the wild plant can be used as ganja at a pinch, and raises an inference that ordinary bhang could be smoked if ganja were not procurable.

18. The hemp plant is cultivated for its fibre in the Almora and Garhwal districts, and yields charas generally as a subsidiary product. Some description of the process will be found in the North-Western Provinces Gazetteer, Volume X, pages 760 and *seq* and 799 and *seq*. The information now supplied to me by the local authorities and gained by my own enquiries shows that the charas is extracted by rubbing in the hands the flowers of the female plant after it has been cut and scraping off the resin which adheres to them. A certain amount is also said to stick to the hands when the stalk is manipulated for preparation of the fibre, but this requires confirmation. No intentional effort seems to be made to keep the female plant from being fertilized, but the male plant matures a month or six weeks before the female plant, and is then cut to prevent deterioration of the fibre. Where the primary object of the cultivation is charas, the male plant is similarly removed to give the female room to spread. This practice may act to check fertilization, but obviously does not prevent it, as the female plants are said to always produce seed. Moreover, the wild plant grows round about and presumably its pollen would fertilize the cultivated plant. Charas is also extracted from the female flowers of the wild plant which must of course be fully fertilized. Such charas is esteemed to be of inferior quality. In a letter from the Political Agent and Superintendent of the Punjab Hill States it is said that in Bashahr a resin is extracted from the terminal leaves of the wild female plant by rubbing them between the palms of the hands till the resin adheres. It is then scraped off and smoked like charas. Each man makes his own in this fashion. This private manufacture of the drug in a small way is common. This account agrees exactly with the description given of the preparation of charas in the hill districts of these provinces and in Native Garhwal. Charas, which is a resinous secretion of the female flower, would seem scarcely distinguishable in its properties and effects from ganja, which is the female flower with its resinous secretion still present.

IMPORTS AND EXPORTS.

19. The imports of bhang may be very briefly stated. Nearly the whole of the bhang consumed here is grown in the provinces. A certain amount is imported from the Punjab, coming chiefly from Jagadhri, Kalsia, Umballa, and some from Amritsar, Hoshyarpur. Nearly all of it goes to a few of our western districts. This is not because of any failure in the local supply which is unlimited and inexhaustible, nor because of any superiority of the Punjab article, but apparently on account of the trade connection of some of the contractors with the Punjab. These imports are made under pass in the manner prescribed in rule 98, Chapter X, of the North-Western Provinces Excise Manual. No import duty is levied. A little bhang also occasionally comes from Bhartpur and Jeypur and perhaps from a few Bundelkhand Native States, but in that direction we give more than we get. The amount is not considerable and seems to be diminishing. Some of the bhang from Gonda and Bahraich is really grown on the Nepal side of the border. The Nepalese officials are said to exact a trifling duty of one or two annas per maund. The plant is treated in the same way as the growth of our own villages. A certain amount of bhang finds its way out of the provinces to the neighbouring districts of Bengal, the Punjab, the Central Provinces, and the Bundelkhand States.

20. The chief districts from which bhang is exported are Gonda, Gorakhpur, Bahraich, Basti, and Kheri, the Tarai (Naini Tal), Bareilly, Pilibhit, Saharanpur, Gorakhpur, and Fatehgarh; but any of the other districts mentioned in my 8th paragraph are capable of yielding a practically unlimited supply, and bhang is occasionally procured from them. In Saharanpur a separate contract is given for a wholesale depôt. It only fetches a few hundred rupees and is almost invariably taken by the contractor for retail vend in the district. Elsewhere the local contractor does some business in wholesale export, or the contractors of other districts send their agents to purchase direct from the owners or occupiers of land who collect and store the plant.

This export, or, more correctly speaking, transport, within the provinces is effected under passes issued by the Collector of the district in the form printed as Appendix XL, in the North-Western Provinces Excise Manual, which is framed for opium, but also used for hemp-drugs. The rules will be found in chapter X of the Excise Manual.

21. The three main localities from which ganja is imported are—

1. Bengal.
2. Khandwa in the Central Provinces.
3. (a) Gwalior.
- (b) Bundelkhand Native States.

That imported from Bengal is almost exclusively the cheapest kind, "flat ganja." I believe some very small quantities of the superior kinds are occasionally imported, but I have never seen any. This import business is chiefly in the hands of a large Patna firm who hold contracts for several districts in these provinces and also supply other contractors. Some contractors, however, obtain their supplies direct from Patna, Rajshahi and Buxar, or from the border districts of Saran and Champaran. This is entirely a matter for their own choice. The Bengal Government impose a duty which is now Rs. 6 per seer on flat ganja. This is collected and credited in Bengal. Till the 1st April 1892 these payments were subsequently credited to this Government by inter-provincial adjustment. Since that date they remain to the credit of Bengal. The cost price varies considerably according to the character of the crop and the state of the market. Within the last two years it has been as high as Rs. 70 per maund and as low as Rs. 9.

The Bengal ganja is known here as "baluchar" from the name of a village in Bengal, whence it is supposed to come. It is used chiefly in the eastern districts forming the Benares and Gorakhpur Divisions, but a little still finds its way further west, where its superior quality secures for it a certain, though small, demand in spite of its much higher price. The high quality of the Bengal drug is universally admitted, and I believe that weight for weight it possesses greater intoxicating power. This point could be best determined by a chemical analysis. Its appearance would indicate that it contains more of the resinous secretion, but, so far as I know, it seems to be preferred on account of its flavour and less unpleasant after-effects. Notwithstanding its better reputation and its older trade connection, the Bengal drug is losing its hold in the market here. The decrease in Bengal exports attracted the attention of the authorities there, and I was asked about a year ago to ascertain the causes. The result of my enquiries was to show that the consumption of baluchar was falling off because of (1) the successive increases of the duty levied in Bengal and the consequent enhancement of price; (2) the increasing competition of the cheaper "pathar" ganja from the Central Provinces, Gwalior, &c.; (3) extended use of charas. No doubt cause (2) is greatly fostered by cause (1), and is a consequence as much as a cause. But I think in any case the cheaper drug was bound to assert itself and gradually supplant the dearer article. The difference in price is considerable. Baluchar has lately been generally retailed in our towns at six annas per tola, while pathar sells at one anna and half an anna.

22. In those districts where the use of baluchar prevailed I do not think the pathar ganja was, at first at least, openly offered under that name. It was rather used to adulterate baluchar. Ordinary specimens of the two are easily distinguishable to the experienced eye. But there is sufficient resemblance to make adulteration easy. I have no doubt a good deal of pathar is sold as baluchar. The Commission will remember that on their inspection of the two chief drug shops in Allahabad the vendors professed to have no "pathar" for sale, but on visiting the contractor's storehouse a quantity of pathar was there found in stock. Last year Babu Ganga Bishen, the head of the Patna family, and the largest contractor in the provinces, was found in the Nimar district engaging with the cultivators to manufacture their ganja so as to resemble baluchar and instructing them in the process. This had occurred also on a previous occasion. I have handed to the Commission a specimen of Khandwa ganja which I found on sale in a shop here and which approaches baluchar in quality and appearance. All these circumstances seem to indicate that the duty on Bengal ganja has reached a point which must lead to its gradual exclusion from a market where it has to compete with the cheaper products of other localities. I should also add that the districts in which there is reason to believe that locally grown ganja is surreptitiously prepared are chiefly districts in which baluchar is used.

In Garhwal a substance is produced and used which might be classed with either ganja or charas. After the charas has been extracted from the female flower the powdered or broken flowers are mixed with hemp seed and smoked in a chillum. This seems akin to the "garda" of the Punjab.

The ganja coming from the Central Provinces is known here as "pathar," "pattiyara" or "pattiyala," possibly on account of its leafy character. It has more waste in the shape of stalk and leaf and apparently less of the resinous secretion than the Bengal drug. But, as I have already said, it can be prepared to simulate the latter.

I need not here attempt to describe its method of cultivation, preparation, storage, wholesale price, &c., because such information can be more accurately procured from the Central Provinces. Our contractors who bring it from Khandwa pay no duty there, but have to meet warehouse and registration fees, which, I believe, come to about Rs. 2 per maund. It varies a good deal in quality according to the season and probably also according to the skill of the cultivators who grow and prepare it. Many of the specimens I see contain more or less seed, showing that the male plants have not been completely extirpated. Pathar, whether from the Central Provinces or Gwalior, &c., is most largely used in the central districts of these provinces and in those western districts where ganja is consumed at all. It is gradually making its way in the eastern districts, where it is supplanting baluchar. I do not think the import of Khandwa pathar is increasing just at present. The figures marginally noted show the imports for the last 10 years.

	Mds.		Mds.
1882-83	503	1887-88	1,145
1883-84	2,472	1888-89	1,879
1884-85	741	1889-90	3,237
1885-86	4,223	1890-91	1,530
1886-87	229	1891-92	1,450

From what some of our contractors have told me, I think Gwalior ganja has been gaining ground, as it has latterly been rather cheaper owing perhaps to bad crops in the Central Provinces and the heavier railway freight to many of our districts. The construction of the Indian Midland Railway has apparently improved the market for Gwalior ganja.

24. The Gwalior ganja is of the same character and appearance as the Central Provinces "pathar." It is known here by the same name and is used in the same places and by the same people, in fact it stands on exactly the same footing as the latter. Like the latter, too, it seems to vary considerably in quality. On an average I should say, it is neither better nor worse than that which comes from Nimar. It is the product of careful cultivation and preparation. Colonel Pitcher, Director of Land Records and Agriculture for the Gwalior State, has kindly supplied a memorandum on this point prepared by his Assistant, Pandit Gopal Ram, which will be found as an appendix to this report. The State duty of Rs. 5 per maund must be calculated on the drug stripped from stalk and waste and ready for use. My enquiries here show that our contractors pay duty to the farmer at the rate of Re. 1-8-0 to Rs. 2 per 100 bundles. The fact seems to be that the farmer, paying a lump sum to the State, collects the duty in the way he finds most convenient to all concerned, and is not very particular provided he gets a fair offer. The incidence of the duty on weight of the drug is very much a matter of conjecture or estimate. I have no doubt myself that the actual incidence on the cleaned stuff comes in the end to less than Rs. 5 per maund. Some of the contractors I have spoken to have been under the belief they paid less dues in Gwalior than Khandwa. The Gwalior ganja as a rule is despatched by rail from Atri on the Indian Midland Railway. The State is bound by treaty not to permit the export of intoxicating drugs, &c., by any route or direction formerly barred by the Inland Customs line. This restriction had been disregarded, but the attention of the Darbar was called to it in 1887, and they took measures to enforce it. The principal measure, curiously enough, was to double the duty on ganja exported to British territory. The convenience now afforded by the Indian Midland Railway, added to the above restriction, now confines the conveyance to the railway, but I have no doubt that if the inducement existed, it would be quite easy to smuggle in the drug at many points of our land frontier.

25. Of the same class as the Gwalior ganja is that imported from some of the Bundelkhand Native States. I give in the margin the name of those States from which ganja has been from time to time procured by our contractors. To these may be added Dholpur, which is under the Bharatpur agency. The plant is cultivated in Dattia, Samphar, and Chhatrapur to some extent, and the drug is not, so far as I could observe, distinguishable from Gwalior ganja. In all these States there is some duty on export, but it seems to be variable and unequal. In one place I am told it is two annas per rupee of the price of the drug which would be about Re. 1 to Rs. 2 per maund. In another place it is said to be Re. 1-9-0 on each purchase irrespective of quality. But these rates require confirmation. I am not sure that all the ganja brought from these States is of local growth; some of it, I suspect, comes from Gwalior or Khandwa originally. I learnt in Hamirpur that the Chirkari State supplies itself from Khandwa. I believe also that ganja as well as bhang finds its way from our districts into adjoining native territory. The import of ganja from these States is inconsiderable and irregular. It is only brought into a few of our Bundelkhand districts, but it is a source of supply which is capable of extension.

26. Before quitting this part of the subject I ought to mention that these and other Native States not only adjoin, but are interlaced and intermixed with British territory. There are numerous native villages scattered over our districts, and in some cases considerable tracts entirely surrounded by British possessions. The capital and a great part of the Chirkari State is situated in the middle of the Hamirpur district. All these places serve as centres from which excisable commodities are freely smuggled into our territory. The country being wild and mountainous prevention is impossible.

I have elsewhere mentioned that a small quantity of very inferior illicit ganja is introduced from Nepal. I am told that there recently used to be authorized import of an inferior sort of ganja known as Mahadewa from Nepal; but I have been unable to verify this or get a specimen.

A little pathar ganja still comes from Indore. The supply from this quarter used to be large. Ganja of a potent sort is said to be also procurable in Rewah, but whether of local growth or imported from the Central Provinces is not clear.

A small amount of ganja is exported from Bahraich into Nepal. It is imported ganja.

27. I have mentioned all the sources, so far as I can discover, from which ganja is at present imported. But within recent years ganja in considerable quantities has been brought from places further south. Holkar's territory, Berar, Mewar, Nasik, Nasirabad, and Khandesh, and perhaps other places in the Bombay Presidency are sources from which supplies have been drawn within the last ten years. Latterly, however, the proximity of Khandwa and Gwalior and the cheapness of the drug there seem to have given them a monopoly of the business in pathar. But in considering the possible sources of supply, the places I have mentioned should not be overlooked.

28. The great bulk of the charas consumed in these provinces is brought from Yarkand and Bokhara. It comes through the Panjab, and the Commission can procure there better information than I can give them concerning its manufacture, quality, transport, &c. Some information on the subject will be found in my predecessor's letter of 23rd August 1881 to the address of the Board of Revenue, of which a copy, I understand, has been supplied by the Board to the Commission. I am told by the traders that the charas from Central Asia is now less pure than it used to be. It is also much cheaper at present than it was some years ago, but the price is liable to considerable fluctuations.

29. The other sources of supply are Nepal and our own hill districts, Almora and Garhwal. A small amount also finds its way from Tibet into both British and Native Garhwal. A little is also sent from Garhwal into Tibet. The drug imported from Nepal is known as Shahjahani or Saljahani charas and is introduced through the Bahraich district from Nepalgunj. A small amount is also introduced from Nepal into British Garhwal or Kumaun. I append a report by the Deputy Commissioner of Bahraich describing the method of production and manufacture. His information was, I believe, derived from the Nepalese frontier officials and the local traders. This charas is of a very superior quality and commands a high price; Rs. 10, 1st quality, and Rs. 3, 2nd quality, per seer. At present it seems all to go to Lucknow, where it is retailed at Rs. 35 or Rs. 40 per seer. Some used to be sent to Cawnpore. The importation appears to have fallen off, as the Yarkand charas has become cheaper, but its better quality still secures a market for the Shahjahani drug.

Dr. Watt states on the authority of Dr. Gimlette that Nepal charas sells in Katmandu for Rs. 2 and in the Tarai at Rs. 3 per tola (Rs. 150 and Rs. 240 per seer). If these figures are correct, they show how enormously the drug must be adulterated before it reaches our market. I remember once hearing that very superior Nepal charas has been sold in Lucknow at its own weight in gold. This source of supply could, no doubt, be again largely extended if the demand arose. I believe the amount at present imported is from 25 to 50 maunds a year.

30. The hemp plant, I should add, is also cultivated in the Native Hill State of Tehri Garhwal, but none of the products which include charas are said to be imported into our districts at present.

31. The whole of the charas produced in the Himalayan hill districts is locally consumed and is also supplemented by the import of Yarkand drug which is cheaper and which is said also to be gaining favour because it is more potent. I find it difficult to believe this latter statement because I have little doubt the Himalayan charas is much the purer. It has been described to me as milder (colder) and less injurious than the other. This can best be settled by a chemical analysis, and for this purpose I am procuring specimens, which will be submitted. Possibly the more pungent taste of the Yarkand charas may be due to substances with which it is adulterated. But that it contains more of the true hemp resin I find it difficult to believe. My predecessor appears to have been misled in describing the Kumaun charas as inferior. The price paid by the contractor is from Rs. 5 to 8 per seer, about twice or thrice the price of the imported charas. It is difficult to estimate the amount of the annual produce, as much of it is consumed by the people who make it, or is illicitly sold. So far as the contractors'

statements go only five or six maunds annually pass into their possession. This must be a small part of the produce, which, moreover, could be largely extended if there were a sufficient demand.

32. I have made many enquiries to ascertain if true charas is in these parts of India ever extracted from the plant grown in the plains. I have now got definite information of two localities in which this occurs. It was stated incidentally that some charas is made by the ganja cultivators in Gwalior. Colonel Pitcher has kindly verified this through his Assistant, Pandit Gopal Ram, who reports that "a certain amount of charas is obtained in this (Gwalior) State by scraping off the resin which adheres to the hands in cutting the ganja plant. In tahsil Antri the cultivators do not care much about the charas. In tahsil Kalaras, district Narwar, I hear charas is obtained in small quantities by the same process as in Kumaun and Garhwal." The second locality is in the Kumaun Tarai and Bhabar, where the practice was possibly introduced by the hill men who come down to cultivate there. The method is the same as that employed in the hills. The flowers of the wild plant are rubbed in the hands and the resin which adheres is scraped off. No record can be kept of the amount so prepared, but it does not as yet seem to be considerable. I have obtained specimens of this charas from both Gwalior and Kumaun, and will submit them to the Commission.

It is a fact of first-rate importance to know that charas can be and is manufactured in the plains and from the wild plant. This at once enlarges immensely the possible sources of supply. It has been stated that charas is collected in Sind and Central India by the traditional process of men, naked or leather clad, running through the hemp fields. The story seems to require verification. It seems strange that no charas is produced in all the handling which the Bengal ganja undergoes in the process of preparation.

ADMINISTRATION.

33. The excise on hemp-drugs is administered under Act XXII of 1881 and rules thereunder. The administration is carried on by the ordinary district staff. The central controlling authority is the Board of Revenue. The Commissioner of Excise has the power of a Revenue Commission under the Act. His statutory powers are limited to those defined in sections 54 and 14 of the Act. He has little initiative or final authority, and acts chiefly as an intermediary between Collectors and the Board. There is one uniform system of administering the drug revenue for the whole provinces. The right of sale over a fixed area is farmed to a contractor, who is at liberty to procure his drugs wherever he likes and to sell them at any price he chooses. No distinction is drawn between the different sorts of hemp drugs; all are included in the same license and are stored by the farmer on his own premises. There is no import duty here of any sort. The contracts are usually for an entire district—in some cases for tahsils or parganas. There is nothing to prevent a contractor having separate contracts for several districts. The ordinary period is for one year, but contracts are now often given for two or three years and the longer periods always fetch proportionally higher sums. The chief reason for this is that there is an enormous difference between the wholesale and retail prices, and an out-going contractor can flood the market with cheap drugs, which lessen the sales of the new contractor for weeks or months. The number and locality of the retail shop has been fixed by the Collector subject to the orders of the Board and is revised from time to time. Shops are only located in places where a demand exists. The maximum proportion is one to every 10,000 of the population. In a very few cases this is exceeded for special reasons. In more cases the proportion is less. In the tabular statement which accompanies this memorandum, the number of shops before 1878-79 cannot in many cases be stated, as the returns showed only the number of farms. A general revision of the number of drug shops was undertaken some time ago, and considerable reductions effected which will come into operation in the year now commencing (1893-94). For that year the total number of shops in the provinces is 3,673, being one for every 12,770 of the population. A list of the shops is notified at the time of sale, and no alterations are permitted without sanction. The contractor either sublets the shops or works them through his servants. As a rule, he holds the best shops in the large towns in direct management, and sublets the rest. He keeps the wholesale vend in his own hands and supplies his servants and sub-lessees, charging the latter at prices which leave him a large margin, and he makes his profits partly in this way and partly by requiring cash payments from sub-lessees. The shop licenses are all issued by the Collector on printed forms (Appendix XX, Excise Manual). When the contractor has made his arrangements, he applies to the Collector, filing a list which shows the names of the shops and licensees. This is compared with the sanctioned list of shops, and the licenses are made out in the Collector's office and given to the contractor. If he wishes at any time to change the retail vendor, he can do so by applying to the Collector and returning the first license.

I do not know of any case in which an objection was ever made on public grounds to the number or locality of drug shops. If any such objection were made, it would receive due consideration. The neighbours are not affected by the presence of these shops, as there is rarely any consumption on the premises.

34. The contracts are sold by auction in each district at the time of the other annual excise settlements. As a rule of course the highest offer is accepted, but it is sometimes found

necessary to arrange otherwise. Regard is paid to the solvency and respectability of the bidders. The Collector has always the prices of previous years to guide him, and is able to explain any substantial fluctuations. These depend on the competition, on the character of the season, and on the variations in the cost price of drugs. The number of capitalists engaged in the trade is not very large, and nothing is commoner among them than combination to keep down the price. I have noticed this point in my annual report for 1891-92. Little I think, the value of these contracts has become better known and the contractors' pressure has also been taken to defeat combination and with good results. Still it is a defect in the system that it leaves the whole of the revenue collected here to be determined by the competition of the auctioneers. The advantages of the system are that a large revenue is very easily and cheaply collected and that smuggling and other evasive or illegal acts are minimized. The contractor has no reason to commit himself, and it is his interest to detect any one attempting them. This is no small advantage from an administrative point of view. Retail prices are under the existing system kept at highest possible point.

35. The rules which govern the import of all forms of hemp-drugs will be found in Excise Manual, Chapter X. All import, export, and transport is under passes signed countersigned by the local authority. In the case of ganja and bhang the only importers are our own contractors. Charas is also brought in by Panjabi traders, who sell to those of contractors who do not care to procure their supplies direct from the Panjab. These traders frequent a few centres to which they convey their stock. Their sales are all reported and registered on their passes. They take out no licenses as they sell only to contractors, whose convenience they are permitted to trade in the manner described. The legality of arrangement is questionable and will be considered when the rules come under revision. Some of these traders themselves hold district contracts, and in such cases of course their proceedings are open to no objection. Sometimes contractors, instead of importing from foreign provinces obtain their supplies from contractors of other districts. This happens in the case of districts in small demand or in the event of sudden emergencies. Such consignments are conveyed under pass. In these ways a good deal of transport of drugs takes place from one part of provinces to another.

The amount of smuggling from outside the provinces is, I believe, quite inconsiderable; the reason is given above. A little ganja and charas finds its way over the frontier, doubt at many points in the possession of travellers, fakirs, and the like, who chiefly bring it for their own consumption. Within the legal limits of possession* this cannot be prevented. I have no reason to believe that any illicit traffic or sale occurs which is worth taking into consideration. Occasionally drugs brought from one district are illicitly sold in another to the injury of the contractors. This can rarely be done without the connivance of some licensee of the district from which the drugs are brought, and is usually the result of hostility between rival contractors. The authority of the police and revenue staff is always exerted to suppress such practices.

* But there is undoubtedly a considerable consumption of bhang and a certain, though small, consumption of ganja locally produced which pays no tax direct or indirect. How this happens will be sufficiently understood from what I have said in the earlier part of this memorandum. It would be difficult to check and impossible to wholly suppress this consumption. Illicit import would easily and rapidly increase if stringent measures were adopted to repress trade in, and consumption of, drugs.

CONSUMPTION.

36. In the tabular statement which accompanies this memorandum, the columns showing the quantities sold retail, are necessarily blank. Any record of the sort would have to be kept by the retail vendors, and, if it could be maintained at all, would be utterly untrustworthy. It follows, therefore, that statistics showing the amount of drugs actually consumed or retailed are nowhere available. This is inevitable. Where a commodity is issued as required, like opium or country spirits, from a Government depot on payment of a fixed duty, such a record can be kept, and it may fairly be assumed that the whole amount issued is consumed within the year. But this is not the case with hemp-drugs. The amount consumed can only be inferred from the amount of imports and exports. This might not be correct for any one year, because the imports of one year are often consumed or exported the next. But over a series of years the net imports of charas and ganja will afford a very fair indication of the consumption if allowance is made for waste and deterioration. In the case of hemp-drugs this is not inconsiderable, for they deteriorate rather rapidly. Even accurate return of the import and transport of bhang would fail to show the true consumption, as there is a large amount locally grown of which no trustworthy return could be secured.

The statistics of import and export are, I regret to say, very defective. In the absence of any fixed duty and with a revenue determined solely by the license-fees no provincial record of the traffic has been kept up. An enquiry commenced a year and a half ago showed that

even complete figures for 1890-91 were not always available. Hence the fragmentary character of the details in columns 11 to 18 of the tabular statement required by the Commission. Even such figures as are available in the years anterior to 1891-92 must be received with caution, as I am not confident that allowance has been made for transfers from district to district, and there is much risk that the same drugs may have been counted twice and the provincial total thus exaggerated. More accurate figures and for a longer period could be furnished to show the total imports of ganja from Lower Bengal and the Central Provinces. But in the absence of correct information from the other sources of supply these are useless as an indication of the Provincial consumption. The official returns of bhang are peculiarly apt to be misleading. They give the imports and exports district by district, and, as bhang is moved a good deal about the provinces, there has been considerable opportunity for error as long as no regular register and return of the consignments was maintained. Moreover, these statistics can take no account of the bhang consumed in districts where it is grown. In the case of untaxed bhang this must always happen, and I doubt if any system of registration will secure very accurate returns of even the bhang which passes through the licensed dealers' hands.

The trade returns are of little value. An attempt to utilize them has shown that much of the imports and transports follow routes by which they escape registration.

37. The special enquiries which were made in 1881-82 give the amount of imported ganja to be approximately 4,451 maunds. The later and I think more trustworthy returns show a total import of 4,935 maunds in 1890-91 and 4,187 maunds in 1891-92.

The imports of charas are similarly shown to be 1,135 maunds in 1881-82, 1,091 maunds in 1886-87, and 1,286 maunds in 1887-88. For 1890-91 the returns show maunds 1,133-30-9 and for 1891-92 maunds 1,217-4-12.

Collating these figures, it might be reasonable to assume that the imports of ganja are between 4,000 maunds and 4,500 maunds yearly and the imports of charas between 1,100 maunds and 1,200 maunds.

These figures, however, exaggerate the actual consumption because, besides other reasons, there is good deal of waste. Both ganja and charas deteriorate by keeping and considerable quantities become useless from this cause. On the other hand there is a certain consumption of locally-grown drugs of both kinds which cannot be ascertained.

38. The average consumption per head of ganja is estimated by Babu Hem Chander Korr at 1½ seers per annum. This appears to me a very high estimate. In the case of baluchar retailed at 6 annas per tola it would mean for an ordinary consumer an outlay of Rs. 45 per annum, a quite impossible figure. Ganja is generally smoked in company, and a pipe worth will go round two, three, or more people. It is also smoked several times a day. I should put two pice a day or Rs. 11-6-6 per annum as the maximum possible per head. This would represent less than half a seer yearly in the case of baluchar. On the other hand, baluchar sells for half the price in the villages, though consumption there is relatively much smaller. Pathar sells for one anna or half an anna a tola, but more of it is used in each pipe. Two pice worth a day of this would represent about 4½ seers yearly at the latter, and 2½ seers at the former price. Taking one thing with another and averaging all sorts of ganja, I should think a seer a head would be about the amount annually consumed by those who habitually indulge in the drug. This would give 180,000 consumers for the 4,500 maunds imported, if it were all used.

My observations go to show that those who use ganja and charas indulge in them habitually and regularly. The craving is perhaps not so dominant and the abandonment not so difficult as in the case of opium. But where they can be procured, they are, as a rule, regularly taken. This is not the case with bhang.

39. Concerning the average consumption of charas, I have received most conflicting statements. But every one agrees that a much smaller quantity of it makes a dose. I should say half a seer per head yearly would be a fair estimate. That would represent 92,000 consumers of the 1,150 maunds imported.

These figures are on the basis of habitual consumption and would be susceptible of increase if there were many occasional consumers. But on the other hand considerable abatement must be made for drugs imported, but not consumed. I submit these calculations with much diffidence, for I am aware that anything like absolute accuracy is unattainable. They are framed on the highest scale, and would show that even so computed only a very small proportion of the population is addicted to the use of these drugs.

40. The use of bhang is much more general. It is also much more harmless or even positively beneficial. I am informed that in Bengal Dr. Prain has pronounced bhang to be more harmful than ganja. I have not been favoured with a copy of his report, and so I cannot examine his reasons, which may be peculiar to Bengal. But I can affirm with much confidence, as the result of repeated enquiries, both official and private, and of personal observations extending over many years, that bhang as used in these provinces is not only the least harmful

34 REPORT OF THE INDIAN HEMP DRUGS COMMISSION, 1893-94. [APP.]

of all forms of hemp-drugs, but is largely used and much esteemed as a tonic by very many people who do not take it for its intoxicant effects and who only use it at certain seasons and in certain states of health. I cannot frame any estimate of the number of bhāng consumers. Only a portion of those who use it, take it regularly all the year round and it is used in very variable quantities. There is no safe estimate of the amount consumed, and it is used for other purposes than human consumption.

41. The returns showing the annual revenue from hemp-drugs are complete and some deductions may be drawn from them. To facilitate this I append an abstract statement showing the district and provincial revenues since 1873-74.

Revenue from Hemp Drugs from 1873-74—1892-93.						
Districts.	YEARS.					
	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.
N.-W. PROVINCES.						
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Dohra Dun ...	6,500 0 0	6,500 0 0	11,000 0 0	5,460 0 0	8,000 0 0	7,000 0 0
Saharunpur ...	7,200 0 0	6,022 0 0	7,170 0 0	7,310 0 1	6,100 0 0	7,200 0 0
Muzaffarnagar ...	2,244 13 11	2,331 0 0	2,330 0 0	2,820 0 0	1,963 0 0	2,519 4 9
Meerut ...	11,588 12 0	10,950 0 0	11,346 0 0	12,410 0 0	11,293 6 0	10,933 3 6
Bulandshahr ...	3,574 8 0	4,197 8 0	5,398 8 0	4,405 1 0	3,946 9 0	3,900 0 0
Aligarh ...	10,390 10 7	7,856 8 0	9,150 0 0	8,942 8 0	5,475 0 0	8,577 8 0
Muttra ...	10,021 4 0	6,764 0 0	6,954 0 0	7,026 4 0	5,540 0 0	7,000 0 0
Agra ...	12,324 12 0	13,445 0 0	15,123 0 0	15,390 0 0	11,552 0 0	12,570 0 0
Farrukhabad ...	16,233 10 0	14,726 15 0	17,289 5 10	15,275 0 2	10,907 12 0	17,467 14 1
Fatehgarh (Cantonment)...	1,515 0 0	2,009 8 0	1,464 0 0	...	...	...
Mainpuri ...	7,453 2 9	7,230 0 0	7,020 0 0	7,515 2 0	4,410 0 0	7,480 0 0
Etawah ...	9,629 8 0	7,981 7 0	7,968 12 0	8,417 13 0	8,729 4 0	9,738 0 0
Etah ...	7,315 0 0	6,945 0 0	6,410 0 0	6,500 0 0	3,275 0 0	6,295 0 0
Bareilly ...	18,176 0 0	16,167 15 8	15,564 0 0	18,980 0 0	19,345 0 0	18,686 0 0
Bijnor ...	4,674 4 0	4,675 0 0	4,815 9 8	4,881 12 9	3,769 1 11	4,547 8 6
Budann ...	9,390 0 0	9,970 0 0	9,645 0 0	8,865 0 0	3,460 0 0	8,674 0 0
Moradabad ...	7,547 6 9	5,682 13 0	8,001 0 0	8,001 0 0	3,601 0 0	5,626 0 0
Shahjahanpur ...	10,482 1 3	8,623 11 9	8,903 12 9	9,233 1 9	7,638 6 4	6,982 9 2
Pilibhit ...	...	...	...	...	...	...
Cawnpore ...	*23,725 0 0	23,725 0 0	23,730 0 0	27,010 0 0	23,360 0 0	23,260 0 0
Fatehpore ...	4,800 0 0	7,025 0 0	8,450 0 0	7,600 0 0	5,000 0 0	6,750 0 0
Banda ...	3,650 0 0	3,900 15 0	5,750 6 9	5,077 5 5	4,445 8 0	4,563 4 3
Hamirpur ...	4,665 0 0	3,400 0 0	3,167 12 7	2,561 8 8	3,387 0 0	2,987 8 0
Allahabad ...	21,660 0 0	21,660 0 0	20,862 0 0	24,455 0 0	32,376 0 0	27,740 0 0
Jhansi ...	858 0 0	948 11 0	1,023 10 9	945 0 0	715 0 0	980 0 0
Lalitpur ...	†753 8 10	352 12 0	594 0 0	673 0 0	430 0 0	635 10 8
Jalaun ...	3,753 8 0	2,552 4 0	3,515 0 0	3,665 0 0	2,581 4 0	2,321 9 4
Benares ...	43,000 0 0	51,000 0 0	45,290 5 9	49,000 0 0	44,000 0 0	54,000 0 0
Mirzapur ...	20,184 0 0	21,816 0 0	24,692 0 0	21,503 0 0	23,000 0 0	23,158 0 0
Jaunpur ...	11,501 0 0	7,500 0 0	12,527 1 4	14,000 0 0	10,260 0 0	11,617 0 0
Ghazipur ...	†12,750 0 0	11,250 0 0	14,100 0 0	14,100 0 0	14,100 0 0	17,834 0 0
Ballia ...	...	...	...	...	...	...
Gorakhpur ...	7,872 6 9	9,156 0 1	10,100 4 0	14,393 12 0	11,190 0 2	13,035 0 0
Basti ...	4,500 0 0	2,528 1 9	2,313 11 0	3,000 0 0	3,100 0 0	3,200 0 0
Azamgarh ...	7,650 0 0	6,375 0 0	7,650 0 0	9,600 0 0	9,600 0 0	11,866 10 3
Kunmann ...	4,699 12 0	4,322 4 0	4,210 0 0	3,951 6 0	3,715 10 0	3,674 10 0
Garhwal ...	600 0 0	610 0 0	645 0 0	475 0 0	304 0 0	292 8 0
Tarai ...	3,112 0 0	3,153 5 4	2,835 0 0	2,653 6 5	1,389 4 3	1,546 0 0
TOTAL	3,41,345 1 7	3,23,353 11 7	3,47,995 4 5	3,55,811 1 3	3,12,666 2 2	3,66,430 2 11
OUDH.						
Lucknow ...	23,353 4 8	24,364 0 10	22,902 1 11	24,650 0 0	16,140 0 0	16,830 0 0
Unao ...	11,867 13 11	13,987 7 8	14,373 0 9	15,272 8 0	11,841 10 8	12,100 0 0
Rai Bareilly ...	4,412 2 10	5,533 1 7	6,174 6 0	7,417 14 0	5,997 8 6	7,515 12 6
Sitapur ...	2,380 5 2	3,150 3 4	3,607 2 6	3,603 6 7	2,964 8 2	4,125 14 2
Hardoi ...	2,625 15 3	2,642 11 4	3,829 2 7	3,650 3 0	6,184 12 0	8,250 0 0
Kheri ...	1,310 0 0	1,246 0 0	2,176 0 0	1,830 9 0	1,283 6 6	1,302 8 0
Fyzabad ...	3,649 3 10	3,134 2 9	6,164 1 4	7,861 2 7	4,566 10 8	7,100 0 0
Gonda ...	523 2 0	697 8 0	604 8 0	610 10 7	593 10 8	683 5 4
Bahraich ...	827 14 10	738 14 6	893 12 0	1,085 4 0	710 9 9	1,095 12 0
Sultanpur ...	2,231 6 4	2,124 9 8	2,545 8 0	2,939 0 0	1,531 0 0	1,942 0 0
Partabgarh ...	2,100 0 0	2,808 5 4	3,775 0 0	3,335 5 7	2,150 0 0	2,200 0 0
Bara Banki ...	4,162 7 6	4,793 5 4	4,357 13 8	4,354 5 6	4,553 5 6	3,516 6 11
TOTAL	66,476 12 4	71,620 6 4	76,907 8 9	81,615 4 10	58,327 2 5	66,926 10 11

* Constituted a separate district from 1st November 1879.

† Abolished as a separate district from 1891. Revenue included in Jhansi.

‡ Constituted separate district from 1st November 1879.

Revenue from Hemp Drugs

YEARS

Districts.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.
N.-W. PROVINCES.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Dohra Dun ...	8,365 0 0	7,000 0 0	8,160 10 8	7,933 5 4	7,983 5 4	10,267 10 8
Saharanpur ...	7,326 10 8	6,462 8 0	6,561 0 0	7,219 2 8	8,786 10 8	10,133 5 4
Muzaffarnagar ...	2,000 0 0	2,320 0 0	3,110 0 0	3,041 0 0	3,014 0 0	3,528 0 0
Meerut ...	10,735 0 0	11,953 12 0	14,513 12 0	17,604 0 0	14,516 0 0	16,425 0 0
Bulandshahr ...	4,071 12 0	3,660 0 0	4,110 0 0	5,016 0 0	5,000 0 0	4,836 0 0
Aligarh ...	8,735 0 3	7,300 0 0	7,210 13 4	7,183 14 8	8,303 5 4	8,727 14 8
Muttra ...	6,000 0 0	6,306 10 8	8,183 5 4	6,750 0 0	11,433 5 4	8,583 10 8
Agra ...	11,965 5 1	10,913 15 8	10,313 10 8	9,916 10 8	13,466 10 8	12,450 0 0
Farrukhabad ...	17,870 12 3	13,140 3 8	13,395 7 1	14,267 8 6	15,020 13 0	14,661 9 3
Fatehgarh (Cantonment)...	...	...	...	...	...	...
Mainpuri ...	7,737 2 8	7,519 13 4	7,976 0 0	9,533 5 10	8,794 0 0	8,429 0 0
Etawah ...	8,494 4 0	8,536 0 0	8,760 0 0	8,760 0 0	8,559 4 8	9,498 0 0
Etah ...	4,754 13 3	6,334 0 0	5,215 6 0	4,933 0 0	5,141 0 0	5,660 0 0
Barilly ...	16,218 4 9	10,422 0 0	12,391 2 8	11,079 8 0	10,291 8 0	11,722 4 4
Bijnor ...	3,833 2 0	3,742 0 0	4,729 4 0	5,422 6 0	6,578 0 0	7,300 5 4
Budaun ...	9,158 10 8	7,120 5 4	7,493 0 0	6,826 0 0	6,732 4 0	8,834 8 0
Moradabad ...	5,001 0 0	6,403 0 0	6,081 0 0	6,004 0 0	6,183 0 0	6,893 0 0
Shahjahanpur ...	8,454 0 0	8,007 0 0	6,729 0 0	6,780 0 0	7,427 0 0	9,584 0 0
Pilibhit ...	684 6 0	4,125 4 2	4,173 7 10	4,136 13 0	3,721 14 0	3,816 0 0
Cawnpore ...	23,000 0 0	26,000 0 0	30,304 0 0	30,473 0 0	32,634 0 0	43,037 10 8
Fatehpore ...	4,583 5 4	6,166 10 8	6,060 0 0	6,666 10 8	9,500 0 0	7,083 5 4
Banda ...	4,114 14 7	5,315 15 2	4,730 12 0	6,524 8 0	7,155 1 0	8,793 8 0
Hamirpur ...	3,419 8 6	2,858 4 8	4,133 11 4	4,383 5 4	3,617 13 4	4,742 13 4
Allahabad ...	33,062 0 6	31,200 0 0	31,330 0 0	31,939 0 0	34,770 0 0	34,675 0 0
Jhansi ...	1,263 0 0	1,052 8 0	1,340 8 0	1,237 0 0	1,453 0 0	1,656 0 0
Lalitpur ...	469 5 4	743 5 6	875 0 0	1,051 1 2	1,136 1 4	1,431 3 8
Jalaun ...	3,639 2 6	3,043 8 0	2,992 0 0	2,700 0 0	2,855 0 0	2,841 0 0
Benares ...	42,160 0 0	42,900 0 0	44,209 0 0	40,800 0 0	44,910 0 0	42,009 0 0
Mirzapur ...	24,442 0 0	24,125 0 0	18,375 0 0	21,500 0 0	29,200 0 0	25,000 0 0
Jaunpore ...	9,167 0 3	13,191 0 0	11,675 0 0	19,783 0 0	17,917 0 0	16,509 0 0
Ghazipur ...	113,174 0 0	9,702 0 0	13,340 0 0	14,450 0 0	19,879 0 0	13,964 0 0
Ballia ...	317 0 0	7,983 0 0	11,634 0 0	14,369 0 0	14,550 0 0	11,334 0 0
Gorakhpur ...	12,173 0 0	17,093 8 0	21,502 8 0	25,520 0 0	27,878 7 0	28,020 0 0
Basti ...	4,050 0 0	5,250 0 0	7,500 0 0	12,000 0 0	8,662 8 0	9,237 8 0
Azamgarh ...	9,625 0 0	9,583 5 4	12,208 5 5	29,766 10 8	23,200 0 0	21,333 5 4
Kumaun ...	2,841 8 8	3,467 11 4	4,322 2 8	3,670 1 5	4,173 2 6	4,097 1 5
Garhwal ...	629 8 0	625 0 0	450 0 0	680 0 0	835 0 0	700 0 0
Tarai ...	1,825 0 0	1,530 0 0	2,191 0 0	1,890 0 0	2,455 0 0	2,672 0 0
TOTAL	3,38,567 8 9	3,43,652 5 6	3,63,440 15 0	4,05,882 15 11	4,38,356 2 2	4,40,116 5 0
ODDH.						
Lucknow ...	17,773 0 0	17,829 0 0	20,000 0 0	21,900 0 0	27,637 0 0	29,150 0 0
Unao ...	15,167 0 0	13,333 0 0	14,542 0 0	15,791 0 0	18,001 0 0	19,991 0 0
Rai Bareilly ...	5,556 4 0	6,168 12 0	9,675 0 0	9,500 0 0	12,331 0 0	9,104 0 0
Sitapur ...	3,391 2 10	4,643 11 4	5,338 10 9	7,045 12 0	8,559 11 8	9,895 9 0
Hardoi ...	7,675 0 0	8,550 0 0	8,575 0 0	8,734 0 0	9,581 0 0	12,816 0 0
Kheri ...	1,629 7 0	2,023 9 0	1,930 0 0	2,350 0 0	2,876 0 0	3,066 0 0
Fyzabad ...	6,800 0 0	7,850 0 0	10,450 0 0	11,025 0 0	12,729 2 8	9,270 13 4
Gonda ...	1,633 5 4	1,136 10 8	2,177 10 8	2,749 13 6	3,822 7 10	2,145 13 4
Bahraich ...	701 12 0	1,295 0 9	1,408 0 0	1,023 0 0	1,367 0 0	1,729 0 0
Sultanpur ...	1,538 0 0	2,350 0 0	3,083 5 4	2,400 0 0	4,583 11 0	4,583 0 0
Partabgarh ...	4,425 0 0	3,625 0 0	4,000 0 0	4,500 0 0	5,710 0 0	6,500 0 0
Bara Banki ...	3,546 11 10	3,791 10 8	5,167 8 0	5,420 13 4	7,499 8 0	7,880 0 7
TOTAL	70,500 11 0	72,646 5 8	87,007 2 9	91,904 6 10	1,15,600 9 6	1,04,163 4 3

* Constituted a separate district
† Abolished as a separate district

from 1873-74--1892-93--(concluded).

1883-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.
Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
11,366 10 8	13,603 5 4	11,080 0 0	10,620 0 0	13,750 0 0	10,650 0 0	9,000 0 0	12,200 0 0
10,862 8 0	11,800 0 0	11,104 2 8	14,358 5 4	12,641 10 8	11,650 0 0	11,700 0 0	11,810 0 0
4,218 0 0	3,960 0 0	3,957 0 0	4,223 0 0	4,930 0 0	4,200 0 0	4,560 0 0	4,500 0 0
17,337 8 0	18,615 0 0	18,666 0 0	18,615 0 0	21,380 0 0	18,100 0 0	18,550 0 0	18,500 0 0
4,862 0 0	4,700 0 0	5,228 0 0	5,422 0 0	4,800 0 0	4,916 10 8	5,433 5 4	5,409 0 0
9,475 0 0	9,475 11 7	9,567 11 7	13,212 8 0	10,520 13 4	8,552 10 8	9,239 8 0	10,550 0 0
11,033 0 0	9,033 5 4	9,483 10 8	9,553 13 4	9,937 8 0	9,925 0 0	8,500 0 0	8,500 0 0
16,116 10 8	17,950 0 0	13,916 10 8	18,708 5 4	16,375 0 0	18,850 0 0	20,416 10 8	20,100 0 0
13,037 10 8	14,649 7 6	12,466 13 0	15,156 14 0	14,023 2 0	13,526 10 0	12,304 0 0	12,912 0 0
...	...	...	...	...	...	...	...
8,073 0 0	8,521 0 0	7,682 0 0	7,510 0 0	7,630 0 0	8,820 0 0	7,485 0 0	8,010 0 0
11,586 15 0	10,829 14 10	8,137 10 0	11,231 0 0	9,513 0 0	8,716 0 0	10,742 0 0	9,250 0 0
6,294 0 0	5,314 0 0	7,403 0 0	6,539 0 0	6,485 0 0	6,763 0 0	5,452 0 0	6,035 0 0
14,913 0 0	18,824 0 0	18,811 0 0	19,255 0 0	23,042 0 0	24,360 0 0	27,937 0 0	28,100 0 0
7,177 8 0	8,048 0 0	6,336 0 0	8,112 8 0	11,035 0 0	9,790 0 0	8,270 0 0	8,520 0 0
11,035 15 0	11,873 6 0	9,996 14 0	11,833 1 6	13,037 15 2	9,696 0 0	10,197 0 0	10,235 0 0
7,351 0 0	7,970 0 0	9,717 10 2	11,791 0 0	10,418 0 0	9,830 0 0	9,200 0 0	9,760 0 0
10,323 0 0	12,261 0 0	14,883 0 0	13,225 0 0	17,571 0 0	16,731 0 0	17,923 12 0	20,550 0 0
3,558 0 0	4,103 0 0	3,458 0 0	5,200 0 0	6,255 0 0	6,271 0 0	6,249 0 0	8,900 0 0
42,213 5 4	46,500 0 0	47,067 0 0	34,291 0 0	46,860 0 0	47,640 0 0	54,750 0 0	45,333 0 0
7,500 0 0	7,500 0 0	7,700 0 0	8,700 0 0	8,700 0 0	9,750 0 0	16,708 5 4	14,560 0 0
7,579 14 0	7,833 4 0	6,054 4 0	6,332 7 6	5,481 7 0	6,266 10 0	6,824 12 6	6,000 0 0
3,771 10 8	4,272 0 0	4,134 9 0	3,985 7 0	3,407 0 0	3,638 0 0	3,306 0 0	3,333 0 0
28,880 0 0	42,600 0 0	34,775 0 0	40,000 0 0	40,623 5 4	39,533 5 4	37,333 5 4	39,100 0 0
1,885 0 0	2,039 15 0	1,953 0 0	2,545 0 0	3,282 0 0	4,495 0 0	4,324 12 0	4,136 0 0
1,230 0 4	1,766 4 0	1,705 0 0	1,769 0 0	1,462 0 0	...	...	...
3,131 0 0	3,068 0 0	3,178 0 0	2,989 0 0	3,047 0 0	2,741 0 0	2,752 0 0	2,475 0 0
42,000 0 0	42,000 0 0	35,000 0 0	44,000 0 0	44,000 0 0	44,000 0 0	50,600 0 0	45,600 0 0
26,000 0 0	26,000 0 0	26,000 0 0	23,668 10 8	23,666 10 8	23,666 10 8	21,000 0 0	24,000 0 0
17,291 0 0	21,583 5 4	23,553 5 4	20,292 5 4	22,866 0 0	24,238 0 0	21,937 0 0	22,200 0 0
12,833 0 0	13,033 0 0	14,334 0 0	20,000 0 0	20,000 0 0	19,367 0 0	15,817 0 0	14,500 0 0
11,500 0 0	11,300 0 0	11,916 0 0	14,000 0 0	14,000 0 0	14,166 0 0	14,417 0 0	13,800 0 0
27,060 0 0	27,388 12 0	29,322 8 2	33,794 12 3	29,873 0 0	24,223 12 0	23,846 7 0	25,000 0 0
12,031 4 0	14,525 12 0	14,320 0 0	18,833 0 0	15,512 0 0	12,666 0 0	12,186 0 0	11,900 0 0
23,883 5 4	20,033 5 4	17,250 0 0	23,000 0 0	21,500 0 0	21,500 0 0	16,500 0 0	16,500 0 0
4,950 9 1	4,263 13 5	4,777 14 8	5,233 10 9	6,172 9 0	6,185 6 7	2,087 1 9	860 0 0
800 0 0	1,130 0 0	1,655 0 0	1,879 1 0	1,548 13 8	1,864 9 4	1,124 9 8	1,245 0 0
2,187 0 0	2,635 0 0	2,535 0 0	2,300 0 0	3,400 0 0	3,160 0 0	7,600 0 0	8,634 0 0
4,55,548 3 9	5,00,257 14 1	4,69,180 11 11	5,19,334 14 0	5,34,556 14 10	5,15,509 5 3	5,16,313 9 7	5,12,258 0 0
31,214 0 0	27,251 0 0	32,801 0 0	26,174 0 0	31,100 0 0	26,466 10 8	23,583 5 4	36,000 0 0
30,350 0 0	27,431 0 0	32,777 5 4	33,383 5 4	37,961 5 4	23,183 0 0	23,850 0 0	30,100 0 0
19,918 0 0	17,250 0 0	13,332 0 0	23,397 7 1	20,000 0 0	15,500 0 0	18,600 0 0	21,500 0 0
10,117 6 2	9,720 14 1	12,067 5 4	12,193 13 4	13,344 13 4	16,593 0 0	20,150 0 0	17,350 0 0
12,000 0 0	16,330 0 0	18,675 0 0	21,709 0 0	20,500 0 0	23,100 0 0	26,275 0 0	23,000 0 0
3,034 0 0	3,476 0 0	4,774 8 0	5,625 8 0	7,042 0 0	8,453 0 0	10,342 0 0	11,000 0 0
9,325 0 0	23,188 14 4	19,833 6 0	19,037 13 0	19,163 5 4	16,666 10 8	16,100 0 0	17,000 0 0
2,853 5 4	4,127 8 0	4,283 0 0	5,027 0 0	4,800 0 0	4,925 0 0	4,625 0 0	1,800 0 0
2,150 9 9	2,620 6 3	2,450 0 0	2,154 0 0	2,678 0 0	2,521 0 0	2,352 0 0	2,050 0 0
11,800 0 0	8,475 0 0	9,875 0 0	12,967 0 0	10,740 8 0	12,780 0 0	11,679 8 0	12,100 0 0
4,468 14 2	15,898 10 8	12,300 0 0	11,167 5 4	16,666 0 0	10,000 0 0	13,500 0 0	15,000 0 0
10,413 13 4	14,598 5 4	16,083 5 4	15,325 0 0	12,300 0 0	11,510 0 0	14,816 10 8	13,600 0 0
1,47,625 0 9	1,70,247 10 8	1,79,251 14 0	1,83,960 4 1	1,96,736 0 0	1,76,705 5 4	1,90,773 8 0	1,92,500 0 0

It is necessary, however, to remember that abnormal figures which appear in this table are in some instances due to the method of keeping accounts on which the Accountant-General's Department insists. For instance, some part of the unusual increase in 1886-87 is caused by the inclusion in the returns for that year of the security advances made on account of the following year. In the previous year the sums shown were those paid on account of the year of report. In the last year 1892-93 these security advances for 1893-94 are not shown, as they had not been made when the statement was compiled. In some cases, again, security advances have been refunded where sanction to a contract has been refused by higher authority, but the sums have still to appear in the accounts. I must also observe that these figures do not take account of the very large revenue collected in Bengal on ganja consumed in these provinces, and which from 1884 to 1892 was credited to us by inter-provincial adjustment though it was not reported to this Department and does appear in our Excise returns. In 1889-90 this was as much as Rs. 1,37,741, but has since fallen off.

42. Still these figures on the whole give a fairly correct view of the progress of the provincial revenue from this source. In the twenty years since 1873 the receipts have grown from Rs. 4,07,822 to Rs. 7,06,788, or over 73 per cent. In Oudh the increase has been over 193 per cent., in the N.-W. Provinces it has been 50 per cent.

For this increase I assign three causes:—

1st.—Increased general prosperity which has shown itself in a larger expenditure on excisable commodities.

2nd.—Better administration, which has secured a larger proportional revenue from the amounts consumed.

3rd.—An increased use of hemp-drugs.

These causes are, of course, mutually co-related.

That the causes in operation have not affected hemp-drugs alone is clear from the fact that there has been a similar growth in other branches of excise revenue. The receipts from country spirits have increased between 1873 and 1892 from Rs. 11,70,242 to Rs. 21,16,977 in the N.-W. Provinces and from Rs. 5,52,361 to Rs. 11,04,949 in Oudh, a gross increase of 87 per cent. In the case of spirits at least this revenue is gained not on a larger, but on a smaller consumption. Owing to the extension of the distillery system and to administrative improvements, which have checked fraud and speculation, the gallonage has actually diminished, while revenue has increased.

43. The first substantial increase of drug revenue began in 1881-82. After that it was, though more irregular in Oudh than the N.-W. Provinces, continuous and rapid for both provinces. This movement must, in my opinion, be associated with the reforms which originated with the Excise Committee of 1877. Some of these had a direct effect on hemp-drug revenue. For instance, a most important measure was to place the Excise Department of each district in charge of a selected Covenanted Assistant Collector. The contract system requires particularly efficient and honest management, which was thus secured. It is a matter of regret that the depletion of the Covenanted European Staff has latterly led to this salutary measure falling a good deal into abeyance. There are many indications in the tabular statement that contracts used, for one reason or another, to be given in some cases for much below their real value. Without multiplying instances I may point to Unao, Rai Bareilly, and Sultanpur in 1885-86, where the revenue rose at one bound from Rs. 12,991 to Rs. 30,350 from Rs. 9,166 to Rs. 19,918, and from Rs. 4,583 to Rs. 11,800, or to Partabgarh in 1886-87, where, after allowing for advance payments, the revenue jumped from Rs. 4,469 to Rs. 11,483. In all these cases the higher revenue has since been fairly sustained. These and such like instances indicate leakage, which has since been stopped. In some cases, as in Azamgarh in 1882-83, a large enhancement was gained by granting separate contracts for each tahsil and so admitting competition. The annexation to Oudh of the N.-W. Provinces seems to have been followed by better methods, which partly account for the more rapid growth of the drug revenue in the former province.

44. Some of the measures of excise reform have indirectly affected drugs by raising the price of country liquor. It seems to me impossible to doubt that restrictions on the use of spirits, either in the shape of prohibitive prices or diminished supply, tend to stimulate the use of drugs. I have dealt with this point in my Annual Reports for 1890-91 and 1891-92. I find running through all the Excise Reports for many years past assertions that drugs have been taking the place of liquor. I may point here to a few specific instances which seem to confirm that view. It will be seen that the drug revenue fell in certain districts of the Rohilkhand Division (Bareilly, Shahjahanpur, Budaon), during the years 1880-81 to 1883-84. The reason of that fall was that outstills were introduced at the beginning of that period into portions of these districts, and liquor in such areas became cheap and accessible. At the close of the period the outstills were abandoned, and this, coupled with other changes, made liquor again dear, and the supply scanty. On this the drug revenue at once revived. Within the last two years the contraction of the outstill area in Bijnor and Pilibhit and the enhancement of the still head duty on distillery liquor has been followed by an increased importation of charas and an enhancement of the drug revenue. The same phenomenon has been observed in other parts of the provinces.

The history of the Banda district is also a case in point. During the years 1864-71 the distillery system was in force. The drug revenue then averaged Rs. 7,661, rising in 1870-71 to Rs. 8,090. The distillery system was condemned as unsuitable to the district and was abandoned in favour of the outstill or farming system. The drug receipts fell in 1872-73 to Rs. 4,256, and in 1873-74 to Rs. 3,650, and notwithstanding the general provincial improvement are now below Rs. 6,000. The fall of drug revenue in 1872-73 is due altogether to the change of system which made country liquor again accessible to the people.

In the North-Western Provinces the most marked increase of drug revenue has been in the eastern districts belonging to the Gorakhpur and Benares Divisions. These are the districts in which the habit of spirit-drinking was most prevalent and where the enhancement of price and curtailment of supply under the Central Distillery System has been most severely felt. Before the introduction of that system these districts furnished 40 to 50 per cent. of the total revenue of the North-Western Provinces from country spirits. I find that in 1862-63, when the system was introduced, the percentage was 48. The percentage of the total provincial revenue from hemp-drugs furnished by the same area in that year was only 18. In 1890-91 the former percentage had fallen to 31 and the latter had risen to almost 52. In 1862-63 the drug contract for the Benares district was Rs. 7,000; in 1890-91 it had risen to Rs. 44,000.

Oudh was essentially a spirit-drinking province. The consumption was everywhere large. The administrative changes have affected it more than the North-Western Provinces. In Oudh the S. H. D. before 1877 was 12 annas per gallon; in the North-Western Provinces it was Re. 1-8. In that year a uniform duty of Re. 1 was imposed in both provinces. The figures already quoted show that while the drug revenue of the North-Western Provinces has increased by Rs. 50 per cent., that of Oudh has increased by Rs. 193 per cent. Meanwhile the liquor revenue from Oudh has increased by Rs. 100 per cent. only. A reference to the tabular statement will show the very low incidence of drug revenue in the Bundelkhand districts where the outstill system is in force.

I am unwilling to prolong this memorandum by accumulating figures and arguments on this point. But it is one which seems to me to deserve the most serious consideration. Facts, figures, and opinions point irresistibly to the conclusion that the measures which have been taken to restrict the supply of country spirits and increase the revenue from it have tended *pari passu* to stimulate the use of drugs. If it be admitted that so long as human nature remains unchanged, some form of stimulants will be used, it follows that any measures to restrict drugs will be only half successful unless they are accompanied by measures which will render less harmful stimulants more accessible.

It is necessary to remember that even behind hemp-drugs there are deeper depths. Dhatura, strychnine, aconite, and other poisons may occupy the field from which spirits and hemp-drugs are excluded.

45. There is one other matter which I would like to mention before quitting the subject of the provincial revenue from hemp-drugs. In his otherwise admirable monograph on the hemp plant, the author of the Dictionary of Economic Products has committed himself to many severe strictures on the fiscal and administrative policy of this Government. I have no hesitation in asserting that he has been largely misled by fallacious conclusions from erroneous statistics. It would be out of place here to enter into a detailed examination of his errors, some of which lie on the surface. But as his work is, no doubt, in the hands of the Commission, I would venture to record a warning against accepting either its statistics or its conclusions as far as these provinces are concerned without a careful scrutiny or without a reference to those who could explain supposed anomalies or defects.

Prices.

46. I have at various places mentioned the current prices of the different drugs. I here give them in collective form. The wholesale prices are those at which the contractors procure them. The retail prices are those at which the public buy them. There is a third set of prices at which contractors supply their sub-licensees, but these are merely for the adjustment of accounts. The retail prices are only approximate. They vary very widely from place to place. Besides district variations, prices are often twice or three as high in large towns as in rural parts. They are also lowest at the borders of districts where they come into competition with the drugs of other vendors. Prices also vary with the amount purchased. When sold by weight in any quantity, the drug is cheaper; when sold in made up packets or doses, the price is higher. I doubt if retail prices vary much from year to year. The vendors in every year charge as much as they can get, and as the difference between cost prices and retail prices is enormous, there is always a large margin of profit. A rise of cost price comes out of the profits of the contractor or the Government revenue, or both. But wholesale prices vary very much from year to year, according to the supply and demand and to the duty which may be imposed on the produce or in transit. The prices here given are those now current. It is hardly necessary to add that all prices vary with the quality of the articles sold. These drugs deteriorate rapidly and are often sold off at nominal prices, a circumstance which will frequently account for the extraordinary discrepancies in reported rates.

BHANG.

SELF-GROWN FROM SUB-MONTANE AND HILL DISTRICTS.

Wholesale.

Rs. 1 to Rs. 2 per maund besides cost of railway freight.

Retail.

Generally one to two annas per quarter seer (Rs. 10 to Rs. 20 per maund). In large towns it goes higher, reaching as much as Rs. 1 per seer.

TATIA FROM FARAKHABAD.

Wholesale.

Rs. 4 to Rs. 6 per maund besides freight.

Retail.

Two to four annas per quarter seer (Rs. 20 to Rs. 40 per maund). In large towns higher rates prevail.

GANJA.

BALUCHAR FLAT.

Wholesale.

Rs. 10 or Rs. 12 per maund, besides duty at Rs. 240, and freight from Bengal.

Retail.

Six annas per tola in towns, 4 annas in rural parts (Rs. 30 and Rs. 20 per seer).

GANJA PATHAR.

GWALIOR, &c.

Wholesale.

Rs. 7 to Rs. 14 per maund, including duty and exclusive of railway freight.

KHANDWA.

Rs. 10 to Rs. 16 per maund, including dues and excluding freight.

Retail.

All sorts of Pathar.

Half an anna to one anna per tola (Rs. 100 to Rs. 200 per maund).

CHARAS.

YARKAND OR BOKHARA.

Wholesale.

Rs. 60 to Rs. 80 per maund. Inferior or damaged stuff as cheap as Rs. 40 or Rs. 30, very superior Rs. 100 and upwards.

Retail.

Generally 3 annas per tola (Rs. 15 per seer). Is sold as low as one and a half annas and in large towns at 5 annas (Rs. 25 per seer).

NEPAL SHANJAHANI.

Wholesale.

Rs. 400 per maund (an inferior sort, Rs. 120).

Retail.

Four annas to 5 annas, 7 annas, and 8 annas per tola (Rs. 20 to Rs. 25, Rs. 35, and Rs. 40 per seer).

KUMAON.

Wholesale.

Rs. 200 to Rs. 320 per maund.

Retail.

About 2 annas per tola (Rs. 10 per seer), doubtful.

47. I would again call attention to the great disproportion between the wholesale and retail prices of ganja and charas. In bhang the scale of profit is not so high because it has to compete with the wild or illicit plant. The high prices are due to the monopoly of sale under which the contractor exacts the very highest price he can without creating illicit competition. He does not wish to extend his sales because he finds a greater profit in smaller sales and higher rates.

CONTEMPLATED CHANGES OF SYSTEM.

48. Finally I come to the proposed modifications of the present system. A suggestion has more than once been made to impose an import duty on hemp-drugs, but it did not meet the approval of the higher authorities. It is also open to the objection that the Excise Act does not authorize the imposition of an import duty. I made a representation on this subject some time ago. Since then the Excise Act has been amended by Act X of 1893. That Act, as I understand it, deals only with imports from beyond British India. The statutory power seems still wanting to control imports and impose import duty on drugs brought from other parts of British India.

If this view is correct, a further amendment of the Excise Act is required to legalize the arrangements now suggested.

49. I do not think it possible to impose either an import duty or a fixed local duty on bhang. The opportunities for evasion are altogether too extensive. For bhang we must trust, as at present, to our contract license fees. But it might be well to prohibit the import of bhang altogether. The province can supply its own wants, and there would be always some risk that ganja or charas might be surreptitiously introduced under cover of a pass for bhang. But for ganja and charas I think it both possible and desirable to impose a fixed import duty. For this purpose it will be necessary to make rules to control both local cultivation and manufacture and import. Briefly I would suggest rules to provide for the following heads:—

- (1) To prohibit cultivation (as opposed to spontaneous growth) except for the manufacture of bhang or fibre and to permit it for bhang only under license from the Collector.
- (2) To prohibit absolutely the cultivation or protection of the plant for the production of ganja or charas and to prohibit the manufacture of those drugs. Power might be reserved to Government to relax this rule in any special locality and permit the cultivation and manufacture under license with such duty as might be fixed.
- (3) The two foregoing rules not to be applied to the hill districts where hemp is grown for fibre and charas obtained as a subsidiary product. Export of charas to the plains might be prohibited.
- (4) The rules not to take cognizance of wild spontaneously grown plant. But any one desiring to collect, store, or sell the same, or to prepare any drug from it, to obtain a license from the Collector.
- (5) To consolidate and improve the rules controlling the import of ganja and charas. The import of bhang might be prohibited.
- (6) To impose an import duty on ganja and charas. The duty should be light at first, say from Rs. 50 to Rs. 80 per maund on pathar ganja and from Rs. 80 to 100 on charas. It could be increased by degrees. It would probably be best to collect the duty at the place of import in these provinces, and to make prepayment of the whole or part of the duty a condition precedent to the issue of the pass.

The Bengal duty on baluchar ganja is already sufficiently high; but it should be made possible to levy it in these provinces.

- (7) To establish, if necessary, bonded ware-houses at a few central places where drugs could be stored duty free on import and the duty levied on removal.
- (8) To continue the present system of farming the right of vend; but it should be made possible for the authorities to control the storage and issue of drugs by the contractors so as to prevent forced sales at nominal prices during the last days of an expiring contract.

It might also be found practicable and advisable to limit licenses to the sale of one or more forms of hemp-drugs to the exclusion of others.

T. STOKER,

Commissioner of Excise.

MEMO. ON NIPAL (SHAHJAHAN) CHARAS.

The ganja shrub from which charas is made grows wild in certain villages of the hills one hundred miles and more inwards. "Kala Des," "Gora Des," "Pentan" are mentioned as some of the places.

Charas is a sticky exudation from the seed pods and minute leaves surrounding the seeds. It is obtained by gently rubbing these pods and leaves between the hands. The "resin," for want of a more correct term, adheres to and is peeled off the hands, and during this process the originally colourless matter becomes black. The small leaves must not be confounded with the ordinary leaves of the plant.

I give an illustration.*

Charas is made in April and May when the seeds are ripe and the big leaves fall off.

I am sending you two samples. The larger one, made into sticks a foot long and $\frac{1}{2}$ inch thick, is adulterated with the leaves and cuticle, and probably other foreign matter. The smaller sample is in the form of a cake and is the pure stuff. The first sells in Nipalganj at Rs. 3, the second at Rs. 10 a seer. The quantity exported annually from Nipalganj is said to be 50 maunds of 40 seers a maund, but this information must be received *cum grano*. It is true, however, that some years ago a very much larger quantity was imported into British territory. I do not know the cause of the decline. There is very little consumption among the Nipalese I hear. At Nipalganj an imperial export duty of Rs. 11-4 per maund and a choongee-tax of the market value of $\frac{1}{4}$ seer per maund are levied. The shrub is not cultivated. The resin is not produced by the shrub in the Tarai or plains. It is secreted only in the villages among the mountains, but at what altitude I can't say. It is called charas in the interior, but Saljehani (probably a corruption of Shahjehani) is the name given to the coarser kind in Nipalganj. The fibre is not utilized. The shrub is an annual, dying in the rains and springing up in October. Ganja is not cultivated or prepared in the Bahraich district. Ganesi Murao, a contractor in Lucknow, imports charas from Nipalganj. There is a slight exudation in the bud in the shrub found here. By bud I mean seed cuticle, flower, and adjacent leaves, but is too slight to collect. Natives say the ganja shrub has no flower, and they distinguish ganja from bhang by this difference, and the circumstance that the bhang shrub is sterile, bearing a flower, but yielding no seed. The bhang tree is consequently not reproductive, but comes from the ganja seed. Charas is known to be conveyed to Lucknow and Cawnpur. It is taken probably to other places. It is carried in skin vessels and inside bundles of bhang. The profit made by contractors should be considerable, as they sell it in British territory at double the price paid for it in Nipal. A cloth, a strong canvas, used for bags, is made from a cultivated plant in the hills called Bhangra, which natives confuse with bhang. It grows in the form of hemp, "san," in the plains, and the raw material is extracted in the same way, that is, by immersion in the water till it rots.

MEMO.—GANJA CULTIVATION IN GWALIOR STATE.

1. *Gwalior Bigha* = $\frac{1}{4}$ an acre.—Ganja is sown in tahsils Antri, Sipri, and Kalaras, and is a kharif crop. Antri = 250 bighas cultivated last kharif. Kalaras = 253 bighas, Ditto ditto. Sipri.—Return not received, but I think about 300 bighas.

The business is carried on chiefly by *Kachis*. Method of cultivation and of preparation of drug I will give after writing all other replies. Average outturn per bigha 7 maunds 20 seers. Ganja is sown in July. No control is exercised by the State. Custom duty, Rs. 5 per maund, is paid by the purchaser if he exports ganja to British or any other territory, and Rs. 2-8-0 if he exports to any other place in the Gwalior State. It is farmed to a cultivator who gets contract of all custom dues in the tahsil. Usual price paid by the purchaser is Rs. 3 per maund. Ganja is a product of cultivation. It cannot be procured from the wild plants. The cultivation requires the careful extirpation of the male flowers, and the trees are very carefully seen by the cultivator every week. Even a few of the male flowers may destroy a whole field.

First of all, fields are highly manured, and in the month of July, after ploughing the fields for at least three times, ganja is sown in them like other crops. In the months of August and September *dob* and other grass found in it is taken away. In November and December the fields are ploughed once more to soften the land, and the crop is irrigated four or five times at least. In these months great care is taken that no male flowers appear in the tree. If any male flower appears, the tree is at once cut down. When the ganja is ready, it is cut down and bound in small bundles, say of about a seer each. Some cultivators also sow wheat in ganja fields in the months of October and November. Rent paid to zemindars for ganja cultivation is usually Rs. 10 to Rs. 14 per bigha.

Ujjain and Khandwa seed is always sown in Antri—Antri seed does not answer the purpose.

* Not reproduced.

Ganja, after being cut, is stored in a convenient place, and is daily crushed by the cultivators with their feet before it is made in small bundles. This is done when the ganja is green.

A certain amount of charas is obtained in this (Gwalior) State by scraping off the resin which adheres to the hands in cutting the ganja plant. In tahsil Antri cultivators do not care much about the charas. In tahsil Kalaras, district Narwar, I hear charas is obtained in small quantities by the same process as in Kumaun and Garhwal.

(Sd.) GOPALRAM.

NORTH-WESTERN PROVINCE

Statistics relating to hemp-drugs for

Year.	Total population of the united provinces.	CULTIVATION OF HEMP PLANTS FOR NARCOTICS.					AMOUNT OF IMPORTS FROM OTHER PROVINCES IN MAUND AND FREE.					AMOUNT OF EXPORTS TO OTHER PROVINCES IN MAUND AND FREE.					NUMBER OF LICENSES FOR WHOLESALE VEND.					NUMBER OF LICENSES FOR RETAIL VEND.				
		Area under cultivation.		Live soil for cultivation.			Of Ganja.	Of Chars.	Of Bhag.	Of other preparations of the hemp plant.	Of Ganja.	Of Chars.	Of Bhag.	Of other preparations of the hemp plant.	Of Ganja.	Of Chars.	Of Bhag.	Of other preparations of the hemp plant.	Of Ganja.	Of Chars.	Of Bhag.	Of other preparations of the hemp plant.	Of Ganja.	Of Chars.	Of Bhag.	Of other preparations of the hemp plant.
		Ganja.	Chars.	Bhag.	Ganja.	Chars.																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1873-74	42,002,567	...	...	...	...	...	M. S.	M. S.	M. S.	M. S.	M. S.	M. S.	M. S.	M. S.	M. S.	...	...	...	...	...	...	...	...	...	...	...
1874-75	...	...	...	...	...	...	118 37	110 20	1,272 0	...	0 6	2 0	80 0	...	...	...	...	...	...	...	...	...	...	...	...	...
1875-76	...	...	...	...	...	...	128 10	125 8	1,158 0	...	4 0	1 15	120 11	...	...	...	...	...	...	...	...	...	...	...	...	...
1876-77	...	...	...	...	...	...	82 0	118 16	1,190 0	...	2 0	...	32 0	...	...	...	...	...	...	...	...	...	...	...	...	...
1877-78	...	...	...	...	...	...	103 0	77 30	985 29	...	...	2 5	75 20	...	...	...	...	...	...	...	...	...	...	...	...	...
1878-79	...	...	...	...	...	...	132 4	57 10	1,208 0	...	23 0	3 0	180 0	...	...	...	...	...	...	...	...	...	...	...	...	...
1879-80	...	...	...	...	...	...	221 10	52 25	1,240 20	...	57 0	2 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1880-81	...	...	...	...	...	...	784 2	140 11	1,073 0	...	238 1	12 21	293 20	...	...	...	...	...	...	...	...	...	...	...	...	...
1881-82	...	...	...	...	...	...	1,857 17	130 32	1,320 20	...	113 3	44 18	4,047 0	...	...	...	...	...	...	...	...	...	...	...	...	...
1882-83	41,107,860	...	...	...	...	...	2,401 15	319 3	1,334 40	...	103 4	10 20	3,750 32	...	...	...	...	...	...	...	...	...	...	...	...	...
1883-84	...	...	...	...	...	...	3,460 8	273 27	1,332 12	...	69 3	16 51	1,553 28	...	...	...	...	...	...	...	...	...	...	...	...	...
1884-85	...	...	...	...	...	...	3,821 6	203 7	2,010 25	...	210 20	5 31	7,657 22	...	...	...	...	...	...	...	...	...	...	...	...	...
1885-86	...	...	...	...	...	...	5,113 32	420 30	4,117 35	...	126 1	52 20	6,312 25	...	...	...	...	...	...	...	...	...	...	...	...	...
1886-87	...	...	...	...	...	...	5,233 5	806 23	3,305 32	...	41 33	41 30	5,832 3	...	...	...	...	...	...	...	...	...	...	...	...	...
1887-88	...	...	...	...	...	...	2,019 22	610 11	4,163 29	...	81 24	30 19	10,830 13	...	...	...	...	...	...	...	...	...	...	...	...	...
1888-89	...	...	...	...	...	...	2,889 33	643 32	4,055 0	...	356 3	23 23	7,965 17	...	...	...	...	...	...	...	...	...	...	...	...	...
1889-90	...	...	...	...	...	...	3,292 24	1,120 15	5,552 5	...	512 26	151 10	8,079 20	...	...	...	...	...	...	...	...	...	...	...	...	...
1890-91	...	...	...	...	...	...	4,054 3	1,338 27	5,792 0	...	278 11	218 28	7,310 3	...	...	...	...	...	...	...	...	...	...	...	...	...
1891-92	...	...	...	...	...	...	4,920 12	1,144 22	11,084 34	...	65 27	66 4	1,374 11	...	...	...	...	...	...	...	...	...	...	...	...	...
1892-93	40,905,085	...	...	...	...	...	4,239 21	1,517 26	2,183 22	...	80 35	30 7	793 33	...	...	...	...	...	...	...	...	...	...	...	...	...
1893-94	...	...	...	...	...	...	5,165 21	2,351 13	1,817 32	...	153 24	45 2	1,263 27	...	...	...	...	...	...	...	...	...	...	...	...	...

GENERAL REMARKS.

Column 2.—The population has been taken according to the census for the year.

Columns 3 to 5.—The figures supplied by the Director of Land Records and Agriculture have been added and explanation given as to the value of the figures.

Columns 6 to 8.—No information.

Columns 17 to 20.—No separate wholesale licenses for each kind of drugs in these provinces.

Column 21.—The printed reports show no wholesale licenses for vend of drugs. The figures entered in this statement represent the number of separate farms, each farmer holding a wholesale license. These figures have been taken from the original Settlement Reports where available.

CES AND OUDH.

the years 1873-74 to 1892-93.

the years 1873-74 to 1893-93.

AMOUNT OF LICENSE FEES.					AMOUNT OF FIXED DUTY.					TOTAL REVENUE.					QUANTITY SOLD (RETAIL).							Remarks.
On Ganja.	On Chars.	On Bhag.	On other preparations of the hemp plant.	Total.	On Ganja.	On Chars.	On Bhag.	On other preparations of the hemp plant.	Total.	From Ganja.	From Chars.	From Bhag.	From other preparations of the hemp plant.	Total.	Of Ganja.	Of Chars.	Of Bhag.	Of other preparations of the hemp plant.	Revenue per head of population, column 41 "			

GENERAL REMARKS.

Columns 22 to 25.—No separate licenses for each kind of drugs.

Columns 27 to 31.—See remarks against columns 22 to 25.

Columns 32 to 36.—No fixed duty levied in these provinces.

Columns 37 to 41.—See remarks against columns 22 to 25.

Columns 42 to 45.—No information available.

Column 46.—In calculating the revenue per head of population sums exceeding half pies have been taken as one pie, and half pies smaller sums have been omitted, except where the revenue per head only amounts to a fraction of a pie in which fractions of a pie have been shown.

PUNJAB MEMORANDUM.

The system of excise administration in respect of intoxicating (hemp) drugs in the ab has been receiving a great deal of attention during the last five or six years; and it so ens that, as the outcome of much inquiry and discussion, we are now on the eve of the inction of a new set of rules which will alter and improve that system in many respects. II, I think, be convenient if I explain how matters stand at present. The correspon- on the subject is voluminous, and there is certainly no dearth of information.

2. The broad facts with regard to these drugs in the Punjab may first be stated.

Charas is imported across the northern and western frontiers (mostly from Yarkand) to the extent of about 4,000 maunds (the import actually rose to close on 5,000 maunds last year) annually. Of this quantity between one-fourth and one-fifth is retained for consumption in Punjab districts, the remainder passing on, principally to the North-Western Provinces and Oudh, the Native States under the political control of the Punjab Government and the Rajputana States. The quantity of the other forms of the prepared drug coming into the province is trifling and may be neglected. The supply of bhang is derived from the wild hemp plant which grows within the province in the sub-montane tracts under the Himalayas and the Sulaiman range. The annual consumption of bhang (which is merely the leaves of the wild plant) falls little short of 4,000 maunds in the districts of the Punjab. The import into and the transport through the Punjab of charas, and the transport of bhang from the districts of growth to those of consumption are regulated by a system of passes; but no direct duty or tax of any sort is levied. With the exception of a few plots, grown by farmers principally for their own consumption in one or two of the western districts, there is no cultivation of the plant for the production of intoxicants. The total area of these plots does not, I believe, exceed 100 acres; and the produce is taken in the form of bhang. There is, so far as I am aware, absolutely no manufacture within the province of hemp drugs from the plant.* The only taxation now levied is in the form of fees for the monopoly of vend. "The excise income from intoxicating drugs in the Punjab is derived from the farm of the monopoly of sale within tahsils or other subdivisions of districts" (Rule 1). The total amount of this income is between 1½ and 1¾ lakhs per annum.

*Note.—This does not of course apply to the manufacture of majma, &c., by the licensed vendors.

T. G. W.

3. With this explanation I would invite attention to the (printed) collection of papers in Punjab Government Proceedings, Revenue and Agriculture (Revenue) for January 1889, Nos. 1—5. That correspondence arose out of a reference from the Government of India in connection with a draft article in Dr. Watt's Dictionary of Economic Products; but the local Government requested the Financial Commissioner to consider "the question of the feasibility of putting an import duty on charas." A reference to local officers produced the papers which will be found in the above quoted Proceedings, and it will be seen that they contain a great deal of information on the subject. The Punjab Government summed up the results in their letter No. 1, dated 3rd January 1889 (No. 4 in the Proceedings). From this I make the following extract (paragraph 4): "In the Lieutenant-Governor's opinion, however, the whole subject is still rather obscure, and is one which should be carefully studied by the new Commissioner of Excise. The Commissioner should therefore be requested to find out exactly what the system of other local Governments is, and from what other places ganja and charas come to the Punjab besides Leh, and in what quantities."

* * * The Commissioner of Excise should also study the subject and the system and facts as regards bhang carefully, and report on the whole question after the end of a year."

4. I would next refer to the collection of papers in Punjab Government Proceedings, Revenue and Agriculture (Revenue), for January 1892, Nos. 13—16, regarding "taxation of charas and bhang." In accordance with the orders contained in the passage quoted at the close of the preceding paragraph I took up the question early in 1890. My report will be found as No. 14 of the above Proceedings (my letter No. 73, dated 10th April 1890). I would invite a perusal of that report and more particularly of paragraphs 8—11, 14, 15, and 18. The proposals which I made are summarized in paragraph 29, and I submitted a set of draft rules with explanatory remarks. These proposals were referred for opinion to selected officers. During my absence on furlough (April 1890 to December 1891) the replies of the officers consulted were received and my *locum tenens*, Mr. R. M. Dane, considered the proposals in detail (his letter No. 240, dated 24th December 1890, which will be found in the Proceedings last quoted). The proposals involved *inter alia* the imposition of a direct import duty at the frontier on all foreign (hemp) drugs;

and, on a reference to the Government Advocate, it was pointed out by him that there was no power under the Excise Act to impose such a duty. The orders of the local Government on the proposals are contained in Punjab Government letter No. 8, dated 11th January 1892 (No. 16 of the Proceedings). The Lieutenant-Governor "was of opinion that a tax of Rs. 20 per maund might be imposed upon charas with effect from 1st April 1893. No doubt the retail price of charas will be somewhat raised; but this in itself is an advantage, as the use of the drug is certainly pernicious." Accepting the opinion of the Government Advocate as to the manner in which the tax should be imposed, the letter describes the system to be adopted—the establishment of golahs to which all charas should be taken on entering the Province and which it should be allowed to leave only under a license or pass for which a fee should be levied at the rate of 8 annas a seer. With regard to bhang, "the Lieutenant-Governor was not thoroughly satisfied with the proposals made by the Excise Commissioner, and he would prefer to reconsider the question hereafter when the tax upon charas has been actually introduced."

5. In accordance with these orders I drafted a set of rules giving effect to them. The Rules drafted in 1892 and 1893. draft was circulated to Commissioners and selected District Officers; and on receipt of their opinions the case was submitted to the Financial Commissioner in October 1892 for orders with regard to several points that had arisen in connection with the draft. In April 1893 Government passed orders calling for a copy of the rules in complete form, and pointing out that a tax on charas only and not on intoxicating drugs [section 3 (4), Act XXII of 1881] had been agreed to. Some further correspondence passed, and last month (August 1893) I submitted to the Financial Commissioner a final draft of the rules. In the meantime the Government of India had taken up the question of amending the Excise Act so as to make the imposition of an import duty on intoxicating drugs legal. With the passing of Act X of 1893 the necessity for the system of golahs and passes accepted by the Punjab Government in their letter No. 8, dated 11th January 1892, ceased. It will now be possible to revert to my original proposals of 1890, at least so far as they provide for a direct import duty on charas.

6. It is probably unnecessary for the Commission to refer to the correspondence dealt with in the preceding paragraph because it relates to a condition of things which has ceased to exist and represents so much labour lost. The present state of affairs may be described as follows:—(i) an import duty at the rate of Rs. 20 per maund will probably be imposed with effect from 1st April 1894 on all charas entering the province; (ii) rules providing for this duty and also putting the system of licensing vend on a satisfactory footing will be submitted shortly to the Government of India; (iii) with regard to bhang, His Honor the Lieutenant-Governor has recently referred to this question in reviewing the Excise Report for 1892-93 (paragraph 6 of the Review). I quote the paragraph in full because it mentions the subject of an import duty on charas also: "The question of levying an import duty on charas was referred to in the 10th paragraph of the Review of the Report for 1891-92. There were legal difficulties in the way of imposing this tax under Act XXII of 1881, but these will be removed when the amending Bill now before the Legislative Council has been passed, and draft rules will shortly be submitted to the Government of India. The question of the taxation of bhang is a far more difficult one, but it must before long be taken in hand. It must, however, be borne in mind that, as remarked in the 10th paragraph of last year's Review, 'in regard to matters of this sort, which involve an interference with ancient and firmly-rooted habits of large masses of the people, it is desirable to proceed cautiously, doing one thing at a time.' I will now proceed to give such detailed information as is available with regard to the supply of these drugs, and will then describe the system under which their supply and vend are controlled."

7. Dealing first with the import of the drugs, I take the following figures from the Provincial Reports of External Trade. The figures give the amount imported in maunds:—

Year.	CHARAS IMPORTED FROM			Ganja.	BHANG FROM		OTHER KINDS.	
	Ladakh.	Kashmir.	Kabul.		Kabul.	Kashmir.	Ladakh.	Kashmir.
1887-88	2,822	711	42	No import.	...	25	...	4
1888-89	2,829	717	90		13	10	...	...
1889-90	1,625	250	38		27	...	47	...
1890-91	2,560	609	...		5	485	6	...
1891-92	2,863	431	...		25	...	3	...

These figures do not agree very closely with those given in our Excise Returns, which I will examine presently; but I give them because they are in a way from an independent source. It will be seen that there is actually no import of ganja shown, while the quantity of "other kinds" is exceedingly small. With regard to the large quantity of bhang shown as imported from Kashmir in 1890-91 this may be treated as if it were produced in our own districts (*e.g.*, Gurdaspur). The wild plant grows in the sub-montane parts of Jammu and comes into our districts just as it does from other areas of supply within the Punjab. It will thus be evident that except charas the import of these drugs from beyond our northern and western frontiers is of very limited quantity.

As regards charas, what is shown as coming from Kashmir is from the same source (Yarkand) as that shown from Ladakh. Most of the Yarkand charas takes the ordinary route through Leh to Sultanpur (Kulu); but a certain quantity of it passes westward through Kashmir territory. This was pointed out by Captain Ramsay, Joint-Commissioner, Leh, in his letter which will be found at page 7 of the printed Proceedings quoted at the commencement of paragraph 3. In paragraph 5 Captain Ramsay says "charas will grow, though not well, in Kashmir; but as a matter of fact it is not grown in Kashmir, and in Ladakh it of course could not be grown. The charas shown under the two heads Kashmir and Ladakh consists of Yarkand charas imported (1) *via* Ladakh and Kashmir to the Punjab, (2) *via* Ladakh direct to the Punjab through Kulu." These trade returns are obviously defective in some respects. They show no drug as coming across the western frontier (from Sewardan) or the north-western (from Bajaur), except that from Kulu, while there is undoubtedly a certain amount of import trade into the Derajat and Muzara. This probably appears under other heads in the trade returns. But the figures given are useful as showing that there is a very large import of charas from Yarkand, and that the import of this drug from other quarters and of other drugs from all sources is unimportant in comparison with this.

8. The following figures of imports and consumption of charas are taken from the Excise Returns:—
Excise figures of imports and consumption of charas.

Year.						Imports.	Consumption in the Punjab.
						Mds.	Mds.
1887-88	...	...	...	...	...	4,516	868
1888-89	...	...	...	...	...	4,998	890
1889-90	...	...	...	...	...	3,332	943
1890-91	...	...	...	...	...	4,209	814
1891-92	...	...	...	...	...	6,554	1,026
1892-93	...	...	...	...	...	...	1,020

The figures of imports given above are the totals of the district details, and the same consignments have undoubtedly been shown in many cases twice over. No systematic attempt has been made to obtain correct statistics of the quantity brought across the frontier; and it is one of the incidental advantages which we expect to derive from the proposed new arrangements that we shall be able to register the import trade efficiently and acquire a proper control over it. There has been a great development of the trade in charas during the last three years. The quantity coming into Hoshiarpur by the Kulu route rose from 2,291 maunds in 1890-91 to 3,212 maunds in 1891-92 and to 3,932 maunds in 1892-93. In the last of these years the Kangra district returns give the quantity as 3,765 maunds. These figures are taken from the register of excise passes, and may be relied on as fairly accurate. Allowing for what went by the Kashmir and other routes, it seems probable that the imports in 1892-93 (which was an exceptional year) fell little short of 5,000 maunds. In an ordinary year they have averaged between 3,000 and 4,000 maunds, the trade being subject to great fluctuations. The figures of consumption given above show the quantity retailed by the licensees and are fairly accurate. The licensees are required to keep accounts and furnish returns of their dealings.

9. The quantity of bhang shown as sold by retail vendors in each of the last six years
Details of the consumption of bhang. is—

					Mds.
1887-88	...	...	...	...	3,906
1888-89	...	...	...	...	3,709
1889-90	...	...	...	...	4,238
1890-91	...	...	...	...	3,428
1891-92	...	...	...	...	3,977
1892-93	...	...	...	...	3,640

There is a certain quantity consumed without passing through the hands of licensed vendors; but this is probably not very great, because the people of the parts in which the plant grows wild are not addicted to its use, while the retail price (three or four annas a seer) is so small that it is not worth while for a consumer to attempt to obtain a supply elsewhere than from the nearest licensed shop.

10. The wholesale price of charas varies very much in different localities and from year to year, according to the state of the market. The price at Kulu is said to have been Re. 1-4 a seer in 1892-93 as compared with Rs. 3 to Rs. 4 in the preceding year, the prices at Hoshiarpur for the same periods being reported as Re. 1 and Rs. 2 respectively. As already remarked, last year was an exceptional one, and the price of the drug on entering the province varies usually from Rs. 2 to Rs. 4 a seer, increasing at other places with the cost of carriage. The retail price varies from Rs. 7 to Rs. 10 a seer. The cost of bhang to the licensed vendor is only that of collecting on the spot and conveying to the place of sale. It is usually sold retail at the rate of four annas a seer.

11. The rules with reference to the import, transport, and sale of intoxicating hemp-drugs will be found at page 107 of the Punjab Excise Pamphlet. Regulation of import and transport. They were framed under Act X of 1871, and are inconvenient in form, besides containing much that is now obsolete. It is sufficient to say that the import into the province of charas and its subsequent transport, and the transport of bhang from the districts of growth to those of consumption, are regulated by a system of passes, no duty or fee of any sort being charged. Importers of charas must take their consignments to the Deputy Commissioner of the frontier district which they enter and obtain from him a pass covering subsequent transport, the packages containing each consignment being closed and sealed. Provision is made for attesting sales *en route*, changes of destination, and the like. For the transport of bhang by a licensed vendor a permit from the district of destination and a pass issued on this from the district of production are required. The whole system is rather loose, and the new rules will, it is hoped, give us a much more strict control over the movements of consignments of the drugs.

12. The existing arrangements in regard to taxation and vend are explained in Rule 1: "The excise income from intoxicating drugs in the Punjab is derived from the farm of the monopoly of sale within tahsils or other sub-divisions of districts. In some districts the monopoly of opium and other drugs prepared from the poppy is farmed separately from that of other intoxicating drugs, while in others the same farm includes both." Ordinarily the farm or license is held for the year, the fee payable being determined by auction. The present rules make no provision for the issue of wholesale licenses (section 13, Act XXII of 1881); but licenses have actually been given in the Amritsar district, although there is no authority for this. The new rules, I may say, will provide for such licenses. As to retail vend, the practice is not quite in keeping with the rules. The hemp-drugs are in fact usually offered for sale at the same shops as opium, though their sale is covered by a separate license. The opium licenses are disposed of by shops, singly, or by groups of shops (by tahsils or smaller areas); and the hemp-drugs licenses go with them as a rule. The combined licenses (except in four districts) are held by the year, the fee payable for each shop or group of shops being determined by annual auction. As a matter of account the fees paid in each district in respect of the combined opium and hemp-drug licenses, where these are held together, are distributed between the two heads of receipt in a proportion which is supposed to represent the actual value of each set of licenses. This proportion varies from district to district. As a result of the practice described above, the number and locality of the shops are fixed beforehand from year to year (they are as a matter of fact seldom altered). In four districts the combined monopoly of the vend of opium and of hemp-drugs at the authorized shops (of which the number and localities are fixed) have been leased for a term of years (three to five). I may add that in the new rules it is proposed expressly to provide for a system of licensing under which the number of shops and the locality of each shall be fixed, *i.e.*, each shop will be separately licensed, although the licenses may be disposed of either singly or in groups.

13. As regards the consumption of charas, the following details may be given. The quantity (in maunds) retailed in each of the past two years was :—

DIVISION.						1891-92.	1892-93.
Delhi	...	...	...	...	...	323	329
Jullundur	...	...	...	...	...	349	341
Lahore	...	...	...	...	...	189	189
Rawalpindi	...	...	...	...	...	79	80
Peshawar	...	...	...	...	...	60	59
Darajat	...	...	...	...	...	26	22
Total						1,026	1,020

It will be seen from these figures that the consumption of this form of drug is heaviest in the Delhi and Jullundur Divisions, while in the Rawalpindi and frontier Divisions it is comparatively small. I am not prepared to give any explanation of these facts. Within Divisions the consumption is distributed on the whole very evenly. For further details I would refer to Provincial Excise Statement C published with the Annual Excise Administration Reports.

For bhang the following details (consumption in maunds) may be given :—

DISTRICT.						1891-92.	1892-93.
Dera Ghazi Khan	...	...	...	...	...	603	399
Mooltan	...	...	...	...	...	463	423
Ferozepore	...	...	...	...	...	268	252
Ludhiana	...	...	...	...	...	243	271
Lahore	...	...	...	...	...	250	243
Amritsar	...	...	...	...	...	194	281
Gurgaon	...	...	...	...	...	249	178
Delhi	...	...	...	...	...	325	177
Jullundur	...	...	...	...	...	167	160
Hoshiarpur	...	...	...	...	...	151	189
Umballa	...	...	...	...	...	114	136
Jhang	...	...	...	...	...	137	100
Gujranwala	...	...	...	...	...	130	89
Muzaffargarh	...	...	...	...	...	135	150
Dera Ismail Khan	...	...	...	...	...	126	96

In none of the remaining districts did the consumption exceed 100 maunds. With regard to these figures of the consumption of bhang one very important fact is established. The Muhammadan population of the south-western districts (Mooltan, Muzaffargarh, and Dera Ghazi Khan), who are prohibited by their religion from the use of spirits, are to a very large extent addicted to drinking an infusion of bhang as an intoxicant. It will be observed that the consumption in the two districts of Mooltan and Dera Ghazi Khan is between one-fourth and one-fifth of that of the whole province. In these districts bhang is undoubtedly a substitute with the Muhammadan population for the spirits which their creed forbids them to take.

Another fact that may be noted is that the districts of Ferozepore, Ludhiana, Lahore, and Amritsar, which come after Mooltan and Dera Ghazi Khan in this matter of consumption of

bhang, are those in which the Sikh element is strongest. The Sikh population of the province being 1,389,934, these four districts contribute 781,439 towards this total. It seems likely that the prohibition amongst the Sikhs of tobacco-smoking has a good deal to do with their preference for the drug in a liquid state.

This question of the distribution of consumption according to locality, religion, caste, &c., is one that will, no doubt, receive a great deal of attention from the Commission, and it seems unnecessary in this memorandum to do more than indicate the general features. Annexed to the memorandum will be found two maps showing the consumption of charas and of bhang separately by districts in the year 1890-91, and these will serve to illustrate the above remarks. It will be seen that, roughly speaking, as regards the use of charas the province divides itself into two parts—the eastern districts, in which the consumption exceeds 5 oz. per 100 of the population, and the western districts, in which the average consumption is less than this. As regards bhang, on the other hand, the districts fall into 3 groups:—(1) the south-western districts, in which the consumption exceeds 40 oz. per 100 of population; (2) the central districts, in which it averages between 20 and 40 oz.; and (3) the northern and eastern districts, in which it is less than 20 oz.

14. I will now take the special points mentioned in the note annexed to the Secretary, Points enumerated in Secretary to Indian Hemp Drugs Commission's letter in detail. Commission's letter.

(a) The system in the Punjab is uniform. The arrangements are under the control in due gradation of (1) the Financial Commissioner, (2) Divisional Commissioners and the Commissioner of Excise, and (3) Deputy Commissioners, the actual administration in each district being in the hands of the Deputy Commissioners. The Act is the Excise Act (XXII) of 1881, and the rules are those which will be found at page 107 of the Punjab Excise Pamphlet.

(b) It is not possible to give any estimate of the extent to which the wild hemp plant grows. It is a mere weed, and cannot be said to cover any particular area, as it is scattered about. So much is taken in the form of bhang as is required for the consumption in our districts (4,000 maunds of dried leaves) and in the Punjab Native States, and the remainder is probably allowed to die down. The dry stalks are sometimes, I believe, used for fuel. No preparation of any sort is extracted from the plant. The manner in which the transport and sale of bhang are controlled has been already described. With regard to possession, section 22 of the Excise Act prevents any one other than a dealer from having in his possession more than $\frac{1}{2}$ of a seer; but, so far as I am aware, there is now nothing to prevent a person within this limit from collecting and using the leaves of the plant. He could not sell bhang. The Commission might usefully refer to Financial Commissioner's Circular No. 3, dated January 1882, in which the system is explained.

(c) With reference to the above, it will be evident that the necessity for cultivating the hemp plant for the production of bhang as a marketable commodity scarcely arises. A few patches of the plant are grown in the Mooltan, Dera Ghazi Khan, Dera Ismail Khan, Shahpur, and Bannu districts, but the total area is probably less than 100 acres. There is no restriction on or regulation of cultivation; and, so far as I can see, there is nothing to prevent a person who grows the crop from using the produce as an intoxicant, provided he is not at any time in possession of more than the quantity allowed by the Act. Where the plant is grown the object is to provide for private consumption. Manufacture of any of the "preparations" is unknown in the Punjab. I may add that I proposed in 1890 either to prohibit the cultivation entirely or to impose an acreage duty that would be prohibitive. No notice has been taken by higher authority of the proposal. It will be easy at the present time to deal with the cultivation and to stamp it out, while there is the danger that, if we adopt measures which will restrict the supply and enhance the price of bhang, the result of these measures may be to encourage the cultivation. It has been suggested that steps should be taken to make persons on whose waste land the wild plant grows responsible for its destruction; but, as already explained, the local Government has not yet agreed to alter the existing arrangements in respect of bhang in any way, and the consideration of the proposal would, therefore, be premature (see Commissioner of Excise, Bengal's Circular No. 6075, dated 26th January 1893).

(d) Charas is imported by (1) Yarkandis, Ladakhis, and others who bring it in, dispose of it, principally at Hoshiarpur and Amritsar, and return with piece-goods, &c., and (2) merchants of Amritsar and other places who have established trade relations with Ladakh. I would refer the Commission for further particulars (if they are wanted) to paragraph 40 of the Report on the External Land Trade of the Punjab for the year 1891-92. The traders are not licensed. The only control over the trade is in the way of requiring a pass from the Deputy Commissioner of the frontier station where a consignment enters the Punjab, and the subsequent transport is regulated. Rule 7 is as follows: "Merchants bringing charas into the

Punjab must obtain a pass (Appendix III) from the Deputy Commissioner of the frontier station where they enter the Punjab, and take it for countersignature to the Deputy Commissioner or Collector of every district in the Punjab or the North-Western Provinces, which they may subsequently enter with the charas. The article, its quantity (both gross weight of the package and net weight of the charas being given), and destination are stated in the pass, and the package is sealed up with the official seal of the Deputy Commissioner. It may be opened at any head-quarters station or tahsil while on the way to its destination, and a portion of its contents may be sold to the farmer of excise for drugs, the fact being recorded on the pass, and the package rescaled. The owners must be warned that if the package is found open and any charas is sold from it, except as above stated, they will be proceeded against under the Excise Laws, and the package will be liable to confiscation."

Where a consignment is conveyed by rail, the provision requiring it to be taken to the Deputy Commissioner, &c., of every district through which it passes is dispensed with. Rules 8-13 may also, if necessary, be referred to.

- (e) There is no provision in the existing rules for licensing wholesale vend (section 12 of the Act); but this defect will be supplied in the new rules. The arrangements with regard to retail vend have been already described (paragraph 12 of this memorandum).
- (f) As above explained, there is no direct tax on any of the drugs. Indirect taxation is taken in the form of license fees for retail vend in the manner already described.
- (g) The system of licensing retail vend has been described in the preceding paras., and it has been explained (paragraph 12) that the practice in the matter is not strictly in accordance with the rules. The rules provide only "for the farm of the monopoly of sale" within certain areas, the monopoly being either combined with or separate from that of opium. The rules make no provision for fixing the number and sites of the retail shops; but to the form of lease (Appendix I) is added a schedule "showing the names of places at which licensed shops for the retail vend of intoxicating drugs have been authorized," and the practice has always been to fix the number and locality of the shops. The arrangements, it should be understood, in respect of licensing the sale of these drugs mostly depend on those for the retail vend of opium. In one or two districts the experiment is being tried of licensing a few shops for the sale of opium only; but with this exception opium and hemp-drugs are almost invariably offered for sale at the same shops, the licenses being in the hands of the same persons. For this reason the number and locality of the shops are really fixed under the Opium Rules. The number of shops is determined in a general way, with reference to area and population, though there is no accepted standard. The number depends in a great measure on the habits of the people in respect of the consumption of opium and hemp-drugs. In the statement appended to this memorandum are given details of the average population in 1892-93 to each license for the sale of opium and of hemp-drugs; but in considering these figures it should be remembered that, as explained above, there is as a rule only one shop for every two licenses; or, to put the matter in another way, hemp-drugs are usually retailed at the opium shops. There is nothing in the nature of "local option." In practice the shop sites remain as they have been established for a long time, and the necessity for a change in the way of adding new shops or closing existing ones seldom arises.

The license fee to be paid for each shop or each group of shops is determined (except in the four districts where the fees have been fixed for a period of years) by annual auction. No upset price is fixed.

- (h) No rates are fixed at which the drugs must be supplied by wholesale to retail vendors. The wholesale price of charas depends on the state of the market, and bhang cannot be said to have any wholesale price as the cost to the vendor is only that of collection and carriage. The average retail price charged to the consumers is from Rs. 7 to Rs. 10 per seer (according to the state of the market and the wholesale price) for charas and four annas a seer for bhang. Both are sold in very small quantities to consumers, and the price charged, if worked out on the seer, varies a great deal from district to district within limits of (roughly) Rs. 4 to Rs. 15 for charas and 2 annas to 8 annas for bhang.
- (i) The maximum quantity fixed for retail sale to or possession by consumers is that laid down in section 22 of the Excise Act [Section 3 (K)], bhang one-quarter of a seer; charas, &c., five tolas. With regard to sale this is provided for by a condition in the form of license. No minimum price is fixed.
- (j) Cases occasionally come to light of illicit sale of charas, &c., or of possession of more than the authorized quantity; but they are rare and unimportant. Illicit

practices of other kinds are, I believe, unknown. It will, I think, be clear from this memorandum that there is really no room for such practices. No special measures of prevention have been found necessary.

- (k) The modifications of the present system, which are under consideration, have been described in the early part of this memorandum.
- (l) The sources of supply, the extent of cultivation and trade, as well as the other heads mentioned here, have been examined in the memorandum.

T. G. WALKER,
Commissioner of Excise, Punjab.

Statistics relating to Hemp Drugs

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Statistics relating to Hemp Drug

Year.	Total population.	CULTIVATION OF HEMP PLANT FOR NARCOTICS.						AMOUNT OF IMPORTS FROM OTHER PROVINCES IN HUNDREDS AND STRGS.					AMOUNT OF EXPORTS TO OTHER PROVINCES IN HUNDREDS AND STRGS.					NUMBER OF LICENSES FOR WHOLESALE VEND.				NUMBER OF LICENSES FOR RETAIL VEND.			
		Area under cultivation.			Licenses for cultivation.			Of charas.	Of bang.	Of other preparations of the hemp plant.	Of bang.	Of charas.	Of bang.	Of other preparations of the hemp plant.	Total.	Of bang.	Of charas.	Of bang.	Of other preparations of the hemp plant.	Total.	Of bang.	Of charas.	Of bang.	Of other preparations of the hemp plant.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
74	17,601,503							Mds. Strs.						Mds. Strs.											
75	17,601,503							2,187	0																
76	17,601,503							1,653	0																512
77	17,601,503							4,187	0																40
78	17,601,503							5,113	0					2,230	57										365
79	17,601,503							4,324	0					4,650	5										935
80	17,601,503							4,367	0					3,183	30										928
81	17,601,503							3,728	0					2,614	37										629
82	17,601,503							3,185	20																629
83	18,812,204							2,378	24					2,653	30										839
84	18,812,204							3,428	3					2,545	36										915
85	18,812,204							2,010	21					2,913	11										915
86	18,812,204							3,007	13					2,365	26										930
87	18,812,204							3,007	13					3,734	6										950
88	18,812,204							3,377	15					2,914	12										951
89	18,812,204							3,781	10					2,653	36										950
90	18,812,204							4,715	35					3,617	5										1,107
91	18,812,204							4,985	0					4,077	1										1,739
92	18,812,204							3,331	24					2,359	1										1,700
93	20,860,913							4,329	18					3,314	34										1,824
94	20,860,913							6,554	0					5,527	21										1,837
95	20,860,913							11,182	17					10,462	11										1,937
96	20,860,913																								1,621

Columns 3-8.—There is no cultivation of the plant for narcotics.
Columns 9-16.—

Column 3-8.—There is no cultivation of the plant for narcotics.

Paragraphs 9—16.—Only details with regard to the import and export of charas are available in the Excise Returns. Please see paragraph 7 of the memorandum. What import there is (and it is of trifling amount) of other forms of the manufactured drug has been included under charas. For the year 1892-93 what is shown under the head of imports (column 10) are the quantities coming into each district, whether brought from beyond the frontier or from one of our own districts, and the same remark applies to the entries of exports (14). The Excise Statistics of that year were prepared in this manner, so as to give us reliable figures of the quantity retained in each district for consumption.

JAB.

for the years 1873-74 to 1892-93.

[illegible]

Columns 17-21.—There is no provision for the issue of wholesale licenses (paragraph 12 of the memorandum).

Column 22-31.—There is no separate licensing of the retail sale of different forms of the drugs. The licenses cover the vend of all sorts.

Columns 32-26.—There is no fixed duty.

Columns 37-41.—The only revenue is that derived from retail licenses which cover the vend of all kinds of hemp-drugs.

Extract paragraph 40 from the Report on the External Land Trade of the Punjab for the year 1891-92.

40. The main portion of the Ladakh trade finds its way into India through Kulu. The Assistant Commissioner in his report makes some interesting observations, pointing out that while the Kulu posts register as Ladakh trade much that is really trade with Thibet and other places, they also fail to include a large portion of genuine Ladakh trade which enters British territory *via* Kashmir. He remarks:—

"In the Provincial Foreign Trade Report the returns furnished by the Kulu registration post constitute what is known as the 'Ladakh' trade. This general term, however, requires explanation. In so far as Leh is the chief emporium of this trade, it may be convenient to describe as imports and exports of Ladakh all merchandise of Yarkand which is exchanged here for goods from India; but, on the one hand, it is to be remembered that at the Sultanpur post all merchandise is registered which crosses the Rohtang pass, so that imports and exports of Thibet, Baltistan, and the British districts of Lahul and Spiti are included in the 'Ladakh' trade, while, on the other hand, all exports from and imports to Leh which take the Kashmir route are treated in the Provincial Report as trade with Kashmir and not with Ladakh."

He makes some further remarks regarding the agency by which this trade is conducted:—

"The trade with Ladakh is in the hands of four classes:—(1) The *merchants* of Hoshiarpur, Amritsar, and Sultanpur.—Many of the latter are Lahulis, who deal chiefly in wool. The Indian merchants send up piece-goods or tea in the spring and bring down Yarkand and Ladakh produce, chiefly charas, in the autumn. They use mules for carriage. Latterly the more wealthy muleteers have commenced to trade on their own account. (2) The *Yarkandis*.—These men generally dispose of their goods at Leh, but some of them come on to India with charas, carpets, and *oundahs*. Many also, after selling their goods at Leh, bring on for sale in India the horses upon which these goods were laden. Having disposed of their means of carriage, they generally return empty-handed. (3) The *Baltis* of Baltistan, who visit Simla in the cold weather in search of employment as road coolies and the like.—They are often erroneously called Ladakhis. They do not visit India for the sake of trade, but they take the opportunity of bringing with them dried apricots, which accounts for the entry 'fruits' under the head of imports, returning to their own country with as much as they can carry of brass, copper, and iron vessels. Some of them also carry back with them China cups and saucers, which are in demand in a tea-drinking country. (4) The *Bhotis*, which term includes the Mongolian races inhabiting Ladakh, Zaskar, Chinese Thibet, and Lahul.—The wool and pashm imported by the Bhotis are laden chiefly on the backs of sheep and goats. These sheep and goats figure in the returns of imports. On being discharged of their burdens at Sultanpur they are sold to butchers from Simla. Beyond the various food-grains which are in demand in their desolate, sparsely cultivated country the Bhotis carry little back with them from India. The amount of grain which they can take with them is not much, as they have disposed of their means of carriage."

CENTRAL PROVINCES MEMORANDUM.

The period for which the Hemp Drugs Commission require statistics begins with the year 1873-74, when the Act in force in the Central Provinces regulating excise matters was No. X of 1871. The only section of that Act which authorized the levy of a duty or tax on hemp drugs (then included with opium in the term "intoxicating drugs") was section 24, which provided as follows:—

"Whenever a license for the retail sale of * * * intoxicating drugs is granted under this Act the Collector may demand, in consideration of the privilege granted, such tax or duty, or a tax or duty adjusted on such principles, as may from time to time be fixed by the chief revenue authority."

2. In the first year for which the Act was in force, *i.e.*, 1871-72, the revenue from "drugs" was Rs. 70,713, that from opium being Rs. 1,71,316. "Drugs" included "madak," in spite of the fact that madak was known to be merely a preparation of opium. The monopoly of vend of "drugs," either for each district as a whole or for small areas, was everywhere put up to auction and knocked down to the highest bidder. The monopoly of the vend of opium was sold separately; but in most cases the same person took both it and the monopoly in respect of "drugs." From paras. 24 and 25 of the Excise Report for the year it appears that the desirability of separating receipts from ganja and those from madak was making itself felt, and also that proposals for restricting cultivation of the hemp plant were under consideration.

3. In this year madak was not classed with ganja, and the revenue from the latter fell from Rs. 59,625 in 1871-72 to Rs. 55,824, or by nearly 7 per cent. The bids for the right to retail madak in 1871-72 had fetched Rs. 11,087, and that and the opium monopoly were sold together for the first time in 1872-73. In almost every district a few hemp plants were to be found in the gardens of cultivators, and it was only in Raipur and Bilaspur that a license fee was imposed on cultivation. The right of retail vend of ganja was, as before, auctioned by circles, the circle sometimes being as large as a tahsil, sometimes much smaller. The expediency of restricting cultivation was still being considered. The number of shops in the year was 987.

4. For some years past our retail contractors had complained that the extensive cultivation of ganja for home consumption by private individuals seriously interfered with their profits and prevented them from paying to Government as high a revenue as they otherwise might. In December 1873 Deputy Commissioners were accordingly asked to report on the following points:—

- (1) whether the people would be inconvenienced if the cultivation of ganja was prohibited except under license and in the vicinity of tahsils where existing establishments could check the produce and see it stored;
- (2) whether the ganja sold under existing arrangements by retail contractors was home-grown or imported.

The reports received showed that all retail contractors except those of Bilaspur obtained their ganja from either Nimar or Nagpur, and that in every district, except perhaps Hoshangabad, Narsinghpur, Mandla, Chhindwara, and Bilaspur, the amount privately grown for home consumption was insignificant, while in Sambalpur it was *nil*, home-growing having been prohibited by executive order of the Deputy Commissioner. The Commissioner of Excise then moved the local Administration to restrict cultivation to the Kotal and Khandwa tahsils and to impose a license fee on each acre cultivated.

Meanwhile the Government of India had been enquiring into certain allegations regarding the effects of ganja and other preparations of the hemp plant, and on the 17th December 1873 all local Governments were instructed to discourage the consumption of ganja and bhang as far as possible by placing restrictions on their cultivation, preparation, and retail, and imposing on their use as high a rate of duty as could be levied without inducing illicit practices.

Acting on these instructions, and recognizing that section 40, Act X of 1871, only authorized such supervision of cultivation as might be deemed necessary to secure the duty leviable on the manufactured drug, the local Administration directed the Commissioner of Excise to prepare rules limiting cultivation to licensed fields in localities where existing revenue establishments were available for purposes of supervision, and fixing such a rate of license fee as would be a sensible impost on the value of the produce.

The financial results of the year were not satisfactory, the revenue falling from Rs. 55,824-2-9 to Rs. 50,707-12-0 in spite of the fact that in Sambalpur the monopoly of retail vend was sold for the first time and brought in Rs. 325. Shops numbered 1,133, but their distribution was palpably faulty.

5. In April 1875 rules for controlling cultivation were sanctioned, the main object of which was to put a stop to the practice of growing for home-consumption. Cultivation, except under license from the Deputy Commissioner, was prohibited, and no license was to be obtainable for plots of less than an acre in extent. Moreover, each cultivator was bound to obtain from the Tahsildar a license to cover the possession of his gathered crop until its sale to a licensed vendor or exporter, and stocks were made liable to inspection by Excise officers of all grades at all times. The rules also provided for the levy of a fee per acre on cultivation, but no fees were fixed till the year 1875-76: in Raipur and Bilaspur the old rate of fees, viz., Rs. 0-8-0 an acre, remained in force. For facility of reference Chapter VIII of the Excise Manual, 1875, has been reprinted and annexed as Appendix B* to this Memorandum.

The revenue of the year was derived, as before, by auctioning the monopoly of vend, and competition at the sales resulted in bids rising from Rs. 50,707-12-0 to Rs. 56,263-2-1, or by nearly 11 per cent. Shops numbered 1,261, or 1 to every 6,473 of the population served; in Nagpur City and in the interior of Hoshangabad there were 18 and 141 respectively, allowances which were declared in the Resolution on the Excise Report for the year to be "inordinate." The acreage fees on cultivation in Raipur and Bilaspur amounted to Rs. 819-8-0, and these have been shown as fixed duty in Appendix A.

6. The rules of 1875 were in force throughout the year 1875-76, but they did not influence the revenue of the year which was settled at the auction held before their issue. That revenue was Rs. 54,245-10-11, excluding acreage fees on cultivation, which amounted to Rs. 807-8-5.

The acreage fee was fixed tentatively for one year at Re. 1 per acre; the amounts realized are shown as fixed duty in Appendix A. Receipts under this head were very small in Raipur and Bilaspur compared with those for the preceding year, and probably indicate that scattered cultivation had considerably diminished. The statistics of area cultivated and number of licenses granted are not quite complete, but it may be taken as certain that only in the Khandwa and Katol tahsils was ganja produced in any large quantities; the districts of the Nerbudda Valley with Saugor and Damoh drew their supplies from Khandwa, while the hill districts of Betul, Chhindwara, Seoni, and Mandla and the entire Nagpur and Chhattisgarh Divisions imported from Katol. The terms on which licensed vendors of different districts obtained their supplies appeared to have varied greatly, but a uniform retail price of 1 pice weight for 1 pice prevailed all over the provinces. Retail shops numbered 1,254, or 7 less than in 1874-75; 12 had been closed in Hoshangabad, where the allowance had been condemned by the Chief Commissioner as excessive, but Nagpur City was still left with 18.

Looking to the total population, the incidence of revenue from ganja per head fell at the rate of 1½ pie, or less than would suffice at that time to buy an ordinary smoker one day's supply of the drug.

7. The old system of raising the revenue was adhered to in 1876-77, viz., (1) selling the farms and allowing the contractors to make their own arrangements for obtaining the drug, (2) levying an acreage fee on cultivation. These sources yielded respectively Rs. 58,995-12-5 and Rs. 1,630-4-0. The improvement in bids for the right of retail vend appears to have been due to rising confidence in the arrangements for the control of cultivation, but the Administration recognized that, no matter what precautions were taken, much ganja must be reaching consumers which had paid little or no duty, and that bidding would not be keen until every crop raised was taken under direct control.

In this year a special penal fee on unlicensed cultivation was introduced: the Re. 1 rate was made applicable only to cases in which a license was obtained before sowing, and Rs. 10 was to be levied on every acre or fraction of an acre not so protected. The penal rate was realized in 33 cases in Jubbulpore and in a few cases in some other districts. The effect of the restrictions which had by this time been placed on the right to cultivate freely was most marked in Raipur and Bilaspur, if the increase in the amounts bid for the right of retail vend in those districts was due to it, as appears to be the case; but the decline in the number of licenses applied for and the amount of fees levied was so sudden and rapid as to justify a suspicion that unlicensed cultivation of small plots must have been going on undetected.

The table below, bringing together statistics for three years, will make the above remarks clearer:—

YEAR.	Raipur.			Bilaspur.		
	No. of licenses to cultivate.	License fees.	Bids for right of retail vend.	No. of licenses to cultivate.	License fees.	Bids for right of retail vend.
1874-75	...	Rs. A. P. 471 8 0	2,184	659	328	417
1875-76	...	64 0 0	3,860	104	70	678
1876-77	NZ	242	4,020	6	33	981

* Not printed.

The number of permanent retail shops open during the year was 1,226, but of these 123 (in Bilaspur 102, Narsinghpur 4, and Bhandara 17) were open on bazar days only. In Hoshangabad the number had been again reduced till each shop had an average population of over 5,000 persons to serve. The incidence of revenue per head of total population rose from 1½ to nearly 1½ pie. Of consumption no satisfactory estimate can be made: in the Excise Report of the year 1,000 maunds was stated to be the probable amount.

8. Similar arrangements to those of 1876-77 were in force in the Khalsa. The most important measure taken during the year was the extension of the Khalsa rules regarding the cultivation and possession of ganja to the zamindaris both feudatory and non-feudatory, of the Chhattisgarh Division. Very little, however, was done towards assimilating practice in those zamindaris to that in the Khalsa, the order on the subject having issued only a short time before the cultivating season began.

The revenue of the year was raised in the same way as that of 1876-77. Bids for the right of retail vend improved from Rs. 58,995-12-5 to Rs. 62,894-14-10, all districts except Narsinghpur and Sambulpur contributing to this result. The penal rate of acreage fee (Rs. 10 per acre) was in several districts vigorously exacted, and collections under this head amounted to about Rs. 4,000: including fees at the rate of Re. 1 per acre, the tax on cultivation yielded Rs. 6,368-2-9. Statistics of area cultivated are not available for 2 (Wardha and Balaghat) out of the 15 districts in which fees were levied, but it is safe to say that in none except Nagpur and Nimar was the quantity produced at all considerable.

It would appear from the statements for the 2 years that (Appendix A) 82 more retail shops were worked in 1877-78 than in 1876-77; but in the latter year there were 102 bazar shops in Bilaspur, which are not included in the total given in the statement, although they have been taken into account in the remarks in paragraph 7 of this Memorandum, while the number of such shops in 1877-78 is not ascertainable.

The total revenue of the year fell at the rate of rather more than 1½ pie per head of population.

Statistics of the amounts sold by retail are not available, and no trustworthy estimate of consumption can be made. From figures in statement No. VI appended to the Excise Report for the year it appears that 3,419 maunds of ganja locally raised were exported to different parts of the Central Provinces, while imports from other British territory and foreign territory amounted to 532 maunds, so that in all 3,951 maunds were imported. Adding for the undermentioned non-importing districts the amounts which were probably consumed as well as raised in them respectively, viz.:—

Nagpur	...	...	...	...	1,000
Seoni and Chhindwara	...	...	...	...	200
Nimar	...	...	...	...	300

a consumption of nearly 5,500 maunds seems to be accounted for. But much ganja was doubtless consumed in Chanda which had been illicitly brought from the Nizam's Dominions, while in the Chhattisgarh Division a considerable portion of the demand must have been met by the produce of the bordering zamindaris and feudatory States. Raipur and Chanda

* Paragraph 6, Chapter VIII of Excise Manual, 1875. (Appendix B).
Paragraph 33.

between them imported under due authority* 376 maunds, but Bilaspur and Sambulpur made no such importations. On the whole it would be safe to put consumption at 6,000 maunds as a minimum: the estimate in the Excise Report for the year is apparently about 5,000 maunds, but from it are excluded imports into districts of the Central Provinces from elsewhere than Nagpur and Nimar.

In reviewing the Provincial Excise Report for 1876-77 the Government of India remarked that they were prepared to consider any suggestion that might be made for restricting the use of ganja, and again in March 1878 they approved of the Chief Commissioner carrying out measures for restricting the cultivation of ganja and imposing on the drug gradually, or otherwise, as heavy fiscal burdens as it could be made to bear. Accordingly the subject had a large share of the Chief Commissioner's attention during the next 3 years.

9. In November 1878 a new set of rules under paragraph 2 of section 40, Act X. of 1871, was issued.

The Judicial Commissioner, to whom a draft for concentrating cultivation of the hemp plant in the Katol and Khandwa tahsils and for the imposition of a prohibitive acreage tax on cultivation elsewhere had been submitted, pointed out that as the Act of 1871 merely authorized supervision of cultivation, cultivation without a license, even if the licenses were granted gratuitously, could not legally be prohibited, nor could any acreage tax be imposed. The rules finally sanctioned provided (1) that cultivators of the hemp plant should give notice of intended cultivation, its locality, extent, &c., (2) that they should give similar notice of their intention to cut, (3) that their crop should be stored in Government godowns or in authorized private store-houses, and that it should only be removed therefrom on payment of the Government duty. The duty fixed by the Chief Commissioner after considerable deliberation was Re. 1 per seer, equal to Rs. 40 per maund.

* Not printed.

These provisions seemed to be workable enough, especially as in only 2 districts was there anything like systematic cultivation of the hemp plant. Unexpected difficulties, however, arose in the disposal of the produce by cultivators to wholesale dealers and licensed vendors. The Commissioner of Excise was present both in Nagpur and Nimar on the occasions when sellers and buyers met for the disposal of the produce. At Nagpur the wholesale dealers held aloof, being uncertain of the effects which the enhanced duty demanded on the drug might have on consumption, while the retail vendors were not prepared to purchase direct or otherwise than in previous years from the wholesale dealers. In Nimar also sellers and buyers failed to come to an understanding. Accordingly it was found necessary, in order to guard the cultivators against loss and to secure to Government the control of the entire crop to purchase on behalf of Government 1,856 maunds of ganja in Nagpur and some 5,000 maunds in Nimar at a total cost of nearly Rs. 50,000. These quantities together represented nearly the entire crop of the year in the Central Provinces, so that practically Government obtained a monopoly of the drug.

The small cultivation of ganja in districts other than Nagpur and Nimar was specially dealt with. The Wardha crop was taken over by the Deputy Commissioner and forwarded to the Nagpur Store, to be there dealt with like the produce of the Katol Tahsil. In Betul, Ohhindwara, Narsinghpur, and Raipur the whole produce was put up to auction and sold to licensed vendors, the upset price fixed being Rs. 36 per maund: the cultivator's share of the proceeds was fixed at one-seventh.

10. The revenue was Rs. 83,144-0-3, of which Rs. 1,727 was collected on licenses to cultivate, a source of income which had now to be finally abandoned in accordance with the opinion of the Judicial Commissioner on the draft rules as first drawn.

Bids for the right of retail vend increased by Rs. 18,522-1-5, Mandla and Ohhindwara being the only districts which did not contribute to this improvement. The auctions had been held much earlier than usual in order to give licensed vendors generally a fair opportunity of buying their supplies direct from producers: hitherto the principal ganja crops had been for the most part bought up by a few persons for purposes of wholesale vend. Another probable cause of the improvement was the selling of the monopolies as far as possible in small circles, instead of in lump or by tahsils or large circles, as had previously been the practice in several districts.

The incidence of revenue rose to very nearly 2 pies per head of population. The number of retail shops which worked during the year is not ascertainable, but was probably much the same everywhere as in 1877-78.

11. With a view to administrative efficiency as well as economy the district formerly known as "Upper-Godavery" was abolished in this year, a small portion being transferred to the Madras Presidency and the remainder being constituted a sub-division of the Chanda district and styled "Sironcha." For the sake of preserving uniformity throughout Appendix A, the statistics relating to the Upper-Godavery district have all along been included in those of Chanda.

12. The arrangements for raising the revenue in 1879-80 were peculiar, owing to the position in which Government found itself as holder of almost the whole provincial stock of ganja. In five districts the circles of vend were not sold at all, but farms were given to men of capital and position, who engaged to find retail vendors and to keep them supplied with ganja taken as it came in the uncleaned state from the Government stores, paying only duty at certain fixed rates on removal from the Stores: those rates were as under:—

		Rs.	A.	P.	
Jubbulpore District...	Jubbulpore tahsil ...	...	2 12	0	per seer.
	Sehora and Marwara...	...	3 0	0	"
	Narsinghpur District...	...	3 6	0	"
	Hoshangabad "	...	4 4	0	"
Nimar District	Khandwa and Burhanpur tahsils }	...	5 0	0	"
	Mortaka tahsil ...	...	4 1	0	"
	Mandla District ...	...	5 0	0	"

In the remaining district the monopoly of retail vend was sold in the usual way, at first for 3 months and then for the rest of the year. The plan tried in the 5 districts above named, though not an absolute failure, was soon found in practice to be open to serious objections: the farmers, not being bound to work in earnest in order to be able to pay stipulated instalments to Government, did very little towards ensuring an adequate supply to the public. For the last nine months of the year, therefore, in the remaining 12 districts the retail monopolies

were left in the hands of the men who had bought them for the preceding quarter at the old monthly rates of license fees and on the condition that they purchased only at a Government store or from distributing agents appointed by Deputy Commissioners. Wholesale vendors were employed as distributing agents on a commission at rates varying from 9 pies to 1½ anna per rupee on the fixed selling price of Rs. 2-14-0 per seer: this price included both the cost to Government and the fixed duty.

13. The ganja issued for consumption in the year was for the most part raised in the season July to November 1878, and in respect of that season's crop no difficulty in realizing duty under the arrangements just described was experienced. But at the close of the preceding year there were stocks of old ganja, the produce of the autumn of 1877, and on these a duty of Rs. 30 a maund was made leviable under the Chief Commissioner's orders: where these stocks in the hands of any one person exceeded 1 maund, a special rate in excess of Rs. 30 a maund was exacted; but in several districts payment of duty was evaded, licensed vendors having been allowed, in spite of orders to the contrary, to purchase, after the close of 1878, quantities largely in excess of what was necessary to carry them on to the end of March 1879.

14. "Bhang" (foreign) was taxed this year for the first time, but statistics of receipts under this head are not available till 1882-83. The rate first fixed was Rs. 8 per maund, and any licensed retail vendor was permitted to import what he required on prepayment of duty at that rate. At the same time a rate of Rs. 10 was imposed on charas. The rate on bhang was raised in July to Rs. 8 per maund less than that charged for ganja, i.e., to over Rs. 100 per maund, taking the ordinary ganja rate to be Rs. 2-14-0 per seer. The cost-price in Rajputana and other sources of supply was Rs. 10 to Rs. 12 per maund. From records in this office it appears that in the preceding half of the year 1879 about 7 maunds were imported into Nimar, Hoshangabad, and Jubbulpore, and that in those districts and also in Chanda, Seoni, Sangor, and Raipur there were old stocks amounting in all to 23 maunds 24 seers. The only districts in which there was any licitly imported charas was Jubbulpore, and the amount there was 37½ seers only.

On "local bhang," or refuse ganja, a duty of 3 annas per seer was imposed, the article being issued to licensed vendors at this rate from the Government stores. The chief use of this was as medicine for cattle to get them into good condition.

15. In this year Ganja License Forms VII and X, prescribed by Notification No. 4627, dated the 5th November 1878, were cancelled, and licenses published with Notification No. 996 dated the 12th March 1880, substituted therefor. This step was taken at the instance of the Commissioner of Excise with the object of protecting our revenue against smuggling by rail from foreign territory or from British territory beyond the Central Provinces. Ganja was cultivated in particular in the Indore territory south of the Nerbudda, 7 villages in which the plant was raised forming a group round Sanawad on the railway line between Khandwa and Indore and constituting what was almost an island of foreign territory within the Nimar district. The amount of ganja raised annually was about 1,500 maunds, and this could be bought on the spot at from Rs. 2-4 to Rs. 2-8 a maund, no pass or permit being required. The badness of the roads and the insecurity of life and property throughout Central India rendered it practically impossible for traders in this ganja to reach a market otherwise than by rail and therefore by passing through British territory. It was obviously essential to keep a watch on consignments so sent, and rules 7 and 8 of the Notification of November 1878 were meant to be read, with Forms VII and X, as requiring imports from outside the Central Provinces to be taken to a Government store-house under one license (Form VII) and then exported under another (Form X). But Form VII merely required that imported ganja should be delivered at the Central Store, "to be there disposed of according to the orders in force for the produce of cultivators resident beyond the Central Provinces." It was therefore found necessary to provide specifically for the examination of consignments booked to railway stations within the Central Provinces, and the revised Form VII contained the necessary conditions. At the same time Form X, which in its original shape was practically useless, was altered so as to render all ganja, whether purchased within the Central Provinces or in course of transit through them for sale in other parts, liable to examination by any Provincial Excise officer at any time.

16. The gross receipts under ganja for the year were Rs. 69,937, but the arrangements for securing payment of the newly imposed direct duty cost Rs. 6,636, so that net receipts were only slightly in excess of those for 1878-79.

The quantity of ganja sold retail was nearly 600 maunds, representing some 800 maunds of uncleaned hemp, but it would not be safe to conclude that this represents anything like the quantity actually consumed during the year. In Nimar only 6 maunds 24 seers of ganja were sold under the sanctioned arrangements, but there can be no doubt that this amount was quite insufficient for the wants of the district, and smuggling from the Sanawad pargana of Indore is known to have gone on to a great extent. Retail prices everywhere ruled much higher than they had ever done before, the cost price to licensed vendors being nowhere less than Rs. 2-12-0 per seer, or about 2 pice for one pice weight. The total number of retail shops rose to 1,223, but the figures for districts differ greatly in many instances from those of 1877-78 and

1878-79, and no satisfactory explanation of the differences can be given. In Bilaspur and Sambalpur bazar shops appear to have been included in the enumeration: elsewhere there were generally fewer shops, to judge from Statement IV appended to the Excise Report for 1880-81.

It is difficult to believe that only 252 acres were under ganja in the year in Nimar, but enquiry on the point has failed to bring any other statistics to light. The produce of the Katol Tahsil amounted to 250 maunds, but the area cultivated cannot now be ascertained.

17. The Government of India, in sanctioning disbursement of the money which had been spent in 1878-79 in purchasing the crop of that year and also old stocks left in the hands of certain dealers whose licences expired on the 31st March 1879, and were not renewed, remarked that they were not disposed to favour the permanent creation of a Government monopoly of ganja. Accordingly, for 1880-81 the monopoly of wholesale vend for the whole province was granted to a single contractor (Kaluram Marwari of Kamptee), who agreed to pay a direct duty of Rs. 2 per seer on all ganja sold by him to retail vendors and to issue the drug to retail vendors at Rs. 3 per seer. Under the agreement, the text of which will be found in Appendix D,* hemp drugs other than ganja were to be supplied to retail vendors at certain fixed rates per seer: those rates and the corresponding rates of duty payable to Government were:—

			Rate of supply.			Duty.
			Rs.	A.	P.	Rs.
Charas	...	...	24	8	0	16
Foreign majum	...	...	24	8	0	16
„ bhang	...	...	2	2	0	1
Local „	...	...	0	8	0	NIL

Charas and foreign majum were never actually imported. For local majum, a confection made of sugar, ghi, and local bhang, separate retail licenses at the same rates as those for sale of ganja were required. In the first 8 months of the year local bhang was taxed at the rate of 0-2-0 a seer, the right of selling it by retail being limited to the wholesale vendor of ganja and his agents, but in November 1880 the Chief Commissioner directed that clean ganja only should be issued from the Government stores, all refuse, including local bhang, detached in the process of cleaning being systematically destroyed, and further that at any subsequent cleaning which might be found necessary the additional refuse should be similarly dealt with.

18. Kaluram bought up so much of the Nimar and Katol crops of the season July to November 1879 as was in the hands of cultivators, and also all Government ganja left in the provinces on the 31st March 1880, except a surplus of some 5,000 maunds at Khandwa, which he agreed to sell on behalf of Government in return for a commission on sales. He was bound to apply the ganja he purchased for home consumption in the first instance: if any remained over, it might be exported, one-half of all profits realized in this way being payable to Government.

Distribution to retail vendors was provided for by requiring Kaluram to appoint and maintain an efficient and respectable agent at the head-quarters of each district and the head-quarters of each tahsil except Sironcha, which was supplied from Coanada in the Godavari district of the Madras Presidency and from the Nizam's dominions.

The right of retail vend was disposed of in a new way: instead of auctioning the monopoly by circles, monthly licenses were issued at fixed rates varying according to the size of the town or village and without limit as to the number of licenses existing in one place.

19. The gross revenue of the year was Rs. 92,850-12-8, or more by 3-2 per cent. than that of 1879-80. Sales by retail vendors under the sanctioned arrangements rose from nearly 600 maunds to 839 maunds 19 seers, or by 40-1 per cent., and the amount of direct duty realized by Rs. 5,228, or 8-8 per cent. only.

License fees for the right of retail vend fell off by Rs. 2,315, or 7-5 per cent.

It will be readily understood, however, that the statistics of the two years cannot be satisfactorily compared. In 1879-80 no amounts *qua* license fees proper were realized in 5 districts, while in the rest the charge of Rs. 2-14-0 per seer made to licensed vendors included the cost of the ganja supplied as well as direct duty, though the whole has been shown in column 34 of the statement in Appendix A under the latter head: moreover, old stocks which never paid duty and consequently were left out of the account of consumption must have found their way from the hands of the contractors who owned them into those of the smoking public.

Accurate information as to the exact number of retail shops worked is not forthcoming. In several districts the returns fail to distinguish sufficiently between licenses issued and shops opened.

20. The arrangements for this year were shaped by the necessity of getting rid of the Government stock of ganja, amounting to 3,000 maunds (uncleaned), which remained in store at Khandwa.

* Not printed.

Accordingly, the representatives of Kaluram, the wholesale contractor for 1880-81, were given a contract for supplying the whole province on condition of their taking over this stock or Rs. 18,000, besides purchasing the crop raised in 1880 in Nimar only: that crop was estimated at 2,500 maunds.

The agreement entered into with the firm will be found in Appendix F.*

It will be observed that the wholesale supply of ganja, &c., was left entirely in their hands, and that they were required to maintain an agent at the head-quarters of each district and tahsil (except Sironcha, where the existing arrangements were allowed to stand). With a view to avoiding unnecessary loss to the firm from cost of carriage of refuse stuff, it was arranged that the cleaning of the ganja should ordinarily be done at Khandwa or at Nagpur, but where the journey was likely to produce considerable injury to the drug, Deputy Commissioners were instructed to arrange for its being cleaned at its destination. The stocks maintained by the agents were to be examined by the tahsildar, or in his absence by the naib-tahsildar, every fortnight. The examining officer was required to deduct the amount of the closing balance for the fortnight from the total of the opening balance and of any subsequent additions to stock: on the difference so ascertained and verified, which represented the amount sold by the agent, duty had to be paid. Each agent of the firm was provided with a license for the wholesale vend of ganja, foreign bhang, charas, and majum, and also for the retail vend of the last mentioned article.

In most districts retail vendors held their shops as in 1880-81, i.e., on monthly licenses at rates which varied in different localities and without restriction as to the number of licenses granted in any one place. In Seoni and Saugor shops were auctioned on the old system, and there was a large increase in receipts from license fees in those districts.

21. The revenue of the year was made up as under—

	Rs.
Direct duty	67,892
License fees	29,344
TOTAL	97,236

Sales to retail vendors increased from 533 to 869 maunds, but the increase was not general, for in seven districts, and particularly in Bilaspur and Seoni, sales declined. Receipts from license fees were larger than in 1880-81 in 8 districts only: the system of monthly licenses, which had by this time been given an extended trial, was found to be unsuitable, accurate information having still to be collected as to the approximate consumption in different localities.

22. Statistics of cultivation in Nagpur for the 3 years 1879-80 to 1881-82 are not forthcoming. It will be remembered that Government bought up the crops of 1878, and Kaluram those of 1879 in both Nimar and Katol. The Nimar crop of 1880 was purchased by the firm which succeeded to Kaluram's business, and that, together with 3,000 maunds purchased from Government, made it quite unnecessary for them to have any dealings with the Katol cultivators. Great difficulty had been experienced in coming to terms with the Katol men in respect to the crop raised in 1879; they had sold the produce of 1878 to Government at rates varying from Rs. 7 to Rs. 10 a maund, but for that of 1879 they held out for Rs. 30 per maund. Eventually, after the Chief Commissioner had been petitioned in the matter, the Commissioner of Excise was requested to settle the price in a manner which would leave the cultivators no ground for complaint, and in the end payment at the rates given in the preceding year was agreed to by all concerned, the cultivators being at the same time distinctly warned that if they chose to grow ganja in the future they would do so at their own risk, as there was no chance of the Government again arranging for its purchase. In spite of this experience, about 1,100 maunds were brought to the Nagpur Store-house at the close of 1880, and this the firm of Jaitram Mahadeo declined to buy, having, as already remarked, obtained a fully adequate supply in Khandwa under the terms of their agreement with Government. The cultivators then demanded that their entire stock should be purchased by Government, but as they had received fair warning that they would have to make their own arrangements for finding buyers their petition was rejected. Many continued to hold out for the purchase of their produce in lump, but some were in the end induced to part with it in lots to different dealers. All appear to have refrained from raising ganja in 1881 in consequence of their failure to obtain the terms they had insisted upon; their energies were directed throughout the year to agitating for reconsideration of the orders passed, and after unsuccessfully moving the Government of India they memorialized the Secretary of State. No certain explanation of the sudden diminution of area under ganja in Nimar can now be given: it is, however, known that the Indore crop of 1879 was unusually large (4,000 maunds against 1,000 in the preceding season), and that exports from Nimar in 1880-81 did not exceed 75 maunds, and the knowledge of these facts and of the existence of a large stock in the hands of the provincial contractors must have made cultivators doubtful whether a local crop, if raised in 1881, would find any purchasers.

* Not printed.

No licenses to cultivate were granted in these 3 years, inasmuch as the rules of November 1878 did not provide for this formality: any one might cultivate, provided that he gave written notice of his intention to do so.

23. During the early part of the year 1881-82 the Bill which eventually became the Excise Act, 1881, was under consideration. The Act of 1871, so far as it related to hemp-drugs, had been found wanting in three important particulars, viz.:-

- (1) It only empowered the Chief Commissioner to place cultivation, preparation, and store under supervision—section 40.
- (2) It did not make the mere importation without a license, irrespective of the quantity of the drug imported, punishable—section 63.
- (3) The punishments for illicit manufacture, sale, and possession were inadequate—sections 62, 63, 64.

The Chief Commissioner proposed to remedy the first and third defects by means of a special clause worded as under:—

"In the Central Provinces—

- (a) the cultivation of hemp,
- (b) the manufacture of intoxicating drugs,
- (c) possession of the intoxicating drugs,
- (d) the import, export, and transport of intoxicating drugs,

are prohibited, except as permitted by this Act or by rules framed under this Act by the local Government, which may grant such permission absolutely, or subject to the payment of duty, or to any other condition."

The Bill, however, was considered by the Government of India to give all the powers required for controlling cultivation, manufacture, and storage, and the second para. of section 11 of the Act corresponds word for word with that in the Bill; the wording is as follows:—

"In the other territories to which this Act extends, the chief revenue authority may, from time to time, make such rules to restrict and regulate the cultivation of hemp and the preparation of intoxicating drugs therefrom as it may deem necessary to secure the duty leviable in respect of these drugs."

As for *importation*, it appears to have been thought that reduction of the quantity which might be sold by retail and possessed by a private person from 20 to 5 tolas in the case of ganja would meet all the requirements of the case. In the Bill as first drawn the limit of quantity in respect of bhang also was reduced from 20 to 5 tolas, but in the Act the old limit of 20 tolas is retained. The law as to import is therefore in the same state as under Act X of 1871, the only difference being that a penalty is now provided (sections 29 and 42) for breach of rules "to regulate the grant of licenses or passes to persons possessing or transporting intoxicating drugs for the supply of licensed vendors," whereas formerly no punishment was provided for breach of such rules. With regard to *penalties*, the Act of 1871 had made offences in respect of hemp drugs punishable by fine only in the first instance, and imprisonment in default of payment was in the civil, not in the criminal, jail, except in the case of permitting drunkenness, etc., on shop premises. The new Act gave power to sentence in respect of all such offences, except those under sections 40 and 41, to imprisonment of either description extending to three or four months, in lieu of, or in addition to fine, and it contained no provision prescribing imprisonment in the civil jail for default of payment of fine.

24. In February 1882 rules regarding the cultivation, sale, transport and import of ganja 1882-83.

G* to this Memorandum. Cultivation was thus definitely restricted to the tahsils of Katol and Khandwa, and cultivators were required to obtain licenses and to deposit their crops in the Government store-houses at the head-quarters of those tahsils.

The arrangements for raising the revenue in 1881-83 were in strict accord with these rules, and, as they have not since been materially altered, it is worth while to give an account of the main principles underlying them. In the first place the interests of cultivators demanded that the monopoly of wholesale vend should no longer be left in the hands of a single firm: accordingly wholesale vendors were appointed for each district separately. Next to protect wholesale vendors, in case cultivators should combine for the purpose of exacting unfair prices for their produce, import under passes from extra-provincial markets was permitted. Thirdly, in order to ensure supply to retail vendors of a good marketable drug for consumption by private persons, the rule introduced in 1881-82, that ganja, before being issued for retail sale, should always be cleared to the satisfaction of the Deputy Commissioner, and that all resulting "bhang" or refuse should be immediately destroyed, was maintained. Monopolies of retail vend were in most districts auctioned, the locality and number of shops being fixed beforehand, and none being allowed except where a reasonable demand for the drug was proved to exist. It will be remembered in this connection that the system of monthly licenses

* Not printed.

at fixed rates issued without limit as to the number of shops at any one place had no generally answered, the reason being that sufficient data for deciding what fee might fairly be fixed in each case were not available.

The sale of foreign bhang was no longer permitted to retail vendors of ganja: wholesale ganja contractors and their agents were constituted sole vendors of the drug. The bhang imported had to be stored in the same way as ganja, and a direct duty of Rs. 2 was made leviable on each seer sold. No fee was payable for a license for retail vend of foreign bhang.

Charas and foreign majum had never been imported, so no provision for their sale was required. The case of local majum appears to have been overlooked when the rules were framed; but the plan started in 1880-81 of licensing separate shops for its sale continued to be followed in practice. (See para. 17.)

25. Advantage was taken of the opportunity afforded by the breaking up of the monopoly of wholesale vend to obtain some revenue from wholesale license fees. The arrangement with the firm of Jaitram Mahadeo had been to levy duty at Rs. 2 per seer on the cleaned ganja issued, and to allow them to sell that ganja at Rs. 3 per seer to retail vendors. The terms of that arrangement were more favourable than the circumstances of most districts justified, and each wholesale vendor had henceforward to pay a certain amount per seer in addition to the direct duty of Rs. 2, the rate varying in different districts and being generally determined by tender.

26. The Sironcha sub-division of the Chanda district had from the first, as already remarked, been excluded from the system of supply prevailing in the rest of the province. Retail vendors had always supplied themselves with ganja from the Hyderabad and Madras country. The rules of February 1882, however, only permitted import by *wholesale* vendors and licenses could only be granted by the Deputy Commissioner and with the sanction of the Commissioner of Excise. To meet this special case, a rule was added empowering the Assistant Commissioner of the Sironcha sub-division to grant import licenses to any authorized vendor of ganja.

27. The gross revenue of the year, excluding credits to Government on sales of ganja to certain feudatory States in the Raipur district, was Rs. 1,11,095-6-1, made up as follows:—

	Rs.	A.	P.
Direct duty on ganja	47,935	7	10
Wholesale license fees—ganja	11,021	12	2
Retail	50,654	9	0
Direct duty on bhang	831	7	0
Retail license fees—majum	632	1	4

The amount of taxed ganja consumed was a few seers short of 600 maunds. Besides this about 56 maunds were supplied by a wholesale vendor to feudatory States and zamindaris. Retail sales decreased in all districts except Chanda and Damoh, and the fall was very marked in Raipur and Bilaspur, where, however, the statistics given for 1881-82 include sales to feudatories and zamindaris. The pressure of the higher retail rates was now being generally felt by consumers, and smuggling and illicit cultivation had to be contended with in consequence. In some districts, too, the wholesale vendors had supplied old and inferior ganja to guard against a repetition of this they were required to supply in 1883-84 none but ganja of the crop raised in 1882.

In Sambulpur the revenue had always been insignificant, and the rate per seer for issue to retail vendors was reduced from Rs. 3 to Rs. 2 for that district, in order to give our taxed drug a chance against that smuggled from the Tributary Mahals of Orissa and the States of Chutia Nagpur; at the same time the direct duty was lowered to Rs. 1 per seer. Similarly in the case of the Raipur district, the south and south-east portions of which suffered from the illicit introduction of ganja from Bastar, the rate of issue to retail vendors in the Sihaw Pargana was reduced to Rs. 2, on condition that none should be sold for consumption beyond the limits of that pargana.

For this year and onwards satisfactory statistics of cultivation in Nagpur and Nima are available. The total amount of the roughly manufactured drug deposited in the Government stores was 4,021 maunds, nearly 5-6ths of which was raised in Nimar.

The number of retail shops was considerably reduced, the most important change being in Balaghat, where the allowance in 1881-82 had been far too large in proportion to population. The average incidence of revenue was a little more than 2½ pies per head.

28. There were no important administrative changes in 1883-84.

The total revenue from the Khalsa proper was Rs. 1,29,207-2-6, made up as under:—

	Rs.	A.	P.
Direct duty on ganja	59,663	11	9
Wholesale license fees—ganja	10,584	6	9
Retail	57,556	14	0
Direct duty on bhang	769	10	0
Retail license fees—majum	632	8	0
			17

In all districts except Hoshangabad and Chhindwara the wholesale ganja contract was given to a single contractor: in the two districts named, the contracts were given by tahsils, as in the preceding year.

29. The amount of ganja sold by wholesale vendors to retail dealers increased by 157 maunds, and there was a consequent rise in the direct duty levied. Wholesale vendors, however, paid on the whole less for their monopolies, the reason being that in some districts a lower rate per seer had been accepted, with the object of leaving the contractor a good margin of profit and so encouraging him to supply good ganja and maintain efficient agents at tahsils.

The lowering of the price to retail vendors from Rs. 3 to Rs. 2 in Sambulpur was supplemented by special efforts to repress smuggling from feudatory States, and by enforcement of the agreement with the wholesale vendor that only good, clean ganja should be supplied: the result of these combined forces was that sales went up from nearly 5 maunds in 1882-83 to 21 maunds, the total revenue being at the same time more than doubled. Other districts in which sales improved considerably were Nagpur, Jubbulpur, Seoni, Raipur and Bilaspur. In Nimar sales fell off largely, but the retail license fee demand more than doubled, circumstances which are explained in the Excise Report for the year by the breaking up of gangs of labourers employed in the preceding year on the G. I. P. and Rajputana railways and by reckless bidding at the sales by two rival contractors who had quarrelled.

No material change took place in the number of shops anywhere except in Sambulpur, where the larger sales of taxed ganja demanded an increase in the number of licensed places of vend.

The incidence of gross revenue per head of population was 2½ pies.

30. The amount of ganja taken by feudatories and by zamindars who controlled their own revenue from hemp-drugs was 80 maunds against 56 in 1882-83. The improvement was due to the success in Raipur and Bilaspur of the arrangements made in 1880. The Sambulpur feudatory Chiefs, on the other hand, did not co-operate cordially in the suppression of ganja cultivation, and they took from the district wholesale vendor less than half of the amount taken in the preceding year.

31. In 1884-85 a new form of wholesale license was introduced. The form prescribed in 1882 was not found to be sufficiently complete, and it was supplemented in practice by a separate agreement. The Gazette Notification publishing the substituted form is reproduced as Appendix J* to this Memorandum.

32. The number of licenses for cultivation, the area cultivated, and the quantity of ganja deposited in the Central Stores were all unprecedentedly high in this year. The figures for 3 years are subjoined:—

	1882-83.	1883-84.	1884-85.
Number of licenses to cultivate	... 506	590	1,277
Area under cultivation	... 925	1,144	2,881
Ganja deposited	... (Mds.) 4,021	6,356	9,450

Most of the increase was in Nimar, where a large export trade was developing yearly. In Nagpur cultivation had apparently been resumed by those who in 1881 refused to come to terms with the provincial wholesale contractors: there was a substantial demand for them to meet, as the locally produced drug was then preferred in the Nagpur country to that imported from Nimar.

33. The revenue of the year was made up as follows:—

	Rs.	A.	P.
Direct duty on ganja	... 66,123	5	6
Wholesale license fees—ganja	... 12,629	3	3
Retail	... 81,861	13	4
Direct duty on bhang	... 921	14	6
Retail license fees—majum	... 804	8	0
TOTAL	... 1,62,340	12	7

The amount of taxed ganja consumed in the Khalsa proper rose by 11 per cent. and the total revenue demand by 25 per cent. This all round improvement was attributed in the Excise Report for the year to the improved quality of the drug supplied, and the case of Sambulpur, where retail license fees had risen by nearly Rs. 1,000, consumption had almost doubled, and supplies to the surrounding feudatory States had gone up from 4½ to 13½ maunds, was cited as proving the correctness of this explanation.

The total number of shops for retail vend increased from 551 to 921. All except 5 of the additional shops were opened in the Nagpur district, where the retail monopolies were auctioned

* Not printed.

for the whole year instead of being given out from month to month as in 1883-84, when the average number of licenses issued monthly was only 45.

34. In the Excise Report, written by Mr. L. K. Laurie, the year's statistics are remarked upon as follows:—

"While in most districts of the province the number of ganja shops remained stationary, the consumption of taxed ganja increased, in despite of an increase of prices which in some districts followed the enhancement of the license fees for retail vend. The probable explanation is that the improved quality of the issues of the drug attracted anew the consumers who had been driven to seek their supplies elsewhere by the poorness of the stuff sold by Government licensees in 1882-83. In 1882-83 the consumption of ganja decreased in all districts except Chanda * * * and Damoh. In 1883-84 the consumption increased in all districts except Nimar. In the year under report the increase continued in all districts except four (Nagpur, Mandla, Damoh, and Saugor). The quantity of taxed ganja consumed in the years 1881-85 was as under. It is not possible to carry back the distinction between the Khalsa supply and supplies to feudatories earlier than 1882-83:—

	Mds. 1881-82.	Mds. 1882-83.	Mds. 1883-84.	Mds. 1884-85.
Taxed ganja consumed in the Khalsa	... 870	609	757	835
" in feudatories and zamindaris	... ..	56	80	125

"These figures show that in the year under report the rebound from the depression caused by the inferior issues of 1882-83 has carried the Khalsa demand to what it was in 1881-82, and probably beyond. It is worthy of note that the check in consumption which occurred in 1882-83 did not affect the fees for wholesale and retail vend. These have in almost every district steadily increased since 1881-82.

"The incidence of the total demand per head of population was 3 pie, as compared with 2 pie in the preceding year. As last year, the incidence was highest in the Jubbulpur, Seoni, and Balaghat districts. The demand in Seoni and Balaghat stands at nearly the same figure as the demand in Raipur, which (following Jubbulpur and Nagpur) is the third highest in the provinces. This position in the list has been maintained by these two districts for several years past."

35. Before passing on it is necessary to note that the powers of police officers under sections 27, 28, and 29 of the Act of 1881 were modified during the year. In February 1884 the Chief Commissioner had authorized Deputy Commissioners to appoint, under section 24 of the Act, any police officer to be an officer for the prevention of excise offences. The Government of India, however, held that Section 20, Act V of 1861, precluded the exercise by the Police of authority as preventive officers, even though they were appointed to perform such duties by the Collector under section 24 of the Excise Act in accordance with rules made by the local Government. The Excise Act was accordingly amended by Act VI of 1885, in order to give local Governments authority to confer preventive powers on the Police. In the Central Provinces the powers exercised are—

- By all police officers, those conferred on Excise officers by section 27 of the Act.
- By any police officer in charge of a station or of or above the grade of head constable, those conferred on Excise officers by sections 28 and 29 of the Act.

36. The profits made by cultivators on the crop raised in the autumn of 1884 resulted in a still larger number of licenses to cultivate being taken out in 1885. The quantity (18,971 maunds) of the drug deposited in the Central Stores was also much larger than in any previous year, and, despite the fact that exports to other provinces increased enormously, a considerable percentage of the stock remained unsold. The market having been thus glutted, wholesale prices fell from Rs. 7 to Rs. 2 and Rs. 1 per maund, and most of the cultivators suffered in consequence.

37. The wholesale contract for the three districts of the Chhattisgarh Division was given in lump to a single contractor, as in the two preceding years: this arrangement had been necessitated by the fact that men would not tender for the contract of those districts owing to the difficulty of transporting the drug from the Central Stores, the railway line extending at that time only as far as Raj-Nandgaon.

The quantity of taxed ganja sold increased by 160 maunds, one-half of which was contributed by the districts of the Chhattisgarh Division and almost a quarter by the Jubbulpur district. Unlicensed cultivation in feudatories and zamindaris had generally diminished, and in the Raipur district over 200 temporary shops had been established at bazars where illicit ganja used to be secretly sold. In Jubbulpur the retail price was lowered to 1 anna per tola, sales being enormously stimulated in consequence. In other districts the average retail price varied from 1½ to 2 annas a tola, i.e., from nearly 3 to nearly 4 times the price prevailing in 1875-76. The sums bid for the monopolies of wholesale and retail vend also increased, and the

total revenue demand on account of ganja rose by more than Rs. 80,000, the incidence per head of population going up from 3 to 4 pies.

The districts in which the demand was greatest were:—

Jubbulpur.	Balaghat.
Raipur.	Seoni.
Nagpur.	Bhandara.

Jubbulpur, as for years past, was far ahead of any other district, and Raipur now took second place in regard to both revenue and amount of ganja taxed. Balaghat and Seoni occupied the fourth and fifth places, as in 1884-85, but in reverse order.

38. The losses incurred by cultivators in 1885-86 caused them in the following year to take out fewer licenses and to reduce the area under ganja; but in spite of this there was the large outturn of 9,390

maunds, which was ten times the quantity needed for provincial consumption and more than 2,000 maunds in excess of the quantity required for export and provincial consumption combined. As much as 6,000 maunds were exported to the North-West Provinces and Oudh, where the Government were considering the advisability of imposing an import duty on the drug.

39. An important executive order was issued in this year. In 1880 (see para. 17) the Chief Commissioner had directed that ganja should be issued from the Central Stores in as clean a state as possible; but in 1881-82 (see para. 20) and subsequent years the place of cleaning ganja had been left an open question, and it was found that this resulted in tahsildars being overburdened with work in supervising the separation and burning of refuse. It was now made obligatory in all cases to effect a partial cleaning at the Government Store-houses before packing for despatch to tahsils. At the same time the use of "hampers" instead of bags was recommended, and the practice which started thereupon was subsequently enjoined by condition 6 of the form of wholesale license as finally modified in 1891.

40. The consumption of taxed ganja in the Khalsa fell off by 141 maunds, and was only slightly in excess of that in 1884-85. The decline was most marked in the cases of Nagpur, Bhandara, Jubbulpur, and Sambulpur, and it appears to have been due partly to the failure of crops and partly to a further advance in license fees for the right of retail vend. In Sambulpur the monopolies of retail vend were auctioned for the first time, so that retail prices must have been specially affected in that district: up to this time the system introduced in 1880-81 of licensing shops at fixed rates and without restriction as to number had been adhered to, the idea being that smuggling from the surrounding feudatory States would best be combated by placing no limit on the number of licenses that might be issued.

Retail shops increased by 70. There was a nominal increase of 34 in Sambulpur, where the figures for previous years are really those of average number of licenses issued monthly. 13 new shops were opened in Raipur, where the allowance had always been short, having regard to the growth of population and consumption. Of the 8 additional shops in the Narsingpur district only 3 were actually worked: all were on the Bhopal frontier, and were licensed with the object of checking smuggling from that State.

The provincial incidence of revenue per head of population rose from just 4 to nearly 4½ pies.

41. The outturns of ganja in Nimar had been so large in the years 1884-85 and the two which followed it that additional accommodation had to be hired and the market was overstocked. In order to obviate

the inconvenience which had thus been found to result from over-production, a storage fee of 6 pies per maund per mensem, payable quarterly in advance, was imposed upon all ganja deposited in a Government store-house. This impost appears to have brought about the desired result, for the area under cultivation and the outturn were each little more than half of what they had been in 1886-87. Storage fees amounting to Rs. 472 were realized in the course of the year.

In October 1887 another source of revenue was invented, a permit fee of Rs. 1 per maund being made leviable on all purchases of ganja effected by persons who, not being licensed vendors under the Excise Act, resorted to the Government Store-house at Khandwa for their supplies. In proposing the imposition of this fee the Commissioner of Excise wrote as follows:—

"The part played by the Khandwa store as an *entrepôt* for the supply of the ganja demand of those provinces is quite insignificant when compared with its use as a mart for the convenience of foreign purchasers. To it through traders from Bhopal, Indore, Gwalior, Ratlam, Dhar, Jodhpur, Odeypur, Rewa, Panua, Baroda, and other States of less note, and licensed vendors from the North-West Provinces compete with contractors from Berar for the purchase of the cultivators' stock. Between 6,000 and 7,000 maunds of ganja have, on the average of the last four years, been annually exported from Khandwa to other provinces and to Native States. For the convenience thus afforded to them all these foreign purchasers pay absolutely nothing."

Permit fees amounting to Rs. 1,028 were realized before the close of the year, and this sum alone more than sufficed to cover the cost of the additions to the store-house at Khandwa, which it had been found necessary to make.

42. In June 1887 the Government of India sanctioned a substantial increase in the rates of duty on round and choor ganja in Bengal, and the Chief Commissioner thereupon requested the Commissioner of Excise to report whether the duty should be raised in this province also.

In reply the Commissioner reported that the effect of raising the duty of Rs. 2 a seer would be to lower the bids for retail vend monopolies, and that it would be specially inappropriate to raise the duty just when consumption had declined owing to the losses which had followed on the failure of harvests, in whole or in part, for two successive years. Accordingly, the rate was left unchanged.

43. Two other suggestions for improving the ganja revenue were submitted, though not recommended for adoption, by the Commissioner of Excise, Mr. L. K. Laurie, in this year, viz., (1) to abolish wholesale vendors, Government purchasing and retailing the drug through its own agents, and (2) to economize establishment by closing the store at Nagpur and prohibiting cultivation in the Nagpur district altogether. The Chief Commissioner agreed with Mr. Laurie in thinking that, on the whole, Government agents was unsuited for purchasing and selling the drug to retail vendors, and that it was best to postpone suppression of cultivation in Nagpur, until the effect of imposing a storage fee upon the extent of that in Nimar had been well ascertained.

44. Supervision of harvesting, drying, and storing of the ganja crop was introduced this year, and has been exercised annually ever since. A case had been brought to light of a cultivator having a considerable quantity of the drug in his possession at his village-home, and there was thus reason to believe that many of the complaints of smuggling were due to secret disposal of ganja illicitly kept back by cultivators. The following establishment was accordingly entertained for the Khandwa tahsil:—

25 peons at Rs. 5 each for one month	...	...	...	...	Rs. 125
5 supervisors at Rs. 20	...	...	...	...	100
Total	...	...	...	...	225

This precautionary measure was not adopted in the Nagpur district, as the area under cultivation and the number of licenses taken out were comparatively small.

45. The total revenue of the year was Rs. 1,92,028-12-1, made up as follows:—

	Rs.	A.	P.
Direct duty on ganja	...	...	...
Wholesale license fees—ganja	65,244	8	3
Retail	14,716	3	10
Direct duty on bhang	1,08,633	8	0
Retail license fees—ganja	838	10	0
Permit and storage fees	1,095	14	0
	1,500	0	0

The amount of taxed ganja consumed fell off by nearly 33 maunds, but receipts from wholesale license fees remained at almost the same figure as in 1886-87, viz., Rs. 14,700 in round numbers.

Under retail license fees there was a total decline of about Rs. 7,500, but nearly Rs. 17,000 of this occurred in the districts of Nagpur, Jubbulpur, and Raipur. This was due in the first two districts to a relapse from the high bids of 1886, and in Raipur, where rice is the staple food, to the partial failure of two successive rice crops.

The labouring population, who are the largest class of drug consumers, were placed in exceptionally hard circumstances at the beginning of 1887-88, as the following extract from the Chief Commissioner's Resolution on the Revenue Administration of the Central Provinces during the year ending the 30th September 1887 sufficiently indicates:—

"The seasons resembled in their character those of the preceding year in which the rice crop was a very poor one and the linseed crop an almost total failure. * * * * * Owing to the partial failure of the rice crop and to the inferiority of the crop of the preceding year there was a good deal of hardship in the rice-growing districts. A considerable portion of the labouring population was undoubtedly pinched for food to an extent rare in these provinces, and the pressure extended to the poorer cultivators. * * * * * In the northern districts the continuous high prices have unfavourably affected the condition of the labouring poor."

46. During the period of 5 years, the statistics of which remain to be discussed, several important administrative changes were made.

The past quinquennium.

In the first place a registration fee at the rate of Rs. 1 per maund was made payable on all sales of ganja to purchasers other than licensed vendors of the Central Provinces, the object being to enhance the charge on exports to Native States and Berar which had been introduced in October 1887, and to obtain from licensed vendors of other parts of British India some return for the conveniences afforded them at the Government Store-house, Khandwa. The "permit" fees had not especially affected export to foreign territory, which were about 3,000 maunds in 1887-88 against 3,300 maunds in 1886-87, and buyers from both foreign territory and the North-West Provinces were inconveniencing our wholesale vendors by forestalling them in the market and by raising the price.

47. Next the period of 60 days allowed to cultivators of ganja, under the rule for removal of their crop to the Government Store-house after permission to cut had been granted, was found

* Not included in statement in Appendix A, as there is no appropriate column in which to exhibit them.

excessive and reduced to 30 days on the recommendation of the Deputy Commissioner, Nimar. It was found that cultivators took advantage of the long period allowed to keep their crop in the villages as long as possible, thus entailing increased expense on Government for watch and ward and securing great opportunities for pilfering and illicit transfers.

48. 1889-90 was the last year in which cultivation was permitted in the Katol tahsil. The cultivators there had never been able since the introduction of the system of levying a direct duty in its existing shape to obtain a fair price for their produce, the reason apparently being that it was of inferior quality. Moreover, it was by this time certain that the amount raised in Khandwa was far in excess of provincial requirements, and would suffice to meet them even in a year of bad harvest. Accordingly, in May 1890 notices were issued to the Katol cultivators that they would not be allowed to raise ganja any more. The formal notification restricting cultivation to the Khandwa tahsil of the Nimar district was not issued till July 1891, the opportunity being taken of revising generally the rules of 1882.

49. The revised rules printed as Appendix O* to this Memorandum: they are for the year 1882 as amended up to date, but include in addition one (3) relating to harvest operations under Government supervision and one (10) relating to the payment of registration and storage fees: a rule (10) was also added prescribing payment of fees by wholesale vendors of the month from dates of storage of the authority to grant Commission of Excise, and were finally approved. Those rules are printed as Appendix P* to this Memorandum: they are full and explicit, and do not call for any comment.

50. In 1891 rules for the management of the Khandwa ganja store-house were drawn up by the Chief Commissioner in December of that year. Those rules are printed as Appendix Q* to this Memorandum: they are full and explicit, and do not call for any comment.

51. Lastly, the Commission directed the insertion in all retail licenses to be thereafter granted for the sale of any intoxicating drug of a condition that consumption on the premises should not be permitted: this condition has been enforced throughout the Central Provinces since the 1st April 1891. The other change consisted in recasting the form of license for retail sale of ganja, and including in it a prohibition of sales on credit and by way of barter and a requirement that purchases shall be made direct from the wholesale vendor for each shop separately, shall be entered in the pass-book of the shop for which the ganja is intended, and shall then be taken to that shop and to no other: the amended form is printed as Appendix Q* to this Memorandum.

52. The total revenue from hemp-drugs has risen during the past 5 years from 2 to over 24 lakhs, and is now considerably more than double what it was in 1882-83, the year in which the present arrangements for supply of ganja to retail vendors were initiated.

The following table shows how the position of districts has altered during this quinquennium in respect of consumption of taxed ganja and receipts on wholesale and retail licenses for the sale of that drug: the revenue from bhang and majum being comparatively insignificant is not taken into account:—

DISTRICT.	ORDERS OF LICENSING		CONSUMPTION OF TAXED GANJA.				WHOLESALE LICENSE FEES.				RETAIL LICENSE FEES.			
			1887-88.		1892-93.		1887-88.		1892-93.		1887-88.		1892-93.	
	1887-88.	1892-93.	Mds.	Order.	Mds.	Order.	Rs.	Order.	Rs.	Order.	Rs.	Order.	Rs.	Order.
Nagpur	3	4	57	6	73	7	1,004	5	1,461	7	12,667	2	15,455	2
Bhandara	6	5	36	10	62	8	620	10	1,238	9	7,840	5	8,001	8
Chanda	7	7	18	16	23	16	...	18	116	18	1,714	17	2,396	17
Wardha	10	10	25	14	28	15	249	14	563	15	2,175	16	2,160	18
Balaghat	12	11	74	3	118	3	1,284	3	2,367	3	7,281	6	8,691	7
Jubbulpur	5	5	114	1	128	2	2,716	1	2,879	2	18,679	1	19,934	1
Saugor	8	8	32	11	33	14	468	13	574	14	5,683	8	5,071	13
Damoh...	14	16	21	15	34	13	213	10	701	12	3,068	13	3,079	14
Seoni	13	12	65	5	79	6	1,155	4	1,599	6	8,164	3	11,846	4
Mandla	17	15	38	9	52	10	901	8	916	10	4,710	11	6,847	9
Hoshangabad	9	9	65	4	60	9	976	6	1,274	8	5,201	9	6,014	11
Betul	16	17	17	17	23	17	210	17	400	16	2,833	16	2,936	15
Chhindwara	15	14	31	12	35	12	549	11	687	13	5,098	10	6,494	10
Narsinghpur	11	13	39	8	35	11	877	9	705	11	7,257	7	5,125	12
Nimar	18	18	12	18	19	18	245	15	570	17	835	18	2,569	16
Raipur...	1	1	103	2	189	1	1,810	2	3,787	1	8,035	4	12,038	3
Bilaspur	2	3	53	7	68	5	335	7	2,156	4	4,398	12	9,336	6
Sambalpur	4	2	31	13	35	5	533	12	1,897	5	2,995	14	8,934	5

* Not printed.

The most striking feature of the statistics is the rise of the districts of the Chhattisgarh Division to the position which, in view of their population, they would naturally be expected to occupy. These districts account for more than half the increase in consumption of taxed ganja since 1887-88, and the chief causes at work have been (1) improvement in administration in feudatory States and (2) extension of the Bengal-Nagpur Railway, and in Raipur the construction of water-works. Relations with feudatory Chiefs and with zamindars who enjoy the right of making their own arrangements for retail sale in their estates will be discussed when the subject of smuggling is taken up. Nimar and Betul continue to be the districts where the consumption of taxed ganja is most noticeably short: in the former district cultivators can no longer secrete much of their crop, but ganja is still largely grown in Indore, while in Betul much Berar ganja is undoubtedly consumed. Wardha and Nagpur and in a less degree Chhindwara also are, like Betul, exposed to smuggling from Berar, where the average retail price of ganja is only 6 pies per tola. Seoni and Balaghat have always stood high as contributors to our revenue from ganja: in the latter district licit sales have increased enormously. In Bhandara, where also sales have greatly improved, it is said that the habit of ganja-smoking is no longer considered disreputable, and that the chief cultivating class have taken to it. The Chanda district sales do not include those of the Sironcha tahsil, where retail vendors, owing to the remoteness of the tract, were allowed until the current year to supply themselves under import licenses from foreign territory: the consumption in that tahsil is probably about 6 maunds per annum. The steady rise in the provincial consumption of taxed ganja attracted the special attention of the Chief Commissioner in 1892, and in the Resolution on the Excise Report for 1891-92 the Commissioner of Excise was directed to make enquiry as to whether that drug was ousting either country liquor or opium. This enquiry is still in progress, and until the Chief Commissioner has had the results before him and recorded the conclusions to which they lead, further comment on the statistics just dealt with will serve no useful purpose.

53. Sales of foreign bhang do not fluctuate much from year to year: the average of the past quinquennium is about 12 maunds per annum. This drug is not sold at all in the districts of Chanda, Seoni, and Mandla, and very little in Bhandara and Wardha. Most is sold where Marwaris are most numerous, i.e., in Nagpur, Jubbulpur, Narsinghpur, Hoshangabad, Raipur, and Bilaspur.

54. Statistics of area cultivated and quantities stored and exported for each of the past five years are as under for the Nimar district:—

	Cultivation.	Quantity stored.	Quantity sold for export beyond C. P.
1888-89	858 acres	9,450 mds.	5,052 mds.
1889-90	954 "	10,854 "	7,933 "
1890-91	521 "	7,224 "	4,108 "
1891-92	553 "	6,685 "	3,916 "
1892-93	940 "	6,686 "	4,233 "

The fall in 1890-91 was due to the market being overstocked with the large outturn of the previous year, and to the ryots having unsuccessfully combined to resist dealer's low prices: in 1891-92, the losses which had been sustained in this way and excess rainfall prevented any considerable extension of operations, besides damaging the crop raised on the area worked. In the latter year, however, cultivators realized high prices averaging Rs. 8 per maund, and were encouraged to sow more ganja in 1892-93, but the crop raised was again damaged by excessive rain, and the quality was generally inferior. It may be mentioned here that consumption in the Central Provinces themselves has little, if any, effect on the area cultivated, for the reason that only about one-fifth of the crop is consumed locally: during the past five years local consumption, including that of feudatories and zamindars, has ranged from 1,123 to 1,468 maunds, the annual average being 1,252 maunds. In 1888-89 and 1889-90 there was a little cultivation in the Katol tahsil of the Nagpur district: in the former year 79 acres yielded 377 maunds, the corresponding figures for the latter year being 39 acres and 312 maunds.

During the same period fees at the Government Store-house, Khandwa, aggregated Rs. 46,399. The yearly receipts are not included in the statements in Appendix A for the reason already stated in the footnote to para. 45 of this Memorandum.

Details of the total revenue under this head are:—

	1888-89.	1890-91.	1891-92.	1892-93.
Storage fees	1,144	1,631	1,574	1,530
Permit "	3,135	4,563	2,491	2,474
Registration fees	4,395	7,934	4,190	3,947
	8,674	14,128	8,255	8,051
				7,291

55. The average retail price in most districts for small quantities of ganja is 2 annas per tola, but where the full amount of which possession is allowed by law, viz., 5 tolas, is bought, a rate of 0-1-6 per tola is generally taken. In the districts open to smuggling from Native States on the north and west, rates on the border are as low as 0-1-3 and sometimes even 1 anna per tola. In rural areas in the Sambalpur district and also in the Drug and Singa Tahsils of Raipur the rate is 1 anna per tola; in the Sheorinarain Tahsil of the Bilaspur district it is 0-1-3 per tola.

56. A system of modified local option in respect to the licensing of country liquor shops was introduced into the Central Provinces under the orders of the Government of India in 1889: such shops are more than six times as numerous as those for the sale of ganja, and no orders for consulting the residents in places where ganja shops are to be licensed have yet been issued. The Administration has all along shaped its policy in regard to the licensing of ganja shops on the assumption that the drug is extremely deleterious, and it is a standing order that no more should be licensed than are necessary to meet the demands of consumers who, if a licit supply were not obtainable, would probably supply themselves illicitly. Moreover, the location of drug shops is a matter of comparatively little importance now that consumption on the premises has been prohibited. Upset prices are not fixed, but no shop is licensed unless a reasonable bid is forthcoming.

57. It is believed that the hemp plant does not grow wild in any part of these provinces.

58. An endeavour has been made in the foregoing paragraphs to trace the development of the present excise system in respect to hemp-drugs in the Central Provinces, and to notice the most striking variations from year to year in the area under the ganja-producing plant, the outturn therefrom and the revenue raised by means of taxing consumption of the two preparations in use, viz., ganja and bhang. It remains to give in a brief yet comprehensive form an account of the system as now worked: the necessary information has been embodied in Appendix R, which follows closely Chapter V of the Excise Manual drawn up in 1885 by Mr. F. C. Anderson, when Commissioner of Excise, and includes also the instructions given in a few important subsidiary circulars.

59. This Memorandum will now be brought to a conclusion with a brief statement of the difficulties in the way of realizing a tax on all ganja consumed within the province and of the chief measures for combating them which have been taken from time to time.

Small quantities of ganja not exceeding 5 tolas may be legally possessed by any one, and inasmuch as the Excise Act, 1881, only authorizes regulation of import and transport when effected by persons intending to supply licensed vendors, there is nothing to prevent a smoker carrying about, no matter whence obtained, as much as will suffice an habitual moderate consumer for 15 or 20 days. A glance at the map which accompanied the Excise Report for 1889-90 will show that the Central Provinces are cut off by Native States and Chiefships from the rest of British territory except in the extreme south and south-east, in the extreme west and in the north-west, where the border runs for comparatively short distances with those of the Lalitpur, Khandesh, and Godavari districts respectively. Starting from the extreme south and working along the Western border, we find first the Nizam's Dominions, separated from the Sironcha and Mul tahsils of the Chanda district by a water boundary consisting of the Godavari and its tributaries, the Pranbha, and Wardha rivers. Until August of the current year the Sironcha tahsil, owing to its inaccessibility and the cheapness of ganja in Hyderabad territory, was, as already remarked (para. 26), exempted from the direct tax on consumption introduced in 1880-81: it has now been experimentally brought under the system prevailing elsewhere in the Khalsa proper, information having been received that in consequence of certain fiscal reforms the price of ganja has risen in Hyderabad. The Resident has been addressed with the object of ascertaining the nature of the alleged reforms, and his reply is still awaited.

60. Proceeding northwards we find the Berars marching with the Mul and Warora tahsils of Chanda, all three tahsils of Wardha, the Katol tahsil of Nagpur, the Saosar tahsil of Chhindwara, both tahsils of Betul, and lastly the Burhanpur tahsil of Nimar. The revenue from ganja is raised by (1) levying a license fee of Rs. 10 per acre or part of an acre on cultivation and (2) auctioning the right of retail vend; but the retail price is nowhere higher than 1 anna per tola, while in the Wun district it is only 3 pies, and elsewhere generally 6 pies. In 1885 the Chief Commissioner authorized the Commissioner of Excise to consult the Commissioner of Berar with regard to the cultivation of ganja in that province and the possibility of checking its carriage across the Central Provinces borders: the Commissioner was accordingly asked to consider the possibility of raising the retail rate to that prevailing in these provinces and imposing an import duty. The objection at first raised against taking action in the direction thus indicated was that it would lead to smuggling into Berar from the Bombay Presidency, where ganja was selling at the rate of Rs. 2 per seer, but subsequently, in pursuance of orders received from the Resident at Hyderabad, a set of draft rules for regulating the import, export, and transport of ganja and for prohibiting its cultivation was prepared. These rules are still under consideration.

In 1880-81 two special peons on Rs. 5 per mensem were entertained, one by Government and the other by Kaluram, the wholesale contractor, for the purpose of detecting smuggling on the western frontier of the Betul district, but they proved a failure, and their services were dispensed with after a few months. The fact is that salaried detectives are of little or no use, as they are liable to be bribed by the very men whom they are paid to watch.

61. The Khandesh Collectorate of the Bombay Presidency succeeds the Berars as contiguous territory, and it is the Burhanpur tahsil of the Nimar district which is on the Central Provinces side of the boundary. Reference has already been made to the extremely low price of ganja throughout the Bombay Presidency: cultivation of the ganja-producing hemp plant is not restricted in any way, though manufacture and sale of the intoxicating drug is required to be covered by licenses, and the revenue, which is under 1½ lakhs, is derived from annual farms of retail monopolies and from permit fees at the rate of Rs. 5 per 10 maunds on imports, exports, and transport. Cultivation is largely practised in Khandesh and also in Ahmadnagar and to a less extent in the Broach, Sholapur, Surat, Satara, and Poona Collectorates: ganja is one of the few articles of export of these comparatively poor districts, and it would appear that Government is accordingly unwilling to lay any very heavy tax on trade in the drug.

62. Next to Khandesh comes Indore, in the Saawad Pargana of which ganja is largely grown. That pargana divides the Kanapur-Beria tract from the rest of the Nimar district, and there is thus a considerable area into which introduction of the untaxed drug is practically inevitable. In 1879 the Commissioner of Excise, with the approval of the Chief Commissioner, suggested to the Agent to the Governor-General in Central India that exports from Holkar territory should be taxed, and only permitted under formal pass; a duty of Rs. 7 per maund was accordingly fixed by the Darbar.

Other States under the Central India Agency which bound the Central Provinces on the north-west are Bhopal and Gwalior; in both of these local transit duties are levied, but they are not sufficiently high to check transport into the neighbouring British districts, viz., Hoshangabad, Narsinghpur, and Saugor. In Gwalior the export duty is, so far as can be ascertained at present, Rs. 2-12-0 per maund: the Maharaja is said to be bound by special agreement to prevent export into British territory.

In the Resolution on the Excise Report for 1889-90, the Chief Commissioner declared his intention of referring for the consideration of the proper authorities the question of limiting or taxing production in the Central India States: the result of the action taken has not been communicated to this office.

63. Damoh is probably the district the revenue of which suffers most from consumption of untaxed ganja. There are villages belonging to the Panna State scattered up and down the Hatta tahsil, and in one village belonging to that State and only a few miles from the head-quarters of the district ganja is freely grown; in all these villages the drug is sold at 10 annas or 12 annas per seer. Complaints have been made to the Darbar from time to time, but without much effect. The injury to our revenue from country liquor as well as to that from ganja which is caused by the existence of these facilities for obtaining a cheap supply of the latter, will be better appreciated when it is remembered that, whereas the Provincial percentages of revenue from the two intoxicants to the total excise demand were respectively 60·6 and 8·9 in 1892-93, they were in Damoh 33 and 23·8. There is comparatively little competition for country liquor monopolies, but a fair sum is realized from licensing ganja shops, as illicit ganja can be sold under the licenses without much risk of detection.

Ganja is grown in Rewa, and some is doubtless introduced into the Murwara tahsil of Jubbulpur and into the Dindori tahsil of Mandla.

64. That portion of the border of the Central Provinces which runs from the north-east corner of Mandla to the extreme east of Sambalpur, and then south-west to the point from which we started, divides them from a series of Tributary States and Mahals in Chutia Nagpur and Orissa and from the Jeypore State in the Madras Presidency. For many years past the absence of restriction on the cultivation and sale of ganja in these territories has very materially affected the sales of taxed ganja in Bilaspur and Sambalpur and in the feudatory States on the east. Most trouble was caused by smuggling from Gangpur and Boud, and in 1883 the Commissioner, Chutia Nagpur, and the Superintendent of the Tributary Mahals in Orissa were addressed on the subject. The first mentioned officer thereupon issued parwanas to the Chiefs of Gangpur, Udaipur, Surguja, and Lakhanpur, informing them that they must not allow ganja to be grown by any one without their permission, that they must keep lists of those who grew ganja, and see that no one either grew more than they needed for home use, or sold to others. The Superintendent of the Tributary Mahals, Orissa, however, was unable to do more than request the zemindar of Boud to warn his people that it was an offence punishable by our courts to carry ganja into the Central Provinces. In Chutia Nagpur the action taken by the Commissioner was for some time effective, but by 1888 the special attention of the Chief Commissioner had been drawn to the matter, and the Commissioner of Excise was directed to consult the Commissioner, Chhattisgarh Division.

as to whether a good case could be made out for asking the Government of Bengal to prohibit cultivation in those States, as had been done in the similar Chiefships attached to the Central Provinces. The Commissioner of Excise, having complied with the order, reported that it was clearly expedient to have the cultivation of ganja in the said States prohibited, and the Government of Bengal was addressed accordingly by the local Administration. In reply, it was contended that the Garhjat ganja was much less noxious than that raised in the Central Provinces, was prepared and consumed in a different way, and consequently could not really compete with it.

Local enquiry made with the object of testing the truth of this contention led to the conclusion that the drug which was smuggled into the Sambalpur district from Bond and from Gangpur was ganja proper; differed little from that grown in Nimar; was, like it, smoked, and so far from being less harmful, actually produced more lasting intoxication. The Bengal Government was informed of this result, and it then suggested the levy of a duty on all Garhjat ganja imported into the Central Provinces.

In reporting on the merits of this suggestion, the Commissioner of Excise pointed out that, owing to the wild and unexplored character of the frontier and the portable nature of ganja, smuggling into the Khalsa and feudatory States of the Central Provinces was easy, and could not be checked by the imposition of an import duty, unless the local Administration entertained a preventive establishment, the cost of which would be prohibitive and altogether disproportionate to the results possible of attainment.

The Chief Commissioner, after satisfying himself that the cultivation of ganja had been practically suppressed in the local feudatories, referred to the Government of India the question of suppressing such cultivation in the border States of Madras and Bengal, but was informed in reply that the local Governments did not see their way to adopting the course proposed. The only course now open, so far as the local feudatories are concerned, is to reduce the maximum of 5 tolas which may be legally in possession of any person, and this the Chiefs of Bamra, Raikhol, and Sonpur have already expressed a desire to do. The Chief Commissioner has recently directed that the question of reducing the said maximum should be taken up for all the feudatory States concerned, and that if a reduction is decided on, it should be uniform for all.

65. The injury caused to the Khalsa revenue by unrestricted cultivation in the feudatory States within the Central Provinces and in the zamindaris the proprietors of which enjoy the privilege of administering excise arrangements themselves has already been noticed. Nothing came of the extension to those estates of the rules made in 1875 (see para. 8) and in 1880 special arrangements were made, which will be found set out in Part 2 of Appendix R to this Memorandum. Each Chief and zamindar was required to take the ganja required for consumption by his people from the wholesale vendor of a given Khalsa district, and it was stipulated that they should prohibit cultivation and issue the drug to their retail vendors at a rate at least equal to that at which issues were made to retail vendors in the neighbouring Khalsa. In the case of Bastar alone no attempt was made to arrange for supplying ganja from the Khalsa: the hemp plant was widely cultivated there, and Government did not deem it expedient to interfere. It was because of their proximity to Bastar that the Kanker State and the Khariar and Bindra-Nawagarh zamindaris were to be supplied at rates more favourable than those fixed for the other States and zamindaris in the Raipur district respectively. These arrangements were fairly successful in Raipur and Bilaspur, but in the Sambalpur States—those under Government management excepted—and in the Chuikhadan State in Raipur, little or nothing was done towards suppression of cultivation.

In 1887, when revision of the tributes paid by the Chiefs and of the settlements with the zamindars was impending, a special enquiry was made as to whether illicit cultivation had been suppressed in the feudatories. It was found that all the Chiefs, except those of Sonpur, Raikhol, and Chuikhadan, had carried out their undertaking in this respect: a severe warning was conveyed to the Chiefs of those States, and Rs. 3 per seer was clearly laid down for all feudatories as the minimum rate of issues to contractors or consumers.

With regard to Bastar the Commissioner, Chhattisgarh Division, was directed to discuss the question of cultivation there with the Raja himself. The action taken by the Commissioner resulted in unlicensed cultivation being prohibited from 1890 onwards and licenses being granted to a few persons only each year. The object in view was to ascertain precisely who cultivated. Quite recently cultivation was entirely stopped, and ganja is now being supplied by the wholesale vendor of Raipur.

66. It was remarked in para. 52 that more than half of the recent increase in consumption of taxed ganja in the Khalsa proper occurred in the districts of the Chhattisgarh Division, and that it was due in great measure to improved administration in feudatory States. Until the year 1857 each State was under the supervision of a Deputy Commissioner, but in that year a whole-time officer, with the title of Political Agent, Chhattisgarh Feudatories, was appointed. At first his supervision was restricted to six States, *viz.*, Bastar, Kanker, Kalahandi, Patna, Sarangarh and Sonpur; but in 1888 four more, *viz.*, Khairagarh, Nandgaon, Chhuikhadan and Raikhol, were added. Bamra and Raigarh followed in 1890, and Kawardha and Sakti in 1892, so that all fourteen feudatories are now controlled by the same authority.

The following table shows the amount (in maunds) of ganja issued to feudatory States and zamindaris by wholesale vendors of the Khalsa during each of the past ten years:—

Ganja sold to Feudatories and Zamindars.

	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.
Raipur	45	72	96	97	80	81	88	93	113	121
Sambalpur	4	13	19	22	12	21	44	53	56	57
Bilaspur	14	17	31	34	32	47	52	46	56	79
Hoshangabad	12	15	16	19	11	22	17	20	5	8
Chhindwara	5	8	9	8	9	11	8	11	11	8
TOTAL	80	125	171	180	141	182	209	223	241	273

In 1891-92 there was a considerable decrease in the amount of ganja bought by the Makrai State in Hoshangabad; that State was taken under Government management in December 1890, and 8½ maunds were then in stock. Supplies in previous years had been of *uncleaned* ganja, but for the past two the drug has been supplied in a thoroughly clean state. The Chhindwara statistics do not require any special comment. Those of the Chhattisgarh Division have already formed the subject of some general remarks, and it only remains to note that one reason why more Nimar ganja is now being bought by feudatory Chiefs and zamindars is that greater care is taken to ensure the supply to them of nothing but a good fresh article.

67. Ganja is not, as a rule, smuggled in large quantities. Unlike opium, it is bulky in proportion to its selling value, and its peculiar and easily recognized odour makes the packing of it difficult, if concealment is desired. Very few cases of large seizures are on record. The most recent one of which this office has information was made in 1892, when 40 seers were found buried in a house in Parsoni, in the Ramtek taluk of the Nagpur district. Parsoni is said to be a hot-bed of smuggling on a large scale; but, if this is the case, important captures should be more often effected.

The quantity (20 tolas) of foreign bhang which any person may lawfully have in his possession is so large that it can hardly be worth while to smuggle that drug; but for the same reason the amount on which duty is paid must be far short of what is actually consumed. The chief consumers are Marwaris and Hindustanis: the former class travel a great deal, and can easily bring back the maximum quantity of 20 tolas, which is sufficient for 40 doses, whenever they return from visiting places where bhang is manufactured, *e.g.*, Ujjain, Ajmere, and Bahraich. Considerable quantities are introduced by post also.

H. V. DRAKE-BROCKMAN,

NAGPUR;

Offg. Commissioner of Excise,

The 11th November 1893.

Central Provinces.

CENTR.

Statistics relating to hemp dr

Year.	Total population of the province.	CULTIVATION OF HEMP PLANT FOR NARCOTICS.						AMOUNT OF IMPORTS FROM OTHER PROVINCES IN MAUNDS AND SEERS.				AMOUNT OF EXPORTS TO OTHER PROVINCES IN MAUNDS AND SEERS.				NUMBER OF LICENSES FOR WHOLESALE VEND.				NUMBER OF LICENSES FOR RETAIL VEND.				AMOUNT						
		Area under cultivation.			Licenses for cultivation.			Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant.	Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant.	Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant.	Total.	On ganja.	On charas.			
		Ganja.	Charas.	Bhang.	Ganja.	Charas.	Bhang.																							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			
								M. s.	M. s.	M. s.	M. s.	M. s.	M. s.	M. s.	M. s.											Rs. a. p.	Rs.			
1873-74	81,08,958	1,084	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,133	...	...	...	...	1,133	50,707	12 0	...	
1874-75	81,08,958	739	...	...	1,039	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,261	...	...	...	...	1,261	50,263	2 1	...	
1875-76	81,08,958	743	...	...	530	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,254	...	...	...	...	1,254	51,345	10 11	...	
1876-77	81,08,958	1,129	...	...	641	...	...	263	10	...	...	...	...	...	...	...	...	...	...	...	1,124	...	...	...	...	1,124	58,935	12 5	...	
1877-78	81,08,958	1,910	...	...	951	...	...	531	25	...	...	...	...	...	...	...	...	...	...	...	1,206	...	...	...	...	1,206	62,894	14 10	...	
1878-79	81,08,958	1,285	...	...	818	...	...	103	0	...	0	37	...	...	...	...	...	...	...	...	1,206	...	...	...	...	1,206	61,417	0 3	...	
1879-80	81,08,958	232	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,223	...	...	...	...	1,223	30,599	1 6	...	
1880-81	81,79,013	427	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,227	...	...	...	...	1,227	28,494	10 10	...	
1881-82	92,34,965	78	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,011	...	...	...	...	1,011	22,344	5 11	...	
1882-83	92,34,276	925	...	...	506	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	814	...	...	...	...	814	61,676	5 2	...	
1883-84	92,34,276	1,144	...	...	590	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	851	...	...	...	...	851	63,141	4 9	...	
1884-85	92,34,276	2,591	...	...	1,277	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	921	...	...	...	...	921	91,491	0 7	...	
1885-86	92,34,276	4,170	...	...	1,837	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	956	...	...	...	...	956	1,13,271	11 6	...	
1886-87	92,34,276	931	...	...	510	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,026	...	...	...	...	1,026	1,49,858	12 5	...	
1887-88	92,34,276	525	...	...	411	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,025	...	...	...	...	1,025	1,23,349	11 10	...	
1888-89	92,35,303	940	...	...	561	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,081	...	...	...	...	1,081	1,116	1,24,053	12 7	...
1889-90	92,34,239	992	...	...	709	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,075	...	...	...	...	1,075	1,114	1,25,769	11 9	...
1890-91	92,32,551	521	...	...	408	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,081	...	...	...	...	1,081	1,117	1,32,703	15 2	...
1891-92	94,25,007	653	...	...	474	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,063	...	...	...	...	1,063	1,090	1,39,875	3 0	...
1892-93	10,001,023	891	...	...	697	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,047	...	...	...	...	1,047	1,098	1,61,140	15 11	...

CENTRAL PROVINCES MEMORANDUM.

PROVINCES.

for the years 1873-74 to 1892-93.

LICENSE FEES.		AMOUNT OF FINE DUTY.						TOTAL REVENUE.						QUANTITY SOLD (RETAIL).					Machine per head of population, column 41 to column 2.
On other preparations of the hemp plant.		Total.	On ganja.	On charas.	On bhang.	On other preparations of the hemp plant.	Total.	From ganja.	From charas.	From bhang.	From other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant.			
30	31																32	33		34	35	36	37	38	39	40	41	42	43	44	45	46
Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs.	Rs. a. p.	Rs.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs.	Rs. a. p.	Rs. a. p.	Rs. a. p.	M. s.	M. s.	M. s.	M. s.	Rs. a. p.		
...	50,707 12 0	...	...	...	...	...	50,707 12 0	...	...	...	...	50,707 12 0	...	...	...	...	0 0 1		
...	56,263 2 1	813 8 0	...	...	...	...	619 8 0	57,082 10 1	...	...	...	57,082 10 1	...	...	...	...	0 0 1		
...	54,245 10 11	807 8 5	...	...	...	...	807 8 5	55,053 3 4	...	...	...	55,053 3 4	...	...	...	...	0 0 1		
...	58,935 12 5	1,830 4 0	...	...	...	...	1,639 4 6	60,626 0 5	...	...	...	60,626 0 5	...	...	...	...	0 0 1		
...	62,894 14 10	6,368 2 9	...	...	...	...	6,368 2 9	63,263 1 7	...	...	...	63,263 1 7	...	...	...	...	0 0 2		
...	81,417 0 3	1,727 0 0	...	...	...	...	1,727 0 0	83,144 0 3	...	...	...	83,144 0 3	...	...	...	...	0 0 2		
...	30,599 1 6	53,127 14 8	...	...	...	...	53,127 14 8	89,937 0 2	...	...	...	89,937 0 2	558 26	...	...	...	0 0 2		
...	28,494 10 10	64,856 1 10	...	...	...	...	64,856 1 10	92,859 12 8	...	...	...	92,859 12 8	839 19	...	...	...	0 0 2		
...	22,344 5 11	67,890 2 11	...	...	...	...	67,892 2 11	97,230 8 10	...	...	...	97,236 8 10	889 23	...	...	...	0 0 2		
632 1 4	62,269 6 6	47,935 7 10	...	...	...	521 7 9	48,786 15 7	1,03,611 13 0	...	551 7 9	632 1 4	1,11,095 0 1	539 21	...	10 31	...	0 0 2		
633 8 0	68,774 12 9	56,663 11 9	...	...	769 10 0	...	60,434 5 2	1,27,865 0 6	...	769 10 0	633 8 0	1,29,207 2 6	737 12	...	9 29	...	0 0 2		
804 8 0	95,295 8 7	66,123 5 6	...	...	621 14 6	...	97,045 4 0	1,60,614 6 1	...	921 14 6	840 8 0	1,62,340 12 7	845 19	...	11 21	...	0 0 3		
1,152 8 0	1,14,424 3 6	77,507 15 10	...	...	747 1 0	...	78,255 0 19	1,90,779 11 4	...	747 1 0	1,153 8 0	1,92,679 4 4	1,005 27	...	9 13	...	0 0 4		
1,600 0 0	1,42,568 12 5	98,473 1 8	...	...	860 1 0	...	70,333 2 8	2,19,331 14 1	...	860 1 0	1,500 0 0	2,12,691 15 1	863 28	...	10 30	...	0 0 4		
1,095 14 0	1,24,445 9 10	65,244 8 3	...	...	839 10 0	...	90,053 2 3	1,82,594 4 1	...	838 10 0	1,085 14 0	1,50,623 12 1	830 31	...	10 20	...	0 0 4		
951 0 0	1,25,904 12 7	74,199 11 3	...	...	979 0 3	...	75,163 11 0	1,93,244 7 10	...	973 0 3	951 0 0	2,00,168 8 1	941 12	...	12 6	...	0 0 4		
976 0 0	1,25,745 11 9	74,939 7 0	...	...	837 10 6	...	73,674 1 6	2,01,606 2 9	...	837 10 6	976 0 0	2,02,419 13 3	979 33	...	10 13	...	0 0 4		
836 8 0	1,33,545 7 2	78,204 14 0	...	...	829 14 0	...	79,034 12 0	2,19,913 12 2	...	829 14 0	836 8 0	2,12,690 3 2	1,919 3	...	10 15	...	0 0 4		
782 12 0	1,39,667 15 0	88,013 4 1	...	...	979 14 0	...	89,593 2 1	2,27,438 7 1	...	979 14 0	782 12 0	2,29,251 1 1	1,150 16	...	12 10	...	0 0 5		
1,075 4 0	1,62,216 3 11	91,629 4 0	...	...	1,085 13 9	...	92,715 1 9	2,32,779 9 11	...	1,085 13 9	1,075 4 0	2,34,931 5 8	1,194 12	...	13 23	...	0 0 5		

APPENDIX R.

Present system under which revenue is raised from hemp-drugs.

1.—KHALSA.

(1) Sections of the Excise Act, 1881, relating to hemp-drugs.

Sec. 11.—The Chief Commissioner "may from time to time make such rules to restrict and regulate the cultivation of hemp and the preparation of intoxicating drugs therefrom as he may deem necessary to secure the duty leviable in respect of these drugs."

Sec. 12.—"No.....intoxicating drug shall be sold except under and in accordance with the terms of a license granted under the provisions hereinafter contained."

Provided as follows:

.....(d) Any cultivator of the hemp plant may sell any intoxicating drug prepared from his plants to any person licensed under this Act to sell the same, or to any person authorized to purchase the same by the Collector's order in writing."

Sec. 13.—Subject to rules made by the Chief Commissioner under the Act "the Collector may grant licenses.....for the retail sale.....of intoxicating drugs within his district or any part thereof or at any place therein."

"Licenses for the sale.....of intoxicating drugs wholesale.....shall be granted only by such officer as the local Government from time to time appoints in this behalf."

Sec. 20.—The Chief Commissioner "may from time to time make rules to regulate.....the grant of licenses or passes to persons possessing or transporting intoxicating drugs for the supply of the licensed vendors of such drugs."

Sec. 22.—.....No person shall have in his possession any larger quantity of such drugs than that specified in section 3, clause (k)——[bhang, or any preparation or admixture thereof, one-quarter of a seer; ganja or choras, or any preparation or admixture thereof, five tolas]—unless he is permitted to manufacture or sell the same.

Sec. 55.—The Chief Commissioner may make rules (a) as to the period for which licenses shall be granted, (b) as to the fees payable for licenses, and the times of payment, (c) as to the security to be given by licensees, (d) as to the forms and conditions of licenses, &c.

(2) Ganja.

Cultivation of ganja and disposal of crop.—The cultivation of ganja is restricted to the Khandwa Tahsil of the Nimar district. Harvesting is supervised by a special establishment, and the cultivators are bound to bring the whole of their produce to the Government Store-house at Khandwa. The drug is purchased at the store-house by the wholesale vendors of the province, the terms of purchase being arranged between the cultivators and the wholesale vendors without interference on the part of Government. Wholesale vendors of other parts of British India and foreign dealers are also freely permitted to buy.

No direct tax is imposed on cultivation, but the following fees are payable at the Store-house.

(1) **Storage fees.**—Payable at the rate of 6 pies per mensem by cultivators or purchasers of ganja kept in the store-house. Cultivators and wholesale vendors of ganja in the Central Provinces are exempted from the payment of storage fees for a period of 30 days following the date of their storage or purchase for transport to other districts of the Central Provinces (as the case may be).

(2) **Permit fees.**—Payable by all purchasers of ganja other than Government licensed vendors, at Re. 1 per maund of the quantity, permission to purchase which is asked for.

(3) **Registration fees.**—Payable by all purchasers of ganja other than Central Provinces licensed vendors, at Re. 1 per maund of the quantity of which the transfer by sale is registered.

2. **Disposal of wholesale vend contracts.**—Under the rules in force Deputy Commissioners are authorized to grant licenses for wholesale vend, but the practice is for them to report for approval by the Commissioner of Excise the names of the persons to whom and the terms on which they propose to give the wholesale contracts.

Wholesale vend.

The sole monopoly of wholesale vend is given either for the whole district in lump or for each tahsil separately. If a single contractor is licensed for an entire district, he must keep an agent at each tahsil to sell on his behalf to retail vendors.

Tenders are invited annually in each district by the 1st November: they must state—

- (1) what fee per seer, in addition to the direct duty, the applicant is prepared to pay for the monopoly of wholesale vend;
- (2) that the applicant is acquainted with and is prepared to comply with all the conditions of the wholesale license;
- (3) what security he is prepared to furnish for the due execution of his contract.

The right of refusing the highest or any tender is always reserved and the acceptance of a tender by the Deputy Commissioner is, as noted above, subject to the confirmation of the Commissioner of Excise.

The direct duty is Rs. 2 per seer, except in Sambalpur and the S.-E. part of the Raipur district, where it is Rs. 1.

3. **Supply of ganja.**—As soon as the acceptance of a tender for the wholesale ganja contract of any district has been confirmed by the Commissioner of Excise, the Deputy Commissioner, Nimar, is informed of the name of the contractor, the district to which his contract relates and the average annual consumption of ganja in that district. The contractor is then permitted to buy his ganja at the Khandwa store. The purchase by any individual vendor of an unnecessarily large stock, especially towards the close of a year, is reported to the Commissioner of Excise.

When a registered wholesale vendor applies to the moharrir of the store for leave to take out ganja from his stock, the excise darogha, Nimar, or in his absence, the tahsildar of Khandwa or his naib, is at once informed of the fact. The official who receives the intimation proceeds as soon as possible to the store, and with the assistance of a retail vendor or of another wholesale vendor and in the presence of the person whose ganja is to be issued selects from the latter's stock such ganja as seems fresh and of good quality (as compared with the average of the year's supply) up to the quantity which the owner desires to despatch. The selected ganja is then given out for immediate cleaning. All refuse resulting from the process is destroyed.

The moharrir and the police guard are responsible that only ganja thus passed for issue by the excise darogha, tahsildar or naib-tahsildar, is cleaned and prepared for despatch. The cleaned ganja is sealed up in hampers, which are weighed and numbered in the presence of the tahsildar or other official appointed by the Deputy Commissioner to supervise weighing and packing: the consignment is then forwarded to its destination under a transport pass, duplicate of which is sent to the tahsildar of the tahsil for which the ganja is intended.

After a consignment of ganja received at the head-quarters of a district or tahsil has been weighed and checked with the invoice, the tahsildar, before placing it in store, examines the quality of the consignment. If any hamper is found to contain ganja which is not fresh or is of bad quality, it is carefully marked and a report of the fact is submitted to the Commissioner of Excise through the Deputy Commissioner. No issues are made from these hampers so long as there is good ganja in stock sufficient for the local demand. Ganja finally set aside is kept until the close of the year, when it is disposed of in accordance with the orders of the Deputy Commissioner, under condition 12 of the wholesale license. Ganja condemned at the Khandwa store-house is disposed of under the orders of the Commissioner of Excise.

4. **Realization of duty and check of wholesale vendor's stock.**—Under the conditions of the license all ganja brought by the wholesale vendor into the district must be covered by a transport pass or by an import license: the ganja so brought is lodged in a store-house belonging to the licensee, one key of which is kept by the tahsildar, and it is issued from time to time to him or his agent by the tahsildar. His stock of ganja is therefore completely under control, and none of it can escape paying the duty leviable on it, such duty being the fee per seer (including the direct duty) which he has agreed to pay.

The wholesale vendor is required to maintain a register of his outside balance and of his sales of ganja. This is examined and compared with a corresponding tahsil register from time to time by the excise darogha, in order to obtain information as to the quantity taken to the several shops.

Ganja is issued once a fortnight. It is well cleaned before being given out, and the stalks and other refuse separated in cleaning are at once destroyed. The quantity so issued constitutes the outside balance of the wholesale vendor for current sale to retail vendors. On each occasion on which a fresh supply of ganja is issued it is the duty of the tahsildar (1) to verify the outside balance by actual weighing, and see whether it corresponds with the balance shown in the wholesale vendor's sale register, (2) to verify the balance under double lock by counting the hampers, and (3) to realize the duty on all ganja sold by the wholesale vendor to retail vendors since the issue of the last fortnightly supply.

Although ganja is cleaned before using, the mere lingering of it in the process of sale to retail vendors causes a residue of crumbled fragments to form. This residue, or refuse, as it is commonly called, though it is by no means useless, is small in quantity, and is not allowed to accumulate. It can be easily amalgamated with subsequent issues, if not allowed to collect and grow stale by keeping; when it amounts to a seer or upwards it is treated as consumed ganja, and is destroyed by burning, duty being levied as if it had been sold.

At the end of June and December in each year the balance of ganja under double lock is verified by the tahsildar by actual weighment.

When ganja is sent by road, it is escorted by one or more police constables, whose pay while on this duty is recovered from the transporter. Each tahsil must be supplied direct from the Khandwa Central Store, and the amount in stock must never be less than will suffice for two months. Transport passes to cover removal of ganja from one tahsil to another are only granted in cases of urgent necessity. The quantity of ganja produced in the Khandwa tahsil is far in excess of what is required for consumption in the Central Provinces, and there has never hitherto been any necessity for granting an import license.

5. The number of shops to be licensed in each district is fixed by the Deputy Commissioner subject to the control of the Commissioner of Excise. Ordinarily only as many shops are licensed as are necessary to meet the demands of consumers who, if a licit supply were not obtainable, would probably supply themselves with the drug illicitly. None is established in any place merely for the benefit of one or two occasional ganja smokers. In those districts, however, which are specially exposed to smuggling from foreign States shops are licensed more freely.

The localities of all shops are definitely fixed, sale at other localities being prohibited. The monopoly of retail vend at each locality is auctioned separately, but in large towns the shops are generally sold in lump; temporary bazar shops are generally attached to the nearest permanent shop and sold with it. The general rule is that retail shops are to be auctioned, but with the sanction of the Chief Commissioner shops can be licensed on payment of a fixed yearly or monthly fee.

All retail vendors are entitled to obtain from the wholesale vendor as much good, fresh and well cleaned ganja as they require at Rs. 3 a seer, except in Sambalpur and the south-east part of the Raipur District, where they are supplied at Rs. 2 per seer.

In order that the consumption of ganja at the retail shops may be watched, and that the retail vendors or their servants may be secure from molestation when taking their supplies to their shops, they are furnished with a pass-book in which the wholesale vendor enters up every purchase of ganja made from him.

(3). Foreign bhang.

The consumption of bhang is not general, being chiefly confined to Marwaris. Every wholesale vendor of ganja is given a license for the retail vend of this drug free of charge. Licenses are not granted to any other persons, and no wholesale vendor may import without a written permit from the Deputy Commissioner. A duty of Rs. 2 per seer is payable on all foreign bhang sold, and the rate of sale to the public must not exceed Rs. 3 per seer.

Stocks of bhang are kept under control in the same way as ganja.

(4). Majum.

Majum is a confection prepared from ganja, ghi, and sugar, and the use of it is for the most part confined to the Holi and Moharam festivals. Shops are sold by auction, and ordinarily the right to make and sell this preparation is restricted to the Holi festival.

(5). Registers and Returns.

A register is kept in the district office of monthly sales and duty receipts in respect of ganja and bhang. The tahsildar is required to submit the necessary information at the end of the month, and obtains it from a similar tahsil register. This information is eventually embodied in the monthly and annual returns submitted to the Commissioner of Excise.

2.—FEUDATORY STATES AND ZAMINDARIES.

Raipur District.—Ganja is supplied to all the feudatories (a) except Kanker, at Rs. 2 per seer through the wholesale vendor of the district. Of the price paid, Re. 1 is taken by the wholesale vendor, and the remaining Re. 1 is credited to Government. Kanker is supplied at Re. 1 (b) per seer, and the whole of the price paid is taken by the wholesale vendor.

The non-feudatory zamindars generally are supplied at Rs. 3 (c) per seer (the rate of supply to licensed vendors in the Khalsa), but Kharlar and Bindra Nawagarh are supplied (d)

(a)	From Secretary to Chief Commissioner, No. 2787/123, dated 13th July 1880.
(b)	" " " " " 3308/204, " 21st October 1880.
(c)	" " " " " 2587/123, " 13th July 1880.
(d)	" " " " " 607/26, " 12th February 1883.

at Rs. 2 per seer. All the zamindars make their own arrangements for the retail vend of ganja within their respective estates, and enjoy the revenue from this source.

Bilaspur District.—The feudatories are supplied through the wholesale vendor of the district at 12 (e) annas per seer, the whole of which goes to the wholesale vendor.

The non-feudatory zamindars are supplied at Rs. 3 (f) per seer, and, as in Raipur, make their own arrangements for the retail vend of ganja, and enjoy the revenue from this source.

Sambalpur District.—Here, as in Bilaspur, all the feudatories are supplied at 12 (g) annas per seer, the whole of which is taken by the wholesale vendor of the district.

The non-feudatory zamindars do not enjoy the revenue derivable from the retail vend of ganja, all the arrangements for its retail vend in their estates being made by Government; the revenue resulting from these arrangements also going to Government.

Hoshangabad District.—The feudatory Chief of Makrai is supplied with ganja through the wholesale vendor of the district, at Rs. 12 (h) per maund, the whole price going to the vendor.

The retail vendors in the Chater and Pagara Jagirdaris are supplied at Rs. 3 per seer (the rate of supply to Khalsa licensed vendors), of which Rs. 2 (i) are put to the credit of the jagirdars, the balance of Re. 1 going to the wholesale vendor. The jagirdars are, therefore, practically supplied with ganja at Re. 1 per seer.

Chhindwara District.—The arrangement (j) with the jagirdars of this district is similar to that made with the jagirdars of Chater and Pagara in Hoshangabad.

(e)	From Secretary to Chief Commissioner, No. 3308/204, dated 21st October 1880.
(f)	" " " " " 2587/123, " 13th July 1880.
(g)	" " " " " 3308/204, " 21st October 1880.
(h)	" " " " " 4016/221, " 3rd November 1881.
(i)	" " " " " 1531/71, " 23rd April 1880.
(j)	" " " " " 2316/215, " 27th July 1882.

MADRAS MEMORANDUM.

Introductory Remarks.—In September 1871 the attention of His Excellency the Governor-General in Council was drawn to the deleterious effects alleged to be produced by the abuse of ganja and other preparations of the hemp plant, and the opinions of the authorities were invited as to the expediency of restricting the use of the drugs or of even suppressing the cultivation of the plant if such a course should be found necessary. On consideration of the opinions collected, local Governments were directed to discourage, if possible, the consumption of the drugs prepared from the plant by placing restrictions on its cultivation and on the preparation and retail of the drugs. The Madras Government was of opinion that the best way of meeting the wishes of the Government of India would be to pass a law prohibiting the retail sale without license of the drugs, as the Madras Abkari Acts then in force contained no provisions for regulating the traffic in them.

A Bill was accordingly introduced into the local Legislative Council in 1875, but nothing appears to have been done in the matter until the passing of Act I of 1886, in which the provisions and powers in the case of liquor were also made applicable to intoxicating drugs other than opium which had specially been provided for in India Act I of 1878.

2. Even after Act I of 1886 became law, the provisions therein relative to hemp-drugs were not brought into operation, probably because the use of such drugs was then considered not to be particularly prevalent. With a view, however, to bring the traffic under some sort of control, the Commissioner of Salt and Abkari Revenue issued in August 1886 a circular to all Collectors calling for information as to the extent and nature of the trade in these drugs. Amongst other matters inquiry was directed to the following points:—

- (a) the extent of cultivation of the hemp plant and the purposes for which it was grown;
- (b) the several descriptions of drugs manufactured therefrom and the processes of such manufacture;
- (c) the import, export, and transport of such drugs; and
- (d) the extent of the total consumption of the different preparations from the hemp plant.

3. The general result of the investigation went to show that throughout the greater part of the presidency the traffic in hemp drugs was unimportant, except perhaps in the Northern Circars, where alone they appeared to be used somewhat extensively, the chief consumers of the drug in the presidency being fakirs, byragis, and sojourners from Northern India. The plant was reported to be principally grown in backyards for domestic consumption and not for sale. The areas in which the plant was cultivated on any considerable scale were the Kistna district and the Javadi hills of North Arcot. In South Arcot and Tinnevely the plant was reared solely for its fibre. Export and import of the drug as defined in the Abkari Act was practically nil; the cases met with being only those of transport between districts. As it was deemed necessary to regulate the traffic in a drug which was admittedly baneful to health, the Board, as a preliminary step, made certain proposals calculated to procure accurate information as to the extent of the trade with the least possible interference with it. They were briefly as follows:—

- (a) to prohibit cultivation except under license to be granted free;
- (b) to restrict possession by persons other than licensed wholesale and retail dealers;
- (c) to grant free licenses to wholesale dealers;
- (d) to put up to auction licenses for retail sale; and
- (e) to impose a pass duty.

4. In view, however, of the indefinite and uncertain information obtained regarding the extent of the traffic in the drug and the limited nature of the consumption, the Government came to the conclusion that in most parts of the Presidency no restriction was called for, but remarked that it was prepared to extend the provisions of the Abkari Act relating to intoxicating drugs to limited areas on adequate cause being shown.

5. In reporting on certain alterations necessary in the pamphlet on hemp by Dr. Watt referred to the Board for remarks, the opportunity was taken to suggest to Government that the licensing of shops for the sale of ganja on fixed annual fees of Rs. 50 in Madras and Rs. 25 elsewhere might greatly facilitate the collection of accurate information as to the consumption of, and traffic in, the drugs. The recommendation was approved, the license fees being fixed at Rs. 30 and Rs. 15 in Madras and the mofussil respectively, but the Board's subsequent

suggestion to fix 40 tolas as the maximum quantity of the drug that might be possessed without license was negatived by Government, as the extension of the provisions of the Act, contemplated and sanctioned, referred only to the sale and not to the possession and transport of the drug.

6. On a representation from the Collector of North Arcot of the difficulty experienced in choosing among a number of rival applicants, and of the large profits earned by shopkeepers, which, without any risk being incurred of pushing the sale of intoxicating drugs, might be diverted to the public exchequer, the remedial measure of enhancing the license fees from Rs. 30 and 15 to Rs. 45 and 30 in Madras and the mofussil respectively was proposed by the Board and approved by Government to take effect from 1st April 1890.

7. Experience, however, showed that the demand for these drugs was considerably larger than was suspected and that the competition in certain districts for the privilege of vend was, in spite of the enhanced license fees, very keen, in consequence of which the difficulty of deciding between the claims of rival applicants was seriously felt. The Board thereupon considered that the already increased rate of license fees might be further enhanced or that the auction sale system might be adopted for ascertaining the true value of shops. As the balance of opinion among Collectors was against the continuance of the fixed license fee system as being entirely inadequate and unsuited to the object in view and as sale by auction was advocated by most of them, the Board recommended the latter proposal and suggested that a minimum retail selling price of 4 pies per tola of ganja might be prescribed as a check against licensees making undue profits by reduction of prices and stimulation of sales. Both these proposals were sanctioned by Government and effect was given to them from 1st April 1891.

8. The sale of intoxicating drugs prepared from the hemp plant having thus been placed on a satisfactory footing, the next question that engaged the Board's attention was whether, having regard to the reported increase in consumption of ganja, it would not be justifiable to impose restrictions also on the transport and possession of the drug. Closely connected with this is the question of controlling the cultivation of the hemp plant. The majority of the Collectors were for prescribing the limit of 10 or 15 tolas of ganja for possession without license, but the Board, agreeing with small minority that restrictions on the cultivation of the plant should precede those on possession, foresaw that any attempt at controlling hemp cultivation would involve the taking out of a license by every person who had a plant or two in his garden. The large undesirable increase to the existing number of shops which would have had to be sanctioned to meet the legitimate demands of consumers under the altered circumstances, as also the considerable additions which would have had to be made to the preventive force were also in the Board's opinion considerations which far outweighed any advantages which the proposed measure was expected to effect. The Board, therefore, came to the conclusion that such a regulation was neither desirable nor necessary, and the question of extending the provision of the Abkari Act to the cultivation of the plant and possession and transport of drugs prepared therefrom was accordingly deferred.

The above is a résumé of the correspondence that has passed between the Board of Revenue and the Madras Government on the subject of ganja administration in the Presidency.

9. *Administration.*—The ganja administration of the Presidency is under the direct control of the Collectors of Land Revenue, subject to the central controlling authority of the Commissioner of Salt and Abkari Revenue, who is a member of the local Board of Revenue. In addition to Collectors, the Commissioner is assisted in carrying out the provisions of the law relating to ganja by the officers of the Abkari Department.

The administration is regulated by the Madras Abkari Act and the rules and notifications framed thereunder. The portion of the Act relating to the sale of intoxicating drugs was extended to the whole of the Madras Presidency except the scheduled districts on 1st April 1889 and subsequently to 122 Agency villages in Ganjam, 4 in Vizagapatam, and 24 in Godavari. There are no diverse systems of administration in the several districts of the presidency. In those portions of the Agency tracts to which the provisions of the Madras Abkari Act have not been extended, no revenue is raised on hemp-drugs, and the cultivation of the plant and traffic in the drugs are left uncontrolled.

10. *The cultivation of the hemp plant (Cannabis sativa or Indica).*—The plant is cultivated in most districts only in back yards of houses and gardens for domestic use. In the following districts it is reported to be more extensively grown. In Ganjam, though the plant is not cultivated extensively in the district proper, the khonds of the malarious tracts of the Goomsur maliahs cultivate it on a large scale for smoking and for barter in the low country in exchange for other commodities. The estimated outturn of ganja in the district in 1889-90 was about 1,720 maunds. In Kistna it is cultivated chiefly in the Bapatla and Bezwada taluks, the total area under hemp being about 342 acres with a yield of about 3,450 maunds in 1889. In North Arcot district the cultivation of the plant, which was very considerable in 1887-1888—100 acres on the Javadi hills—diminished to about 55 acres with a yield of 1,620 maunds of ganja in 1889. In the Tinnevely district the *Cannabis sativa* is grown in a few gardens, but apparently to no appreciable extent, the hemp plant largely cultivated in the district being *Crotalaria juncea*, noted for its fibre. In Cuddapah and South Arcot the *Cannabis sativa* is cultivated only to a slight extent, in the latter principally for fibre, the area under cultivation being 5 and 30 acres respectively.

Nothing is known of the extent to which wild hemp is found in the presidency, nor of its use for preparation of bhang or other narcotics.

The average yield of ganja from the best description of plant is $1\frac{1}{2}$ visses or $22\frac{1}{2}$ seers of 24 tolas. The ordinary plant is not, however, so prolific as this, and the average yield may be set down at 2 visses or 10 seers of 24 tolas.

As remarked in paragraph 8, *supra*, the cultivation of the hemp plant is unrestricted throughout the presidency.

11. *Intoxicating drugs prepared from the hemp plant.*—The drugs usually manufactured in this presidency from the plant are of three main descriptions—

- (1) Ganja.
- (2) Bhang.
- (3) Majum.

Other preparations from the hemp plant, such as poornadhi laghium, ramarasam bhoja, sabja, mathai, sakkarai, billai, and alwah are more or less local synonyms of one or other of the above 3 preparations.

Ganja, bhang, and majum are prepared in various ways, the chief only of which will be noticed below:—

Ganja is a preparation of the dried flowers of the female hemp plant, usually reduced to powder in the palm of the hand by being rubbed with the thumb of the other hand. It is generally mixed with tobacco and smoked in a "chilam" or "hooka."

Bhang is prepared from the dried leaves of the male hemp plant and is usually taken as a beverage after being ground into a paste and then dissolved in some liquid, milk or water, with spices, pepper, ginger, &c.

Majum is a confection made of ganja boiled in milk and then mixed with ghee and sugar.

Charas, the resinous exudation from the stems, leaves, and flowers, is used but very rarely in this presidency.

12. *Other preparations of intoxicating drugs.*—In Ganjam and Bellary, a drink called *mathak* is prepared by mixing hemp flowers with opium. *Althana-kamaswarax* and *poonath* are medicinal preparations made from the leaves of the plant rendered palatable by the admixture of sugar, spices, ghee, milk, &c. The former is reported to be in use in Ganjam and the latter in Tinnevely.

The manufacture of intoxicating drugs is not forbidden in any part of the presidency, nor is it subject to any rules or restrictions.

13. *Import, export, and transport.*—Enquiries made since 1886 tend to show that there is very little or no export or import as defined in the Madras Abkari Act, but merely transport between districts. The only provinces or States from which intoxicating drugs are imported are Hyderabad, Bastar, and Banganapalle; exports are made to Ceylon, Mysore, Hyderabad, and Cochin territory. Transport between districts within the presidency is not uncommon. The above information cannot, in the absence of trustworthy statistics, be regarded as reliable. No *pass duty* is levied on import, export, or transport of these drugs, and without some such check there is no means of obtaining reliable information about the traffic in the drugs. There is no recognized class of importers.

14. Vague complaints of smuggling from the Ganjam district to the adjoining district of Pooree, as also from the feudatory States of the Madras Presidency into the Central Provinces, were received from the Commissioner of Excise, Orissa, and the Chief Commissioner, Central Provinces, respectively. But on inquiry it was found that the smuggling complained of by the Orissa authorities was not from this presidency. As regards the alleged smuggling from the feudatory States its very existence was not seriously asserted in the complaint and special action was not considered necessary, as the smuggling, if any such existed, was considered of too trifling a nature to render any preventive measures with the consequent expense justifiable.

15. *Sale.*—The sale of intoxicating drugs is, as already pointed out in the introductory remarks, subject to restrictions and placed under control, only those who are licensed vendors being allowed to carry on sales. An exception is, however, made in case of cultivators who are allowed to sell their produce wholesale to persons to whom the privilege of vend has been granted (section 15 of Act I of 1886). Prior to 1st April 1891 and subsequent to 1889 licenses for sale were issued on payment of fixed fees, but this system having been found to entail considerable difficulty and loss of time on Collectors in the choice of applicants and to be unduly advantageous to licensees, it was superseded by the present system of auction sales with the former license fees* as upset prices. In Madras

* Rs. 45 in Madras and Rs. 30 elsewhere. town shopkeepers have also to take out a license on payment of Re. 1 from the Commissioner of Police under Act III of 1888 merely with a view to ensuring good conduct and orderly behaviour in the shops.

16. *Exception of medicated articles.*—Under section 71 of the Madras Abkari Act, the provisions of the Act do not apply to the sale *inter alia* of *bona fide* medicated articles for medicinal purposes by medical practitioners, in which term are included native hakims. No abuse of the privilege has as yet been brought to notice.

17. *Shops.*—Information regarding the number of shops licensed each year from 1889-90 is embodied in the accompanying statement. In fixing the number of shops the Board is chiefly guided by the demand for the drug in the presidency, no more shops being licensed than are absolutely necessary. The question of area and population is considered only as bearing on the probable consumption. No considerations of pushing sales or raising revenue are allowed to operate in fixing the number. The number of shops is first determined by Collectors subject to the Board's approval and no increase to the prescribed number can be sanctioned by them without the special orders of the Board obtained in each case.

18. The sites of shops are as far as possible kept at a distance from market places, bathing ghats, schools, hospitals, places of worship and public resort, and factories. It has also been directed that in cases of alterations in the number or sites of shops in the municipalities a list of the proposed shops with their sites should be forwarded to the Council in sufficient time to admit of its remarks being received and considered; and though in the rural tracts the location of shops is at the discretion of Revenue officers, representations from District or Taluk Boards or Taluk Unions would invariably be received with attention.

19. In licensing shops care is taken to see that the traffic does not drift into the hands of opium contractors and that the grant does not lead to a monopoly in favour of particular individuals. Persons belonging to the same family were also precluded from holding interests in intoxicating drugs within the same district. But when the fixed license-fee system was replaced by the system of auction sales, the restrictions on the grant of licenses to the members of the same family, or such as would have the effect of creating a monopoly in favour of particular individuals, were done away, free competition rendering them no longer necessary. Arrack and toddy renters are, like opium contractors, disqualified from bidding at auction sales.

It may here be observed that in this presidency there is no distinction between wholesale and retail shops, no limit being placed on the quantity that can be sold by licensed vendors of drugs.

20. *Consumption.*—In July 1889 an attempt was made to ascertain the quantity of each kind of intoxicating drug prepared from the hemp plant sold during a period of four months from 1st April 1889, but as the information called for related to a period when the rules regarding the sale of ganja and other intoxicating drugs were but imperfectly known to the people in general, and as it was doubted whether in the majority of shops anything like intelligible accounts were maintained, it was considered by the Board that no definite conclusions could be drawn from the statistics collected as to the extent of consumption in the presidency.

21. The enclosed statement shows the consumption of ganja, bhang, and other intoxicating drugs prepared from the hemp plant during 1892-93. In the existing state of the law, which restricts sale, but not the manufacture, possession, or transport of these drugs, it is unsafe to draw definite conclusions as to consumption. Moreover, the figures given in the statement are entirely based on information furnished by shopkeepers, which is far from reliable in the absence of a definite form of account prescribed for their use. Steps have accordingly been taken in the current year for the supply of the necessary account books to licensed vendors, and Collectors have also been requested to furnish separate figures for sales under the different descriptions of drugs during 1892-93.

22. *Prices.*—Accurate information regarding the prevalent retail prices of the different preparations from the hemp plant is not available at present, but has been called for. A minimum retail selling price of 4 pies per tola has, however, been in force since April 1891.

23. *Revenue.*—No direct duty is imposed on the drug. The only source of revenue is the disposal of the privilege of vend. In 1889-90 and 1890-91 it was collected in the shape of fixed fees from licensed shopkeepers, and from 1st April 1891, when the auction system was introduced, it has been realized by the auction sales of shops.

24. The accompanying statement shows the revenue derived from ganja for the last four years. The increase in 1890-91 was due to the enhancement of license fees in the year, Rs. 30 in the mofussil and Rs. 45 in Madras, against Rs. 15 and Rs. 30 respectively in 1889-90. In 1891-92, the first year of the auction sale system, there was an enormous increase, brought about by reckless bids at the sales owing to ignorance of the true value of shops under the former system. The decrease in 1892-93 is but the natural reaction after the unduly high bids of the previous year.

APPEN

Statistics relating to hemp drugs in the Madras

Year.	Total population according to the census of 1891.	CULTIVATION OF HEMP PLANT FOR NARCOTICS.						AMOUNT OF IMPORTS FROM OTHER PROVINCES IN MAUNDS AND SEERS.				AMOUNT OF EXPORTS TO OTHER PROVINCES IN MAUNDS AND SEERS.				NUMBER OF LICENSES FOR WHOLESALE VEND.				NUMBER OF LICENSES FOR RETAIL VEND.					
		Area under cultivation.			Licenses for cultivation.																				
		Ganja.	Chenaa.	Eleng.	Ganja.	Cheras.	Eleng.																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		Ass.																							
1890-90	35,616,081	*397	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	254
1890-91																								273	
1901-92																									260
1891-92																									240

* Information for other districts
No further information and no informa

DIX.

Presidency for the years 1889-90 to 1892-93.

AMOUNT OF LICENSE FEE.					AMOUNT OF FIXED DUTY.				TOTAL REVENUE.					QUANTITY SOLD (RETAIL.)				Revenue per head of population column 41 + column 2.	Population per retail license column 2 + column 26.	REMARKS.
On ganja.	On cheras.	On blang.	On other preparations of the hemp plant.	Total.	On ganja.	On cheras.	On blang.	On other preparations of the hemp plant.	From ganja.	From cheras.	From blang.	From other preparations of the hemp plant.	Total.	Of ganja.	Of cheras.	Of blang.	Of other preparations of the hemp plant.			
27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	Rs.	Rs.	Rs.	Rs.							Rs.	Rs.	Rs.	Rs.				Seers.	Pie.	
				4,800										4,800					135,400	
				8,805										8,805					130,462	
				51,080										51,080					130,085	
				47,292										47,292				60,930	144,761	

and for other years is not available.
tion prior to 1889-90 are available.

BOMBAY MEMORANDUM.

The system of administration in force in the Bombay Presidency in respect of intoxicating drugs is practically uniform in the mofussil and the town and island of Bombay, but as there are some minor points of detail as to management in the latter, which it is well should be set forth, I append the clear and succinct report of the Collector of Land Revenue, Customs and Opium to explain those.

2. The chief points on which information is required by the Commission are mentioned—

- (a) in the Note attached to the letter from the Secretary, Hemp Drugs Commission, No. 29, dated 11th August 1893—*vide* Government Resolution in the Revenue Department, No. 6123, dated 23rd idem; and
- (b) in the series of questions appended to the letter from the Secretary, No. 34, dated 12th August 1893, furnished with Government Resolution in the Revenue Department, No. 6161, dated 24th idem.

The questions in Chapters I, III, and V are in great measure amplifications of the points noted for report under head (a). Those in Chapter VI will presumably be considered and answered by medical and police experts, while those in Chapter VII relate to the administration, taxation, and control of intoxicating drugs.

3. With reference to the points mentioned in the Note, the first thing necessary, as mentioned in Chapter I, is to distinguish between ganja, bhang, and charas. In the mofussil districts of this presidency there is so little cultivation of the hemp plant, and, comparatively speaking, so small a consumption of the intoxicating drugs prepared therefrom, that but slight attention has been given to the difference between the three. As stated, however, in paragraph 65 of the Abkari Administration Report for 1879-80, "ganja is the flower of the hemp plant and bhang the dried leaves of the same plant," while "charas is the juice." What is recognized as "bharg" in some of the districts consists of the leaves reduced to powder. Charas is practically unknown and unused in the mofussil, and but sparingly in Bombay town. As a rule, therefore, ganja, bhang, and preparations therefrom have heretofore been treated, so far as revenue licenses for import, export, &c., and consumption are concerned, as one and the same thing for statistical purposes. One of the fullest and most interesting reports which I have received is that of Rao Bahadur Rudraganda C. Artal, District Deputy Collector of Bijapur, extracts paragraphs 2—14 of which are appended. It gives a clear account—

- (a) of the cultivation of the plant,
- (b) of the various preparations made from ganja.
- (c) of the purposes for which they are used and the classes of people who use them;

and it forms a valuable contribution to the literature of a subject concerning which but little has hitherto been ascertained in this presidency.

4. Before further discussing the various matters touched upon, I must express regret that it is impossible to obtain the statistics required by the Commission for a period of twenty years—

- 1st, because the administration of this particular branch of revenue has been under control for only thirteen years,
- 2nd, because statistics of the kind required have not heretofore been prescribed, and,
- 3rd, because many of the papers which would have given information have, under standing orders, not been preserved, and during the term of years from 1880 there have been many different farmers in the various districts whose accounts have passed away with their terms of office. Such statistics as are available are supplied in separate tables, but, for the reasons given above, they are not so full or so accurate as is desirable. The plain fact is that in this presidency ganja and the preparations made therefrom have not attracted very much attention either as a source of revenue, or, owing to the comparatively small consumption, as a cause of crime, or as affecting materially the moral or physical well-being of any but a very small proportion of the community.

5. The system of administration is uniform for the whole presidency, the Commissioner of Abkari is the central controlling authority, while in each district it is administered by the Collector and his subordinates in the Revenue and Abkari Departments under the provisions

of the Abkari Act, V of 1878, and the rules published in accordance with sections 27 and 30 thereof under Government Notification in the Revenue Department, No. 4421, dated 23rd August 1880. That notification with the forms attached, of which a copy is appended, gives in a complete and intelligible form the whole system of the administration of revenue from intoxicating drugs. It supplies almost completely answers to points (a) and (c) to (f) in the Note, and such further information as I can give will be supplementary and on matters of detail.

6. Regarding point (b) the information I have received from the various Collectors shows that wild hemp is not found anywhere in the presidency; as a consequence it is not used for the preparation of bhang or other narcotics, and it is therefore unnecessary to control the possession or sale of such drug.

7. Point (c).—The cultivation of hemp is not prohibited by law in any district, though in such districts as produce it there is a certain restriction in that the cultivator has to obtain a permit, for which, however, no fee is required to enable him to dispose of his produce. His cultivation is noted and watched by the village officers, and he cannot dispose of his crop without obtaining the necessary permit. Form B.—The districts in which hemp is grown are Khandesh, Ahmednagar, Satara, Poona, Nasik, and Sholapur in the Deccan, Bijapur in the Southern Maratha Country, and Broach and Surat in Gujarat. The cultivation, however, is on a very limited scale, as will be seen from the following table, which shows the average area under cultivation for past years so far as figures are available:—

		50 acres.	5 years.
Khandesh	...	...	10
Ahmednagar	...	60	10
Satara	...	35	13
Poona	...	3	10
Nasik	...	20 to 5	10
Sholapur	...	2	10
Bijapur	...	3 acres 7 gunthas	5
Broach	...	3	10
Surat	...	16 30	10

The information under this head can be regarded only as approximately accurate, as papers relating to cultivation have not been uniformly preserved, and in several instances, e.g., Satara, the term of thirteen years is broken by an interval of five, previous to 1890-91. From ganja being cultivated almost entirely in districts where the rainfall is from moderate to scanty, it may be inferred that in those where the fall is heavy, such as the Konkan and Kanara, conditions for its growth are unfavourable.

8. Point (c).—The only importers of ganja and other hemp drugs are the licensed retail vendors, i.e., the farmers or contractors for each district or in a few cases each taluka or shop; the arrangements for import, transport, and export are stated in paragraph 3 of the notification mentioned above, and this information may be supplemented by stating that a permit has to be obtained from the Collector, Assistant Collector, or Mamlatdar, according as the drug is to be imported from outside the district, taken from one taluka to another, or from one village to another in the same taluka. When the bhang or ganja arrives it is compared with the pass by the Mamlatdar in the first two cases and by the patil in the third. The retail vendor may store the drug in his own store-room, but the Mamlatdar and Abkari officers go from time to time, and compare the quantities in store with the accounts.

9. Point (c).—The nature of the control exercised over wholesale vendors, i.e., the cultivators of hemp, and retail vendors, i.e., the contractors and their servants, and the system of licensing them have been explained above, and are further shown in the Government notification mentioned in my 5th paragraph.

10. So, too, as regards point (f). The direct tax is the levy of duty on import, transport, and export, the rates of which are specified in the notification aforesaid, viz., Rs. 5 for amounts not exceeding 10 Indian maunds; Re. 1 for every additional 2 Indian maunds or fraction thereof. The indirect tax is the sum paid by the contractor for the right to sell the drug, and that of course varies according to the sums bid in each district. No tax is levied from the wholesale vendors, the cultivators of the plant, and without legislation prohibiting the growth of the plant, I do not think that any tax could be levied, inasmuch as they pay the revenue assessment on their lands. As regards evasion by the farmers or retail sellers, they cannot possibly evade the indirect tax, because until they pay two instalments of the amounts they have bid, they cannot start their business, and if they were to fail in any of their instalments, their licenses to sell would be withdrawn. As to the direct tax, it is equally difficult for them to evade that, seeing the bulky nature of the article, the necessity for getting passes, and the series of examinations to which the consignments and the passes are subject. They have also to keep accounts, which are examined and compared with their stocks from time to time by various Government officers.

11. With reference to point (g), I may say that the retail shops are usually fixed by the Collector of the district with regard to the area and population of the locality and the demand

for the drug, and it will be gathered from what has been said above that the farm for the whole district being as a rule disposed of to a single vendor, the single shops are not sold by auction. In a few districts, however, the practice has been to sell single shops by auction, an upset price being fixed, but that practice has been stopped, and for the future the farm for the whole district will be sold to a single contractor. There is no fixed rule as to "local option." In some districts it is attended to carefully, in others the Collector uses his discretion according to the information he possesses as to the demand, but in all, any representation by the inhabitants for or against the establishment of a shop would have full consideration. Such representations, however, have seldom been made.

12. *Point (h).*—No rate is fixed for the sale of the drug by the wholesale to the retail vendors. That is matter of arrangement between the cultivator who sells his crop and the contractor who buys it. This may perhaps be a suitable place to describe the process of cultivation and manufacture of the plant, and in describing what takes place in Nasik, it will be seen on reading the report of Mr. R. C. Artal, mentioned in paragraph 3 above, that it closely corresponds to the description given thereof in a district so far removed from it as Bijapur. The seed is sown in July or August in black soil land, which is manured. Before sowing the land is ploughed once and harrowed, and during growth the plants are watered and weeded three or four times. Some plants, which apparently are males, seed when they are about a foot high. These have at once to be pulled up, or the whole crop would be rendered useless. Experts are required to distinguish between the male and female plants. The crop is ripe in November-December, and the leaves and flowers are then cut and placed by women on clean threshing floors, where, for 4 or 5 days in succession, they are carefully trodden flat by men, women not being strong or heavy enough for the work, after which process they are packed and ready for sale by the cultivator to the retail vendor. It is very difficult to say accurately what is the average retail price for consumers, as it varies considerably in the different districts, and even in talukas of the same district according to the supply of and demand for the drug. But the following statement compiled from the reports I have received gives such information as is available :—

					Rs. A. P.
Ahmedabad ...	{	Ganja ...	...	...	1 2 0 per lb.
		Bhang ...	...	...	0 6 0 "
Thana ...	{	Ganja ...	...	...	0 1 0 per tola.
Kaira ...	{	Ganja ...	...	...	1 0 0 per lb.
		Bhang ...	...	...	0 4 0 "
Surat ...	{	Ganja ...	...	...	1 0 0 per seer of 37 tolas.
		Bhang ...	...	...	0 6 0 " "
Panch Mahals ...	{	Ganja ...	...	...	1 10 0 " of 80 "
		Bhang ...	...	...	0 10 8 " " "
Broach ...	{	Ganja ...	...	...	1 2 0 " 37 "
		Bhang ...	...	...	0 5 0 " " "
Nasik ...	{	Ganja ...	...	...	2 0 0 " 80 "
		Bhang ...	...	...	2 0 0 " " "
Poona ...	{	Ganja ...	...	...	1 8 0 per lb.
		Bhang ...	...	...	1 8 0 "
Ahmednagar ...	{	Ganja ...	...	...	0 12 0 "
Sholapur ...	{	Ganja ...	...	...	1 0 0 "
		Bhang ...	...	...	1 4 0 "
Khandesh ...	{	Ganja ...	...	...	2 8 0 "
		Ujjaini Bhang ...	...	...	1 4 0 "
Satara ...	{	Ganja ...	...	...	0 3 0 "
Bijapur ...	{	One <i>paisa</i> equivalent weight of ganja or bhang.			
Dharwar ...	{	Ganja ...	...	...	1 0 0 "
		Bhang ...	...	...	1 0 0 "
Belgaum ...	{	Ganja ...	...	...	1 4 0 "
		Bhang ...	...	...	1 8 0 "

From the above it will be observed that local ganja varies from Re. 0-3-0 to Rs. 2-8-0 per lb., that bhang is considerably cheaper, but that in Khandesh local ganja runs as high as Rs. 2-8-0 per lb., the same price as bhang imported from Ujjain, and that even the locally made bhang is dearer there than ganja in most other districts.

13. *Point (i).*—The maximum quantity fixed for retail sale to and possession by one person, consumer, is 40 tolas, throughout the province, and no minimum price is fixed for the drug. That is a matter which is left to the natural law of supply and demand, and few complaints have been made regarding excessive prices. Such complaints have not infrequently been made about the price of country spirit and toddy, and the absence thereof with reference to hemp-drugs indicates not only that there is no dissatisfaction on this score, but that there is, as a rule, so small a demand for these drugs that the general public are indifferent in the matter.

14. *Point (j).*—The reports I have received from all districts are unanimous in saying that smuggling of these drugs is to all intents and purposes unknown. Illicit cultivation, sale, and possession may also be said not to exist. There is no reason why there should be illicit cultivation, and the crop itself is not a popular one with the cultivator as is shown by the areas under cultivation. The Collector of Khandesh reports that the area so cropped is declining and the reason is not far to seek. As the Collector of Surat puts it—"now that the sale and transport have been brought under control, only wholesale sale is allowed, and that to the licensed farmers. As ganja and bhang soon deteriorate if kept, the result is that no one grows the plant unless he has a previous contract with a purchaser. The area under the plant is confined to two or three villages, and does not extend to more than 15 to 20 acres. It is said to have been much diminished since the arrangements of 1880." The general measures taken to prevent smuggling and illicit cultivation have been indicated in previous paragraphs, i.e., the growing crops are known and watched; the cultivator cannot sell his crop save under permit and to specified persons; the Revenue, Abkari, and Police officers are entitled to examine consignments and passes for import, transport, and export; the article itself is so comparatively bulky that it could not easily escape detection by one or other of the establishments; and finally there is no such great demand for it, or so heavy duty imposed thereon, as to induce people to run the risk of detection in illicit practices.

15. *Point (k).*—I am not aware of any modifications of the present system in respect to hemp-drugs being under consideration. I cannot see that any are urgently called for. The total revenue is small, mainly because the demand for these drugs is small, and it is easily collected. No hardship is caused either to the wholesale seller, the cultivator of the crop, the retail seller, or the consumer. No hindrance is put in the way of legitimately supplying what is an undoubted want of certain classes, no encouragement is given for excessive production, and no inducement is held out to smugglers or others to indulge in illicit practices to meet the demand for the drug. So far as this presidency is concerned, the system which was devised 13 years ago has been successful in every way as I have endeavoured to show above.

As to *Point (l)* I have in the previous paragraphs shown the extent of cultivation, and in some measure the sources of retail supply. The latter I may recapitulate as (a) the crop grown in the districts mentioned in paragraph 7 so far as it is available, and (b) the imports from the Central Provinces, small quantities from Palanpur and from Amritsar and Hoshiarpur in Northern India. The other details called for, so far as I am able to give them, will be found in the appended statement (5), under which I have entered explanatory remarks to prevent misconception of certain of the figures.

17. Turning now to the list of questions under head (b) of my 2nd paragraph, I may note that I have answered many of them in the course of this paper, and I propose therefore to refer briefly to a few only of those in Chapter V and those in Chapter VII.

Questions 23-29.—I do not gather from the information before me that bhang is smoked either in the mofussil or in Bombay City, and it appears to me, with deference, that the replies to Questions 24, 26, 28 must in the absence of a careful census be conjectural and untrustworthy. This applies also in great measure to Question 25, and although the figures of revenue from intoxicating drugs may show an apparent increase, they have to be taken with caution, as the census of 1891 shows a considerable increase of population from 1881 and the percentage of ganja consumers as ascertained from the revenue is a very doubtful factor on which to base increase or decrease. The answer to Question 31 is also purely a matter of opinion, and personal experience, either of drug consumers themselves or of those closely associated with them is necessary to answer it.

Question 32.—An interesting and curious religious custom prevails in part of Gujarat Kaira, and probably Ahmedabad, where there are many Nagar Brahmans, which is thus described by Mr. B. E. Modi, the District Deputy Collector of Kaira: "On the Shivaratri day (the last day but one of the month of Maha), sacred to the god Mahadev or Shankar, bhang water is freely poured over the 'lingam.' Mahadev is an ascetic, and is fond of bhang, and on this day it is considered a religious duty to offer him his favourite drink. From this day until the 11th day of Ashad, on which day gods go to sleep, water is kept constantly

dripping upon the 'lingam' of Mahadev from an earthen pot kept over it." Mr. Campbell, in paragraph 9 of his report, also alludes to the special consumption of bhang at the Shivaratri festival. The information that I have received from all districts in the presidency shows that moderate consumption of bhang mixed with water, milk, sugar, and spices into a cooling drink during the hot weather is a common practice amongst the fairly well-to-do classes, both of Hindus and Musalmans, and that (Question 33) it is not regarded as otherwise than respectable, it being a not unusual form of refreshment to offer to guests.

Questions 34-36.—I have every reason to believe that it would be a serious privation to consumers to forego the use of the drug to which they are accustomed. Mr. Campbell has referred to this in his report, and he is confirmed by every Collector who has written on the subject. Ascetics, both Hindu and Musalman, are amongst the chief consumers; they have considerable influence amongst large bodies of the lower classes, who on visiting them from time to time themselves partake either of ganja or bhang without, so far as I can gather, suffering injury therefrom. If the ascetics were deprived of what they regard as a solace from many of the ills that flesh is heir to, they would scarcely refrain from expressing their sentiments very freely, and impressing their own opinions on their visitors. It would of course be possible to forbid and prevent in great measure the use of any of the drugs, but I have no doubt whatever that serious discontent, which might easily amount to political danger, would be caused by such prohibition, and by interference with the customs of men who are universally regarded, by the uneducated classes at least, as specially holy. It is not improbable that prohibition of the use of these drugs would stimulate the consumption of alcohol and opium, although I do not think there is any cause to believe that alcohol is taking their place at present. There is no reason why it should.

18. With regard to the questions in Chapter VII, I have already said above in paragraph 15 that I consider the present system to be working well, and have given reasons for that opinion. It may be capable of improvement, but I am unable to offer any suggestions in that direction either as regards the cultivation and preparation of the hemp plant, its control of the present system of wholesale and retail vend, export, transport, import, or taxation. Nor does it seem to me necessary that there should be different rates of taxation for different kinds of ganja. The whole trade is too trivial to bear minute detailed taxation, so far as this presidency is concerned. Such taxation would cause harassing interference and vexation, and would result in no corresponding benefit either to the public or to the Government revenues. There are not, so far as I can ascertain, houses or shops licensed in this presidency for the sale of these drugs or their preparations, where they may be consumed on the premises, and in my opinion the grant of such licenses would be most objectionable.

T. D. MACKENZIE,

Commissioner of Customs, Salt, Opium, and Akhari.

Extract paragraphs 9 to 14 from the letter No. 562, dated 30th August 1893, from the District Deputy Collector of Bijapur.

"2. The hemp plant known as ganja is only grown in the town of Bijapur and nowhere else in the talukas under my charge. It is a domesticated plant, and does not grow wild here, and, as far as I know, nowhere in the Southern Maratha Country.

Mode of Cultivation.

"3. It is grown generally as an irrigated crop, either in red or loamy soil well manured. The land is tilled once or twice, and then it is ploughed with a heavy hoe called 'ukki-kunti' and levelled. It is afterwards sown through a seed drill, the process of sowing resembling in every respect the sowing of ordinary jowari, the space left between the rows of crops being wider. A leveller called 'dindu' is then driven over the sown area with a view to get the seeds covered over with earth. The seeds required are brought from Ahmednagar and Indore in Central India. It is said that the seeds from the latter are of a superior quality than those obtainable from the former place. As a rule the sowing takes place in July or August, and the crops are reaped within about four months from the date of sowing. If the rainfall is not sufficient, then the crop has to be watered once or twice a week. Hand-weeding is mostly resorted to in addition to the use of grubber or yedi-kunti (small hoe) with a view to get rid of the grass or other weeds growing between the rows of crops. By the driving of the yedi-kunti loose surface earth also accumulates at the roots of plants. This process partly serves in keeping up moisture in the earth. When the plants grow to a height of about two feet, the operations of selecting and uprooting the male plants commence, the female plants only, as far as possible, being allowed to remain and grow to maturity. This selection can only be made by an expert called 'Parakhi,' and if after great care any male or staminate plants escape attention, and are allowed to grow, there is every fear of the entire crop being damaged. The female plants are said to be so sensitive that if, perchance, male ones are allowed to grow even altogether in a separate plot of ground situated in a windward position,

to the crops, almost all the female plants run into seeds, damaging the crops to a great extent. I am informed that separate plots of grounds were selected for growing the seeds. The experts always walk through the crops, up-rooting the male plants, and this continues up to the time the crop is harvested and gathered. The owner of the ganja farm here has secured the services of an expert from Lengri, a village in the Khanapur Taluka of the Sarara district, where the drug is grown on a large scale. Here the plants grow to a height of about 6 to 8 feet. In the fourth month the side pods and the leaves are stripped off with hands, and the crown pods are cut with a knife or a scythe. The pods and the leaves thus collected are stacked in a place, and are trodden while in green state for three or four days, and when dried they are winnowed and the pods are thus separated from the leaves; this latter stuff is called bhang-powder. The experts say that it is impossible to select the seeds which produce male plants. The plant is grown in this part of the country as a narcotic drug and not as a fibre plant.

"4. The farm at Bijapur produced about 60 bags of ganja, each containing four maunds (a maund is equal to 960 tolas), worth about Rs. 180 in 1891. In the following year (1892) the yield was about four hundred maunds, worth about Rs. 800 after deducting the necessary expenses incurred in raising the crop, &c. The area sown was about 13 acres.

"5. The purposes for which the drug and its by-products are used.

Ganja.

"Almost all the quantity of pods known as ganja is used up in smoking. Three to eight pods are smoked mixed with ordinary tobacco. The process of preparing the drug for the purpose of smoking consists in soaking the pods in cold water for a few minutes; they are then separated from the little stalks, and the seeds, if there be any, are thrown away. The pods thus soaked and cleaned are rubbed on the palm of the left hand with the right thumb for about a quarter of an hour, a small quantity of cold water being poured on it at short intervals and squeezed out. This rubbing is continued until the stuff gets sticky, and when this condition is obtained it is mixed with ordinary tobacco and smoked. The intoxicating property of the drug increases with the length of the time spent in rubbing it. The drug is also smoked as a medicine to check indigestion, especially in out-of-the-way places where medical aid is not available. It is largely used by the following classes of people:—

- (1) Hindu ascetics such as bairāgis, gosāvis, and mendicants and Mahomedan fakirs and mendicants as a class;
- (2) and to a great extent weavers, drummers, fiddlers, the gavayis (singers), and to some extent day-labourers and also a very low class of prostitutes.

"6. It is administered mixed in sugar by professional thieves to travellers, &c., with a view to make them insensible and then rob them of their property. The drugged sugar is prepared as follows:—

Ganja is mixed with *madan-masta*, *madan-kamsi*, and the seeds of black *dhatūra* trees (all medicinal plants). All these ingredients are reduced to fine powder. A tola weight of this powder is mixed up in a *kacha* seer of sugar, and then administered as *Dew-prasad*. This sort of use of the drug, as far as I know, is resorted to at big fairs by professional thieves, though now on a very small scale, in this part of the country; but the extent to which it was administered with impunity by a Mahomedan and his companions some years ago in the Belgaum district can be seen by a reference to the confessions recorded by the Superintendent of the Operations for the suppression of the Thuggee and Dacoity Department, and printed at pages 49 to 67 of the book called 'Selections from the Records of Government in the Police Branch of the Judicial Department, No. I of 1853, Old Series.'

"7. Charas is one of the by-products of the hemp plant. It is the exudation of the flowers, leaves, young twigs, and barks of the stems. It is a resinous substance which accumulates itself on the palms of hands and fingers when stripping off the pods and leaves, and is scraped off and made into small balls. This narcotic is produced on a very small scale in this part of the country, and is smoked mixed up with ordinary tobacco. It is said that this stuff is more intoxicating than ganja, and being costly is rarely used.

8. The uses of bhang as an intoxicating drink:—

Ghata.

"This drink is prepared as follows:—Some quantity of bhang powder is slightly parched in the first instance, and is then carefully washed to remove impurities from it. It is then ground on a stone mixed with water. The stuff thus prepared is strained. The liquid is then mixed with the powder of black-pepper, poppy, and anise-seeds and other spices according to the taste and means of the drinkers. Jaggery or sugar and milk are also added to the preparation, and it is drunk both by the rich and poor as a cool beverage, especially during the hot season. This drink is not considered injurious to health. The *fakirs* and mendicants have special liking for this beverage.

Boja.

"9. This is one of the intoxicating preparations in which bhang powder has to be used. It is prepared as follows:—Ordinary jowari flour is soaked in water for a night, which is boiled the next morning, and the kosht-kolanjan (the roots of *Costus Arabicus*), kuchla (*Nuz vomica*), and bhang powder are then mixed in it. Some mix the powder of the roots of acnite with a view to increase the strength of the drink. The mixture thus prepared is then spread on a mat and allowed to dry in the shade. This stuff is called 'kanya.' A second preparation, called mávyáche peith, is next prepared. Best sort of jowari is soaked in water for 11 days until the grain germinates. The jowari is then dried in the sun and ground into fine flour. The two stuffs, viz., kanya and mávyáche peith, when proportionately mixed up, produce a fluid substance like nuchhu, the common staple food of all classes of people in this part of the country. This fluid substance is then stored up in a big earthen vessel called ráñjan and allowed to ferment therein. A small quantity of this preparation is mixed with water, which is strained and drunk. No sugar or jaggery is used in preparing this drink. It produces a strong intoxication to such an extent that the customers seldom leave the premises of shops, but lie down there quietly until the intoxication subsides. The drink has a very sour smell, and is used only during the hot season. It is sold in common earthen pots called 'moghas.' I am further informed that the contractors, with a view to make good profits out of their farm, buy deteriorated or rotten jowari for preparing the stuff called 'kanya.' Boja farm has not been sold in the district, nor do I hear of any people of any class resorting to this drink.

"10. Majun, commonly called 'májum,' is another preparation of bhang and is prepared in small cakes. Its preparation is as follows:—Ghi is allowed to boil in water for three days and is then mixed with bhang powder and boiled. When boiling it a second time, some quantity of ghi is added to the preparation, and while it is lukewarm, spices, such as cardamoms, saffron, dried ginger, sugar or jaggery, &c., are put in. The stuff thus prepared is then poured in a tray, and when cooled is cut into small cakes. It is used by both Hindus and Mahomedans, who are generally addicted to the vice. It is given occasionally to the sick as a sleeping draught, especially in small villages where medical aid is not available. Some use it as a nervine tonic.

Fakki.

"11. This preparation is in the form of a powder and is prepared as follows:—Bhang powder is carefully washed in the first instance. A very small quantity of ghi is put in it and is slightly parched on a frying pan. The stuff is then reduced to fine powder, which is mixed with poppy-seeds and sugar. It is used chiefly by Mahomedans and other people who are given up to the vice.

"12. Bhang powder is also given, especially to plough cattle, as a tonic or preventive against inclement weather in the Mallad part of the country (i.e., districts situated close to the Sayhadri ranges). In a like manner it is also given in various forms to horses.

The use of the seed.

"13. Oil is extracted from the ganja seeds just as that from the safflower and other oil seeds. Generally the oil is used for burning lamps, but when fresh it is also used, however very rarely, for culinary purposes.

"14. Chutney is also made from the seeds. For this purpose the seeds are slightly parched and mixed with chilly, salt, and other spices. The several ingredients are then well pounded and used as chutney with bread. It has a good taste. The seeds form one of the ingredients in native tonic medicines prepared by native doctors."

No. $\frac{A}{325}$, dated the 1st September 1893.

From—J. M. CAMPBELL, Esq., C.I.E., Collector of Land Revenue, Customs, and Opium, Bombay.

To—The Hon'ble T. D. MACKENZIE, Commissioner of Customs, Salt, Opium, and Abkari.

With reference to your letter No. 8741, dated the 21st July last, I have the honour to report that the preparations of hemp known as ganja, bhang, and charas are consumed in the town and island of Bombay.

2. The hemp plant from which these drugs are obtained is not cultivated in the island of Bombay. Ganja is procured from the Deccan, chiefly from Ahinednagar, Nasik, and Satara; bhang from Surat and Palanpur in North Gujarat; and charas from Amritsar and Hoshiarpur in Northern India.

3. As the hemp plant is not grown in Bombay, I trust I am right in thinking that any account of the cultivation or process of manufacture, would be out of place in the present report.

Except a few women of loose character, the consumption of hemp-drugs is confined in to the male portions of the Hindu and Mahomedan communities. Ganja and re smoked with tobacco in the ordinary pipes or chilams; bhang and garda, the drop-ganja, are drunk mixed with various spices; and the sweetmeats, májum, yácuti, and whose intoxicating qualities are due to the presence of bhang or garda, are eaten. Variation and sale of bálagolis, or children's pills, made with ganja instead of with s now prohibited.

Ganja is smoked by Mahomedans of the working class, by *fatirs* or Mahomedan beg-d by Hindu *rodhus* or ascetics, and labourers. Charas is smoked by Pathans, *fakirs*, and people from Northern India. Bhang and garda are drunk by Mahomedans, and Hindus by Brahmans, Banias, Bhatias, and other classes to whom their caste rules the use of spirits. The sweetmeats májum, yácuti, and gulkand are eaten chiefly by from Northern India. Garda is at times given to buffaloes and bhang to horses as a Except with the limitations of high caste and ascetic, bhang can hardly in Bombay be described as the poor man's narcotic.

From the fairly trustworthy figures given in the statement marked A* it will be seen out 345 Indian maunds of ganja and garda, about 48½ Indian maunds of bhang, about a maunds of charas, and 29½ Indian maunds of májum, yácuti, and gulkand are consumed in this collectorate. For the total male population of Hindus and Musalmans did give an average yearly consumption per head of 2.50 tolas of ganja and garda, .85 bhang, .05 tolas of charas, and .21 tolas of májum, yácuti, and gulkand. It is to be red that habitual indulgence in these drugs is confined to a comparatively small number, and that the very great majority of Hindus and Mahomedans either never use at all or only occasionally consume bhang and garda in the form of a drink.

The number of persons who habitually consume hemp-drugs in the island of Bombay ated at nearly 3,000. 2,000 of this number are put down as ganja smokers, 400 as drinkers, 300 as garda drinkers, 100 as charas smokers, and 25 as daily consumers of yácuti, or gulkand. According to this estimate habitual consumers amount to 0.36 of the total population of the island and to .68 per cent. of the total males of the and Mahomedan communities.

The occasional or moderate use of hemp-drugs is believed not to be physically harmful. moderate use of these drugs gives rise to affections of the lungs, bowels, eye, and brain. king of ganja, still more the smoking of charas, is considered the most baneful, and the g of bhang and garda the least harmful form in which hemp is used. Hemp-drugs are d as at once stimulating and sedative. They are said to have an exhilarating effect, to he imagination, to freshen the appetite, and to act as an aphrodisiac; excessive induln their use leads to indigestion, wasting, dropsy, impotence, melancholia, and in-ex-ases, chiefly of charas and ganja smoking, even to insanity.

I see little reason to doubt that the prohibition or even the stringent restriction of the hemp-drugs would be resented by the people as an unjustifiable interference with their customs, and would give rise to discontent. Ascetics, both Hindu and Mahomedan, drugs largely, and these men are regarded with veneration by, and have influence over rable sections of the people. Though the inveterate or excessive use of these drugs is creditable, the occasional observance of the practice is not open to censure. The use of is closely connected with the worship of the god Shiva or Mahadev. On Maha Shiv- is great night of Shiva in February, on the Mondays of August-September or *Shravan*, the spring festival of Shimga, the drinking of bhang, if not a binding, is an approved al practice.

. If the use of hemp-drugs was prohibited, I think it pretty certain that many habitual ne occasional consumers would be driven to the use either of spirits or of opium.

. In the town and island of Bombay the right to sell hemp-drugs is put to public by the Collector, and with the sanction of the Commissioner of Customs, Salt, Opium, kari, is sold to the highest approved bidder. Notice that the right is to be put to auction is given by advertisement in the *Bombay Government Gazette* and in some of d newspapers. Printed slips are also circulated for the information of the Collectors of f the districts in the presidency. The right is usually sold for a term of three years. of the conditions under which the farm was last sold is forwarded, marked B.*

. A license under the Bombay Abkari Act (Act V of 1878) is granted to the farmer, a which is forwarded, marked C.* The main heads of the license are:—

- (1) That the farmer shall pay monthly in advance $\frac{1}{12}$ th of the annual sum for which he has bought the right.
- (2) That all risks of loss shall be borne by the farmer, and that he shall pay regularly all sums due.

* Not printed.

- (3) That he shall keep shops only at places sanctioned by the Collector; that he will keep his shops open during authorized hours; and that he will open a new shop when required by the Collector.
- (4) That he will make his own arrangements for obtaining supplies of drugs, purchasing from licensed persons only, and obtaining the necessary permits for the import or transport of the drugs. That he will keep such minimum stocks of drugs in his shops as the Collector may direct.
- (5) That he will not sell drugs of bad quality likely to be obnoxious to the health of consumers. That he will not keep or sell balagolis or children's pills.
- (6) That any stocks of drugs remaining on hand on the expiry of the license shall become the property of Government.
- (7) That the farmer will keep and sell drugs at sanctioned shops only.
- (8) That he will furnish the Collector with the names of his servants, and give them service certificates or *nokarnamas* (blank form, marked D,* herewith forwarded) countersigned by the Collector, with the clauses of the license relating to the keeping of shops attached, and that he will dismiss any servant when required by the Collector.
- (9) That he will not sell more than 40 tolas of drugs to any one person on the same day.
- (10) That he will not receive any articles in barter for drugs.
- (11) That he will not open his shops before sunrise, and that he will close them at 11 P.M. That he will close his shops when ordered to do so by the Collector or Police Commissioner, and of his own accord during a disturbance or riot.
- (12) That he will prevent gaming and disorderly conduct in his shops, and will not allow notoriously bad characters to frequent them. That he will give information of suspected characters to a Magistrate or to the police.
- (13) That he will fix signboards at his shops.
- (14) That he will keep at his shops accounts of the receipts and sales of drugs, and produce these accounts whenever required; that he will furnish all returns and information required by the Collector.
- (15) That he shall use such weights and measures as the Collector may prescribe, and have them tested and stamped at his own expense at the Collector's office.
- (16) That he will not admit partners into his business without the permission of the Collector in writing.
- (17) That his license may be recalled for default in the punctual payment of duty, or for infringement by himself or by any of his servants of any of the conditions of the license, or for any breach of the Abkari law. If the license is recalled, the Collector may dispose of it or not as he thinks fit, and that the licensee shall continue to be responsible for the instalments of duty. If the right of vend is transferred, the original licensee shall receive credit for payments by the new licensee up to the amount of duty still payable by the original licensee. He shall have no claim to profits made by the transfer.

13. Except that when purchasing in the Bombay Presidency, he must buy from a licensed seller, the farmer makes his own arrangements for obtaining supplies of the drugs. When he wishes to bring the drug to Bombay, the farmer makes a written application to the Collector, when an import or transport permit (forms forwarded marked respectively E* and F*) is granted on payment of the duty sanctioned, *viz.*:

If the quantity of the drug does not exceed 10 Indian maunds ... Rs. 5
For every additional 2 Indian maunds or fraction thereof ... Rs. 1

A copy of the permit granted is sent by post to the Collector of the district from which the drug is to be brought.

14. On the arrival of the drugs in Bombay, a Sub-Inspector of the Abkari Department attends at the railway station, checks the weight of the packages, and if found correct, escorts the packages to the farmer's godown. From the godown the farmer sends the drugs to his shops under permits, a copy of which is forwarded, marked G.*

* Not printed.

15. The statement marked H* shows the number of hemp-drug shops open in Bombay during each of the last five revenue years. The shops are shown in two classes:

- (a) those in which drugs are sold but not consumed on the premises, and
- (b) those in which drugs are sold and consumed on the premises.

In the greater number of shops under the (a) or drug-selling class the business of selling drugs is combined with the sale of tobacco and *pān-sūpari*.

The (b) or drug-consuming shops are places used solely for the sale and consumption of hemp-drugs.

16. Before a new shop can be opened, or an old shop be transferred from one place to another, the farmer must obtain the Collector's sanction. No opening of a fresh shop is allowed if the residents in the neighbourhood offer reasonable objections.

17. The Police Commissioner grants the police license required under Bombay Act XLVIII of 1860 for (b) or drug-consuming shops on payment of a nominal yearly fee of Re. (1) one. For the opening of a new or the transfer of an old drug-consuming shop the previous approval of the Police Commissioner is also necessary. From the beginning of the current revenue year 72 hemp-drug shops have been open, of which 52 come under class (a) or drug-selling and 20 under class (b) or drug-consuming.

18. As the sole right of sale within the island belongs to the farmer, no wholesale drug shops occur in Bombay. Under a license granted by the Collector the farmer issues to his nominees *nokarnamas* or service certificates countersigned by the Collector. In these service certificates all the provisions of the license relating to the working of the shops are embodied.

19. The Bombay farmer is not required to sell drugs at any fixed price. The following table shows the present rates at which the farmer sells the different drugs to his nominees and the rates at which his nominees retail them to the public:—

Wholesale and Retail Rates, 1903.

Drug.	Quantity.	Price.		Remarks.
		Wholesale.	Retail.	
		Rs. A. P.	Rs. A. P.	
Ganja	Pound of 40 tolas.	2 8 0 to 3 0 0	3 9 0	
Bhang	Ditto	0 12 0	0 14 3	
Charas	Ditto	7 8 0	10 0 0	
Garda	Ditto	0 4 6 to 0 5 0	0 5 9	
Majum	Ditto	0 14 0	1 4 0	

That is, the retail prices show an increase of 15 to 42 per cent. over the wholesale or farmer's prices.

20. In Bombay no limit is set to the number of drug shops the farmer may open with the sanction of the Collector and Police Commissioner. In practice any increase in the number of shops is discouraged. The farmer would find it difficult to obtain sanction to the opening of a new shop, especially to a shop of the drug-consuming class. The shops are located in parts of the town where the drugs are in demand, that is, as a rule, in the most thickly peopled parts of the town.

21. Except by such special order as is contemplated under section 17 of the Abkari Act the ninth condition of his license prevents the farmer selling to the same person on the same day more than 40 tolas of any hemp-drug. Applications for such special orders are unknown. No case is on record of any one requiring more than 40 tolas of a drug for his own use during a single day. The possession of more than 40 tolas of a drug by one person, except under the authority of a permit, is also illegal.

22. The statement marked I* shows for each of the past five years the quantities of drugs brought into Bombay by the farmer for local sale. In comparing these figures with those

* Not printed.

given in statement A* considerable deductions from the I figures must be made for wastage and loss on account of spoiled drugs. From time to time quantities of these drugs are destroyed under the supervision of Abkari officers as unfit for sale. The quantities reported by the farmer to have been consumed in the island during the last two years are believed to be fairly correct.

23. The statement marked J* shows the total revenue derived from hemp-drugs during each of the past five revenue years. A comparison of the figures given in table J* with those in table I* shows for the five years that the incidence of duty on these drugs, excluding those used in the medicinal preparations, extract *Cannabis Indica*, amounts to Rs. 87.4 the Indian maund, that is, nearly Rs. 2.2 the seer. The largest item of revenue is the license fee. This has steadily increased for each successive term for which the license has been granted. For the present term, starting from 1st August 1893, the annual license fee payable is Rs. 48,000, that is, Rs. 8,500 more than the same fee paid for the previous term of three years.

24. The statement marked K* shows the exports of drugs by sea during the past five years. When drugs arrive by rail for export by sea, the weight of the packages is checked by an Abkari officer at the railway station. If the weight is found correct, the officer escorts the package to the docks or bandar and hands them to the Port Trust or Customs authorities. If the drugs arrive by water for transshipment and export, the Customs authorities supervise and allow the transshipment after the Abkari Department have endorsed on the covering permit that the transshipment is free from objection. The figures under "British Indian Ports" indicate exports to ports in British territory. Those under "Foreign Indian Ports" relate to ports within the limits of Native States.

25. The smuggling of hemp-drugs into Bombay cannot at present be said to prevail to any extent. *Bona fide* travellers may bring into Bombay 10 tolas of drugs from places without the presidency, and any person may bring 40 tolas of drugs into Bombay from a place within the presidency. The Abkari and Opium Departments have special establishments who watch the railway lines for smugglers. The Customs Department guard the sea front of the island. The present Bombay farmer also holds the hemp-drugs farm in the Thana district, and regulates the prices at Bandra, Kurla, and Thana so as to discourage people running out by rail to these places and bringing back with them less than 40 tolas of a drug.

26. The table marked L* shows the admissions to the Colaba Lunatic Asylum during each of the five years ending 1892-93 and the causes of insanity so far as they have been ascertained.

Colaba Lunatic Asylum. Cause of Admission, 1888-1893.

Admissions.	DUE TO INTOXICATION.			
	Hemp drugs.	Spirits.	Opium.	Other intoxicants.
774	62	79	8	1
	Percentage on total admissions.			
	8.0	10.2	1.0	0.1

Compared with eight from opium, sixty-two is a heavy total from hemp-drugs. Considering how comparatively few persons use the drug, sixty-two is also large compared with seventy-nine from spirits. Of the sixty-two admissions due to the excessive use of hemp-drugs all but four, two from bhang and two from charas, are ascribed to ganja-smoking. It is perhaps doubtful whether some entered as ganja smokers were not actually charas smokers. In any case the number of smokers of charas is small compared to the drinkers of bhang. It follows, and this agrees with all other received information, that the drinking of bhang is comparatively a harmless practice.

27. The import, export, transport, manufacture, sale, and possession of intoxicating drugs other than opium are regulated by the Bombay Abkari Act, No. V of 1878, and the rules and notifications published under that Act. Subject to the control and direction of the Commissioner of Customs, Salt, Opium, and Abkari, the Collector of Land Revenue, Customs, and Opium is charged with the collection of abkari revenue, and with the carrying out of the provisions of the Abkari Act in Bombay. In addition to its other abkari duties the Collector's abkari establishment is engaged in preventing the smuggling of hemp-drugs and their illicit sale within the island. Under the orders of the Collector, the Abkari officers also see that the farmer

* Not printed.

of intoxicating drugs pays punctually the sums due by him and that his shops are conducted in accordance with his license conditions. They check shop accounts, and exercise a general supervision and control over all matters relating to the possession and sale of hemp-drugs.

28. In conclusion I would beg to state that in this report I have endeavoured to include replies to the questions in the note attached to Government Resolution, Revenue Department, No. 6123, dated the 23rd August. Further report will, as early as possible, be submitted in connection with the schedule received with the said Government Resolution.

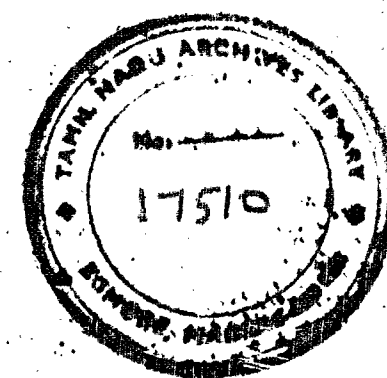
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Statistics relating to hemp-drugs for

Year.	Total population.	CULTIVATION OF HEMP PLANT FOR NARCOTICS.						AMOUNT OF IMPORTS FROM OTHER PROVINCES IN MAUNDS AND SEER.				AMOUNT OF EXPORTS TO OTHER PROVINCES IN MAUNDS AND SEER.				NUMBER OF LICENSES FOR WHOLESALE VAND.				NUMBER OF LICENSES FOR RETAIL VAND.						
		Area under cultivation.			Licenses for cultivation.			Of ganja.	Of charas.	Of bang.	Of other preparations of the hemp plant.	Of ganja.	Of charas.	Of bang.	Of other preparations of the hemp plant.	Of ganja.	Of charas.	Of bang.	Of other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bang.	Of other preparations of the hemp plant.	Total.	
		Ganja.	Charas.	Bhang.	Ganja.	Charas.	Bhang.																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
		A. G.		A. G.				Mds. s.	Mds. s.	Mds. s.	Mds. s.	Mds. s.	Mds. s.	Mds. s.	Mds. s.											
1873-74	14,057,543	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	5	233	...	...	...	2	284
1874-75	14,057,543	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	...	...	...	12	300	...	...	...	5	311
1875-76	14,057,543	540 25	...	...	...	...	...	...	...	...	...	...	...	...	...	15	...	...	...	15	268	...	...	1	7	332
1876-77	14,057,543	950 5	...	...	...	...	...	47 0	...	...	...	...	...	...	...	17	...	...	...	17	250	...	...	...	6	321
1877-78	14,057,543	598 18	...	...	...	...	...	47 0	...	...	...	...	...	...	...	14	...	...	...	14	291	...	...	...	10	308
1878-79	14,057,543	1,012 12	...	...	...	...	...	47 0	...	...	...	...	...	...	...	15	...	...	...	15	318	...	...	...	20	402
1879-80	14,057,543	605 20	...	...	...	...	...	47 0	...	...	...	...	...	...	...	9	...	...	...	9	224	...	...	...	15	472
1880-81	14,057,543	493 30	...	...	...	...	...	47 0	...	...	...	...	...	...	...	5	...	...	...	5	248	...	...	...	14	400
1881-82	14,100,861	1,700 2	...	...	...	...	...	691 9	8 32	84 30	...	3,330 20	11 32	2 10	...	13	...	...	...	13	218	...	...	...	18	416
1882-83	14,100,861	602 28	...	...	...	...	...	454 22	1 17	...	...	4,034 0	2 9	...	...	34	...	1	...	35	238	...	...	...	12	404
1883-84	14,100,861	813 14	0 24	...	...	...	...	475 3	15 0	51 0	...	2,575 0	0 1	1 7	...	11	...	...	...	11	249	...	...	...	9	303
1884-85	14,100,861	921 20	5 0	...	...	...	...	1,124 3	...	0 30	...	3,451 4	...	...	...	21	...	...	...	21	231	...	...	...	8	377
1885-86	14,100,861	1,121 38	0 19	...	...	...	...	2,481 20	5 0	1 35	...	4,812 0	...	...	...	30	...	...	...	30	228	...	...	...	10	308
1886-87	14,100,861	872 36	...	...	...	...	...	2,108 34	19 0	77 21	...	3,450 21	...	0 5	...	27	...	...	...	27	224	...	...	...	1	354
1887-88	14,100,861	703 2	...	...	...	179	...	1,825 21	13 0	134 12	...	3,633 0	...	...	...	31	...	...	...	31	220	...	...	...	11	363
1888-89	14,100,861	354 32	0 29	86	...	...	...	2,068 24	13 0	64 2	...	2,126 10	...	...	...	61	...	...	...	64	241	...	...	...	14	361
1889-90	14,100,861	953 29	...	...	...	210	...	2,190 32	...	94 16	0 26	3,151 27	...	...	...	54	...	...	...	54	234	...	...	...	15	374
1890-91	14,100,861	1,191 4	0 8	1	...	...	...	1,711 17	6 0	282 17	0 33	3,679 23	...	20 0	...	584	...	...	...	584	226	...	...	...	18	383
1891-92	16,018,190	1,089 32	...	...	...	1	...	2,123 9	6 0	59 26	1 8	3,345 30	...	...	...	618	...	...	...	618	230	...	...	...	19	387
1892-93	16,018,190	780 9	0 29	2	...	...	...	1,706 0	6 0	133 21	3 37	5,395 28	...	10 0	5 0	444	...	1	...	445	222	...	...	...	12	368

ears from 1873-74 to 1893-93.

AMOUNT OF LICENSE FEES.					AMOUNT OF FIXED DUTY.					TOTAL REVENUE.					QUANTITY SOLD (RETAIL).					Revenue per head of population, column 41 + column 2.	Population per retail license, column 2 + column 26.	Remarks.
On charas.	On bang.	On other preparations of the hemp plant.	Total.	On ganja.	On charas.	On bang.	On other preparations of the hemp plant.	Total.	From ganja.	From charas.	From bang.	From other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bang.	Of other preparations of the hemp plant.					
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Mds. s.	Mds. s.	Mds. s.	Mds. s.	Mds.				
250	...	...	8,220	...	...	...	...	...	11,447	...	...	...	51,531	...	...	...	...	0 7	49,495	Though columns 26, 31, 36, and 41, each of which is supposed to represent the total of several individual columns, show the correct totals, it will be seen that if the figures shown in the individual columns of this statement be actually added up, the sums will not tally with the totals shown in the said columns 26, 31, 36, and 41. The reason for the difference is that, as observed in the remarks column of the corresponding statement appended to this office No. 4752, dated 11th September 1893, details for several districts were not available or separable from the totals.		
100	...	...	9,100	...	...	...	...	...	11,755	...	...	...	55,613	...	...	...	...	0 8	45,261			
500	...	...	9,500	...	...	...	...	...	11,530	...	...	...	52,977	58	35	...	...	0 7	42,342			
300	...	...	8,600	...	...	...	...	...	11,071	...	...	...	52,951	62	33	...	...	0 7	43,793			
903	...	...	8,903	...	...	...	...	...	12,221	...	...	...	50,122	101	13	...	29 35	2 0	0 7		38,066	
571	...	...	10,571	...	...	...	...	...	11,009	...	...	...	46,221	635	33	0 20	163 29	3 10	0 7		34,869	
...	...	...	12,050	...	...	...	...	...	3,931	...	...	...	50,080	809	33	...	154 25	2 17	0 7		29,763	
...	...	...	16,142	...	...	...	...	...	3,411	...	...	...	47,789	1,313	8	...	209 14	7 13	0 7		23,089	
...	...	...	272	27,335	662	30	127	819	4,147	20	127	272	69,314	1,181	13	...	139 7	5 35	1 0		33,978	
...	...	...	340	26,544	191	10	25	229	191	10	25	340	81,332	1,247	6	...	133 10	40 31	1 0		34,303	
...	...	...	326	61,592	180	15	10	2,615	4,391	15	50	326	91,837	1,528	13	...	272 8	9 39	1 0		35,880	
1,027	...	...	1,00,693	231	...	42	...	3,621	88	...	42	203	1,04,314	1,414	19	...	287 25	12 1	1 0		37,403	
1,011	...	...	1,03,560	774	5	40	...	4,937	5,785	5	40	203	1,08,497	1,227	13	...	333 25	14 0	1 0		38,213	
1,567	...	...	1,08,342	698	15	30	...	3,968	6,235	15	30	400	1,10,323	1,003	23	...	210 23	37 10	2 0		39,933	
1,011	...	...	1,14,543	377	10	73	...	4,322	5,938	10	73	207	1,18,675	1,765	14	...	155 38	27 8	2 0		35,815	
1,053	...	...	431	1,17,145	232	15	15	3,404	5,335	15	15	431	1,20,552	1,490	15	...	171 12	35 16	2 0		37,010	
1,597	...	...	430	1,16,641	440	...	10	4,378	6,027	...	10	516	1,21,023	1,707	9	...	154 12	35 9	2 0	37,503		
1,815	...	...	461	1,26,532	438	5	65	4,177	6,253	5	65	523	1,30,700	1,697	22	...	174 1	32 18	2 0	33,817		
1,552	...	...	441	1,28,042	434	5	10	4,246	6,010	5	10	511	1,33,325	2,753	21	5 30	141 39	57 10	2 0	42,370		
1,894	...	...	451	1,38,561	248	5	20	5,052	7,132	5	20	556	1,40,533	1,976	15	8 33	44 28	85 30	2 0	43,528		



R
76-743-2751 NO 26

SIND MEMORANDUM.

(a) There is one uniform system as regards the sale of hemp drugs for the province of Sind. The privilege of retail sale of bhang, ganja, charas, and majum in two or three talukas together, or in a sub-division, or in an entire district, is put up to public auction every year by the Collector in the month of July for the revenue year commencing with the 1st August and ending with 31st July of the following year, and sold generally to the highest bidder. Care is taken that the bidder whose bid is accepted bears a good character, and is able to furnish adequate security for the due performance of the conditions of the farm. Accompaniment A* to this note is the form of license given to the farmer, who is allowed to open a certain number of shops within the limits of his farm. The retailers appointed by him for his shops are first approved by the taluka officials (Mukhtyarkars) and then 'parwanas' (permits to sell) are given to them by the Assistant Collector. The administration of the system is carried on by the Collector and his Assistants and Deputy Collectors, subject to the general control of the Commissioner in Sind. It is based on the Bombay Abkari Act, V of 1878, and the rules framed thereunder by Government and the Commissioner in Sind.

(b) The wild hemp plant is not found in the province except near the hills to the west and on the border of Baluchistan. No attempt has been made to control its possession or sale. It is rarely used as an intoxicant, though it is believed that the intoxicating drugs prepared from it are much more potent than those made from the cultivated plant.

(c) The hemp plant is grown only in very small quantities and in very few localities in Sind. The largest continuous area of cultivation is in Sehwan taluka of the Karachi district, and the bhang produced therefrom supplies the wants of the larger part of Sind. There is no restriction whatever on the cultivation of bhang, but certain restrictions are imposed after the crop has been reaped, in so far that the cultivator is not allowed to convert the produce into bhang without the permission of the sub-divisional officer, and may not dispose of it by sale to any other than the licensed farmer for the particular area in which his crop is situated. Neither ganja nor charas are produced in Sind, but are imported, the former from Panvel in the Kolaba district and the latter from Amritsar. Bhang is the only preparation made from the hemp plant in Sind. The area under cultivation in the Karachi, Hyderabad, and Shikarpur districts for some years past is shown in the statement B attached to this report.

(d) The bhang farmer also buys the right to import charas and ganja; he imports them under permits from the Collector and stores them in his own warehouses and distributes them among his retail shopkeepers. Supervision is provided for under the Bombay Abkari Act in the same manner as that described by the Honourable Mr. Mackenzie in his Note. On the arrival of any consignment of charas or ganja the quantity is tested and compared with the permit under which it has been imported.

(e) The cultivator may be considered to be the wholesale dealer, and, as already said, he requires no license; nor does the contractor or farmer require any license beyond the general license which he buys at auction for the right to sell the different hemp drugs. The retail vendors, who are the contractor's servants, procure licenses from the Assistant Collector on the application of the contractor. The stock in hand as well as the accounts of these retail licensees are examined by the sub-divisional officers, by the Mukhtyarkars, Abkari Inspectors, and Police officers.

(f) No direct tax on bhang, ganja, and other drugs is levied; the only tax being an indirect tax in the shape of the amount for which the right to retail is purchased by auction, the amount is levied in advance by instalments.

(g) The number and localities of the shops are fixed by the Collector with due regard to the requirements of each part of the district and with reference also to area and population. No fees are levied for shops, as all the shops situated in any particular district or sub-division are owned by, and are under the control of the farmer of that district or sub-division, and licenses are granted free to persons named by him. The farmer cannot add to the number of shops when once fixed by the Collector without the sanction of the Collector, nor can he close or alter the locality of any shop without permission. There is nothing in Sind in the nature of 'local option'; but of course any representations for or against the opening of shops in any particular localities by the residents of those localities would influence the Collector's decision. But owing to the very limited consumption in Sind of the hemp products, such representations or interference on the part of the people are practically unknown.

(h) No rate is fixed at which bhang, &c., must be supplied by wholesale dealers (i.e., the cultivators) to retail dealers, and the retail price varies in every district.

* Not printed.

The following table shows the average retail price of bhang, ganja, and charas in the four districts, Karachi, Hyderabad, Shikarpur, and Thar and Parkar:—

			Per seer.	Per seer.	Per seer.
			Bhang.	Ganja.	Charas.
			Rs. A. P.	Rs. A. P.	Rs. A. P.
Karachi	...	...	1 0 0	10 0 0	30 0 0
Hyderabad	...	...	1 4 0	6 6 5	25 0 0
Shikarpur	...	...	1 0 0	9 8 0	15 0 0
Thar and Parkar	...	...	1 0 0	10 0 0	30 0 0

(i) The amount fixed for retail sales to, or possession by, the consumer is 40 tolas, under Government Resolution No. 4881, dated 14th July 1888. No minimum price is fixed for retail sales of the drug.

(j) A certain limited amount of smuggling of bhang takes place from Khairpur State, which is adjacent to the Hyderabad, Shikarpur, and Thar and Parkar districts, and the reason for this is that the hemp plant is cultivated and bhang manufactured and sold without any restriction in Khairpur. There is no doubt, also, that some small amount of charas and ganja is smuggled into Sind from Jesulmir through the Thar and Parkar district. No special measures are taken to prevent this smuggling, as every kind of abkari supervision is entrusted to the salt and opium preventive establishments. As for smuggling in the form of illicit cultivation of hemp or manufacture of bhang there is little chance of such occurring, because cultivation is inspected and noted by no less than three different officers in turn, viz., the Tapadar, Mukhtyarkar, and Assistant Collector, and it is easy to see that such cultivators as obtain permission to manufacture bhang, dispose of it all to the licensed vendor, and do not keep a portion of their produce for private use or illicit sale.

(k) No modifications of the present excise system in respect to hemp drugs are under consideration, nor do any appear necessary. The reasons given in his note by the Commissioner of Customs for deprecating any interference with the present system apply even more forcibly to Sind, where the consumption of the hemp drugs is proportionately smaller than in the presidency, and where, on account of the small number of producers and licensed vendors, no hindrances or hardships have ever been experienced.

(l) The extent of cultivation of bhang is shown in the statement marked B attached to this report, and it need only be observed here that the growth of the plant is practically confined to the Karachi and Shikarpur districts. From the figures* of revenue, which are at present available only for the Karachi, Hyderabad, and Thar and Parkar districts, it will be seen that during the last 20 years there has been a steady increase of revenue derived, which, seeing that the only item of revenue is the amount paid by the farmers for the right to vend, implies increased competition among bidders, and that again implies an increased demand for the drugs. The amount of revenue derived in the Hyderabad district, after fluctuating and falling considerably, is now very little in excess of what it was 20 years ago.

(m) On this point it need only be said that as bhang is used in moderation by Hindus and Mahomedans alike, and as even an excessive use of it is not attended by nearly such serious consequences as an excessive use of alcohol or opium, any measures for modifying the present system, or restricting its free use by the people are likely to cause widespread discontent. Interference, however, with the present system of administration as regards charas and ganja would not be so unpopular on account of the very small extent to which these drugs are used in Sind, and because their use is generally admitted by the people themselves to be harmful.

R. I. CRAWFORD, Colonel,

Acting Commissioner in Sind.

* Note.—The Shikarpur and Upper Sind Frontier figures have been subsequently received and are included in the statements attached.

Statistics relating to hemp drugs in the

Yr.	Total population.	CULTIVATION OF HEMP PLANT FOR NARCOTICS.			AMOUNT OF IMPORTS FROM OTHER PROVINCES IN MAUND AND CANS.							AMOUNT OF EXPORTS TO OTHER PROVINCES IN MAUND AND CANS.				NUMBER OF LICENSES FOR WHOLESALE VENT.				NUMBER OF LICENSES FOR RETAIL VENT.						
		Acrea.	Canna.	Bang.	License of cultivation.			Of ganja.	Of charas.	Of bang.	Of other preparations of the hemp plant.	Of ganja.	Of charas.	Of bang.	Of other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bang.	Of other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bang.	Of other preparations of the hemp plant.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
					A. G.			M. S. T.	Mds. s.			Mds. s.	Mds. s.	Mds. s.	Mds. s.											
1873-74	2,197,571				353 39																4					45
1874-75	2,197,571				164 9																4					42
1875-76	2,197,571				237 25																4					51
1876-77	2,197,571				273 2																4					56
1877-78	2,197,571				310 13																4					58
1878-79	2,197,571				315 21				10 0 0	28 0											4					58
1879-80	2,197,571				87 2				34 16 0	17 32				11 23							4					55
1880-81	2,231,033				325 27				20 32 0		4 0			41 25	2,518 14						4					53
1881-82	2,432,018				425 31				70 0 0	19 32			1 16	17 30							4					61
1882-83	2,411,631				167 24									7 30							4					56
1883-84	2,411,631				216 24				6 0 0	1 0	59 0		31 0	3 2	15 0						4					60
1884-85	2,411,631				226 20				1 20 0	22 14			1 20	8 19	505 0						4					61
1885-86	2,411,631				500 15				4 20 0	40 1	326 16		7 35	5 27	247 0						4					60
1886-87	2,411,631				338 25					20 35	60 0				1,093 0						4					56
1887-88	2,411,631				141 30				27 0 0						1,025 0						4					56
1888-89	2,411,631				277 31				15 0 0	38 1	613 1			2 17	927 2						4					55
1889-90	2,411,631				378 10				32 0 0	91 33	1,129 2				2,302 13						4					58
1890-91	2,744,648				210 0				16 74 0	23 67 25	391 15			1 23	1,515 24						4					58
1891-92	2,871,774				146 5				23 63 10	20 69 21	639 14		2 0	2 0	3,799 16						4					60
1892-93	2,871,774				321 15				47 90 21	0 81 17	641 15				2,517 4						4					60

Province of Sind for the years 1873-74 to 1892-93.

AMOUNT OF LICENSE FEES.					AMOUNT OF FIXED DUTY.					TOTAL REVENUE.					QUANTITY SOLD (RETAIL).							Remarks.	
On ganja.	On charas.	On bhang.	On other preparations of the hemp plant.	Total.	On ganja.	On charas.	On bhang.	On other preparations of the hemp plant.	Total.	From ganja.	From charas.	From bhang.	From other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant.	Revenue per head of population, column 1 + column 2.	Population per retail license, column 2 + column 3.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
Rs.	A.	P.			Rs.	A.	P.			Mds.	S.	T.			Mds.	S.	T.			Rs.	A.	P.	
...	...	...	...	...	76,631	14	8	...	...	...	...	...	...	76,631	14	3	...	...	...	0	0	7	4,494
...	...	...	...	...	76,644	15	10	...	...	...	...	...	...	76,644	15	10	3	0	60	0	0	7	5,068
...	...	...	...	...	78,195	5	4	...	...	...	...	...	...	78,195	5	4	12	16	45	11	27	5	4,301
...	...	...	...	...	86,366	3	0	...	...	...	...	...	...	86,366	3	0	2	24	0	15	10	0	3,669
...	...	...	...	...	79,320	7	0	...	...	...	...	...	...	79,320	7	0	11	8	59	19	22	73	3,787
...	...	...	...	...	73,905	3	0	...	...	...	...	...	...	73,905	3	0	2	17	0	21	39	0	3,944
...	...	...	...	...	65,201	14	4	...	...	...	...	...	...	65,201	14	4	1	24	0	17	9	0	4,170
...	...	...	...	...	75,304	10	0	...	...	...	...	...	...	75,304	10	0	0	33	0	23	16	0	4,266
...	...	...	...	...	84,336	14	0	...	...	...	...	...	...	84,336	14	0	1	21	0	22	23	0	3,912
...	...	...	...	...	87,988	0	0	...	...	...	...	...	...	87,988	0	0	9	13	0	16	5	0	4,131
...	...	...	...	...	95,114	0	0	...	...	...	...	...	...	95,114	0	0	22	20	0	14	39	0	4,364
...	...	...	...	...	1,03,867	0	0	...	...	...	...	...	...	1,03,867	0	0	43	37	0	13	22	0	4,091
...	...	...	...	...	98,379	0	0	...	...	...	...	...	...	98,379	0	0	41	7	0	19	8	0	4,054
...	...	...	...	...	1,06,206	10	7	...	...	...	...	...	...	1,06,206	10	7	33	5	0	13	20	0	4,088
...	...	...	...	...	1,14,723	5	4	...	...	...	...	...	...	1,14,723	5	4	33	25	0	12	25	0	4,143
...	...	...	...	...	1,23,164	0	0	...	...	...	...	...	...	1,23,164	0	0	49	5	0	29	26	0	4,122
...	...	...	...	...	1,37,544	0	0	...	...	...	...	...	...	1,37,544	0	0	57	31	40	35	24	0	4,165
...	...	...	...	...	1,36,405	0	0	...	...	...	...	...	...	1,36,405	0	0	48	34	23	32	10	0	4,616
...	...	...	...	...	1,41,614	0	0	...	...	...	...	...	...	1,41,614	0	0	51	2	20	40	30	0	4,479
...	...	...	...	...	1,65,310	0	0	...	...	...	...	...	...	1,65,310	0	0	37	32	65	55	35	0	4,478

BERAR MEMORANDUM.

A.

A statement showing the area under hemp plant during the past 16 years is appended, and from that it will be seen that in Berar there is very little of hemp cultivation. It is only confined to a small tract of the Akola and the Buldana districts in the vicinity of the town of Khamgaon and to some villages in the Mersi Taluk.

In the excise report for 1880-81 Mr. Jones has given a list of villages in which ganja was cultivated in that year, but since then the cultivation has decreased and all the villages mentioned there do not now cultivate ganja.

The list given by Mr. Jones is appended—

Amraoti District.	Malkhed.	All in Mersi.
	Chincholi.	
	Hiwarkhed.	
	Sendurjana.	
	Baloda.	
	Warud.	
Akola District.	Axarapur.	Akot Taluk.
	Hiwarkhed.	
	Bordi.	
	Malegaon.	
	Khamgaon.	Khamgaon Taluk.
	Sutala.	
Akola District.	Shegaon.	
	Pimprigoti.	
	Kherda.	
	Pimpalgaon.	Jalgaon Taluk.
	Jalgaon.	
	Wadgaon.	
Akola District.	Yeklore.	
	Rudana.	
	Jangaon.	
	Sutala.	All in Malkapur.
	Burti.	
	Garandgaon.	
Akola District.	Paner.	
	Ghat Bori.	
	Khutpuri.	

BERAR MEMORANDUM.

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The manner in which the plant is cultivated for the production of drugs and the method of preparing the manufactured drug from the raw product whether the wild or the domesticated plant.

As already stated, hemp is cultivated in only three districts—Akola, Buldana, and Amraoti. The Deputy Commissioner of Akola describes the manner of cultivation in the following words:—

“For the ganja plant garden land is required; ordinary black soil is apparently too stiff, and an admixture of organic matter is necessary. The soil is twice deeply ploughed and is given as much manure as the cultivator can afford (one tehsildar says 10 cart loads per acre), is then harrowed two or three times before sowing. This is done at the beginning of the rains, at the same time as cotton is sown, and the seed is planted by means of a tiphan or plough drill. It seems to be the practice to mix *ambadi* (*Hibiscus cannabinus*) seeds with the ganja seeds. The young hibiscus plants are pulled up a fortnight after they have come up, and the reason of the practice appears therefore to be to save seed and preserve a sufficient space between the ganja plants. When they are about a foot and a half high, the plants which are unisexual are examined and the male ones (called *bhangia*) are picked up. If the rains fall favourably, no irrigation is required till about October, when the plants are maturing, when apparently they always require to be watered. In November the plant, which is then 5 feet high, is cut. The small outer branches are stripped off and put in towards the centre of the plant, which is then pressed with the foot (to flatten the heads), made up into sheaves, and stacked in a shed under pressure, the heaps being opened and the sheaves moved now and then to prevent their getting too hot. The leaves fall off when the plants are tied into bundles. They are collected and called *bhang*. The bare stalks remain with the heads on them.

“The wild plant is not indigenous in Berar. Plants come up near the huts where gosains and other regular consumers live, and if watered and tended, can be used for the preparation of ganja, but are weaker and not so good as the cultivated kind; if not tended, the heads are said to be only fit for smoking like tobacco.”

The manner of cultivation described by the Deputy Commissioners of Amraoti and Buldana is similar to the above.

Charas is not known in Berar. The resinous substance of the hemp plant is allowed to dry with it.

The only drugs manufactured in Berar from the hemp plant are “*bhang*” and “*ganja*.”

The rules restricting the ganja cultivation (referred to in a separate memorandum submitted) make it obligatory on the village officials in Berar to destroy any plants of spontaneous growth. Hence wild plants are an impossibility in Berar, and so they are not used for the preparation of drugs.

Full particulars should be obtained regarding all the different forms of the drug which are commonly used, especially *ganja*, *charas*, and *bhang*, and regarding the classes of the people by whom and the extent to which each is used.

The only forms of the drug that are used by the people are *ganja* and *bhang*. *Charas* is not used. Other preparations that are known are these:—

“*Majum*,” “*gulkand*,” and “*yakuti*.”

Ganja chillum.

Ganja (the flowers of the plant or the flattened heads of it) is smoked in the following manner:—

The smoker takes a head of the plant, places it on his left palm, puts over it a little water, and mixes it by the pressure of the right thumb. This process of wetting and pressing is repeated, says the Deputy Commissioner of Akola, 121 times over. Then it is pressed and put into a piece of cloth, and the moisture squeezed out. A small quantity of tobacco is added to enhance its effects, the mixture is then put into a chillum (pipe) and smoked.

Bhang is drunk as a cooling drink in the hot weather. The method of preparing the drink is as below. *Bhang*—or the flowers and leaves that drop when the plants are being tied up into sheaves—is first of all well cleaned and then boiled. Afterwards it is very carefully washed and then dried. A small quantity of this preparation is then mixed with spices such as “*sonph*,” “*miri*,” “*badam*,” “*khaskhas*,” and “*rose-buda*.” The mixture is then well pounded, putting a little water over it. It is then mixed with cold water or milk, and sugar put in it, and after being filtered it is drunk. This is known as *blang* or *thandai*, or a cooling drink.

The method of preparing this drug is described below. A sheave of *ganja* is first cleaned properly, and after being boiled is carefully washed very clean. It is then mixed with ghee and is again boiled. This

preparation is then filtered, and the fluid essence is mixed with spices such as jaiphal, jaipatri, kalai, vilaichi, lavang, khurasni wora; sugar is then separately boiled, and when it is found to be quite clean and ready for being mixed with the above preparations, it is so mixed, and the whole thing is once more boiled. This preparation is called majum, which is of a green colour. I have obtained this information from a well known majum-seller at Ballapur, whose preparation is celebrated in the province and it is in many places called by name "Deolai," who was the original owner of the shop. This "Deolai" is used by many people known to be respectable.

There is another preparation similar to the above and is called the gulab shakri majum. It is the same as the above, but is coloured red by mixing a small quantity of hingul.

Gulkand.—Essence of ganja prepared just as it is done for majum and mixed with sugar and rose flowers or seranti flower becomes gulkand.

Yakuti.—Appears only to be another name of majum, but it must necessarily contain rich spices above mentioned. Majum can be made even only by mixing sugar with essence of ganja prepared as above stated.

Bhang.—Besides being drunk in the above mentioned manner a preparation of bhang is eaten. Bhang is first well boiled and washed clean and then dried. It is then pounded without water and is mixed with a powder of lavang, vilaichi, jaiphal, etc., and saffron. A small quantity of this powder is mixed with sugar and eaten by some people.

These are the only forms of the drug commonly used in Berar. Charas is not at all available and is not imported, being considered very costly.

Ganja is smoked chiefly by Kahars, Hamals, Kolees, Tellees, Gossazes, Bairagis, Mahomedans, and people of any caste living a vicious life, such as prostitutes, etc. Any Hindu may smoke it but it is not generally smoked by people of respectability. Ganja smoking is considered to be a social stigma by people of good society.

Bhang is drunk chiefly by Pardeshis from Hindustan and Marwaris. This drug is not considered to be so bad as ganja is. Respectable people sometimes drink it without hesitation. Habitual consumers of this drug, however, are not respected in society.

The quantity of ganja and bhang required for a consumer differs according to the liking of each man. Generally a habitual consumer requires from 6 mashas to two tolas of ganja per day, but amongst Bairagis and some other people we might find men who consume even up to 8 or 10 tolas per-day.

The proportion of the population addicted to ganja-smoking is estimated to be about one per cent., but there is no reliable data to come to an approximately correct estimate.

Similarly, no estimate can be formed of the proportion of bhang consumers.

The Deputy Commissioner of Akola describes the effects of ganja and bhang as below:—

"At first ganja smokers feel strengthened by it, which induces them to ganja smoking, and when it becomes a habit they cannot do without it. Ganja smokers lose strength gradually, cough sets in, their lips become black and face pale. Excess leads to loss of memory and in some cases to insanity. The bad effects of ganja-smoking are not seen soon if the smoker is well fed. It sometimes improves the health, but these are rare cases."

The Deputy Commissioner of Buldana describes the effect of ganja smoking as below:—

"The eyes of the smokers assume a reddish colour, the lips become darker, constitution lean, weak, and sleepy. Appearance pale, temperament rough in speech and manners and talkative, asthmatic, peevish, quarrelsome, and unmindful of consequences."

He further says:—

"The use of ganja when it is accompanied by a proportionate amount of substantial food is considered to be harmless and conducive to a healthy constitution for a time, but ultimately its natural effects begin to tell on the consumer; he becomes asthmatic and phlegmatic. Ganja consumption is said to be beneficial to persons living in cold countries or at places where water is poisonous."

Bhang.—The Deputy Commissioner of Akola says:—

"This drink is said to aid digestion, to sharpen the appetite. No apparent harm is said to result from the use of bhang except in some cases it leads to rheumatism in the long run."

The other forms of the drug, majum, gulabshakri, gulkand are not habitually consumed. They are only luxuries and are taken at times.

There is no reliable data to form an estimate of the proportion of the population habitually consuming hemp-drugs, but one per cent. can be taken as an approximately correct estimate for Berar. Generally, as above said, this drug is consumed by Fakeers, Bairagis and Sanyasis, etc., who come to the province as wanderers; very few people indigenous to Berar are addicted to the use of these drugs. Instances are known when excessive use of ganja-smoking has led to lunacy, but there is nothing to show that it frequently causes lunacy.

Whether the consumption of hemp drug is either harmless or beneficial. If so, in what form?

Consumption of bhang as a drink is considered to be harmless and even beneficial. Smoking ganja is not considered beneficial.

Administrative arrangement in force in Berar for controlling the growth of the plant, the manufacture and sale of the drug and their importations from other provinces or from Native States, and for imposing duties on cultivation and sale.

Please see memorandum drawn up under instructions received from the Secretary, Hemp Drugs Commission, in his letter No. 28, dated 11th August 1893.

In this respect the Deputy Commissioner of Amraoti says:—

Danger resulting from prohibition or restrictive measures of a stringent character. Would it give rise to serious discontent and be resented by the people as an unjustifiable interference with long-established social customs?

"As has been said above, a very small portion of the entire community is addicted to the use of the drug. Its prohibition in entirety may lead to discontent, but imposition of restrictive measures will not be resented. But serious discontentment would result in Amraoti district if even stringent measures were adopted. Smuggling by Marwaris would increase, as they are generally men of money. Detection would be difficult."

The Deputy Commissioner of Akola says:—

"The smokers of ganja, when compared with the total population, are not a large number, and so if the cultivation is stopped, of course the smokers will suffer for a time and they will show discontent, but it will wear off in course of time: probably the ganja-smokers would be driven to other stimulants."

The Deputy Commissioner, Buldana, says:—

"If the total prohibition of the growth, consumption, or importation, is enforced, it will, no doubt, give rise to serious discontent, but that will prevail only among the consumers of the drug, who are so few in proportion to the total population of the district that the discontent will scarcely be politically felt. However, if it be necessary, restrictive measures even of a stringent character may be introduced, provided that the consumers have sufficient time allowed them to become accustomed to the effect of those measures, so that eventually they will not be felt by them at all."

The consensus of opinion appears to be that no danger will result from prohibition.

There are no customs similar to those in Bengal prevailing in Berar. The use of hemp drug does not form part of any social or religious ceremonies or observance. The only exception is the Mahashivratri, when the devotees of Shiva bathe the idol of Shiva by the preparation of bhang, but such devotees are very few in proportion to the population. They do not belong to any particular class of people. Any Hindu who chooses to worship the god Shiva can do this. The festival only comes up once in a year, and the drug is not considered to be an essential material of worship. The god is supposed to be very fond of it, and so the devotees try and acquire it on that day. Restrictive measures would not in Berar give rise to political discontent among any classes of population.

Do any customs similar to those in Bengal prevail in Berar, and how far does the use of hemp-drug form a part of social or possibly religious ceremonial or observance?

Would restrictive measures give rise to political discontent among any classes of population?

The Deputy Commissioners are of opinion that it is likely that if the use of ganja is prohibited altogether, the habitual consumers would be driven to other stimulants or narcotics. In my opinion the non-drinking Hindus who are addicted to the hemp-drugs would not be driven to alcohol necessarily. They have a fear of losing their caste, and so even if they do not get the drugs they would not take to drink. The Deputy Commissioner of Amraoti district in this respect says:—

"The favourite way of taking the drug is made up in a sweetmeat called majum. Mahomedans who by their religion are not allowed the use of alcohol are given to using majum, but now-a-days majum is made cheaper and just as good by using the root of the jawari plant."

So by stopping the use of the drug those who use majum would not suffer. The only people who might be discontented would be mendicants and a few Marwaris, who would console themselves with opium as a substitute, which would be beneficial in comparison to the drug, which is injurious."

No Deputy Commissioners have suggested any improvements desirable. The only thing that was needed has been already effected. From the next year the farm of these drugs will be sold separately from the opium farm.

Any reforms or improvement for controlling the cultivation of the hemp plant and the manufacture, sale and taxation of hemp-drug?

BERAR MEMORANDUM.

B.

The administration of hemp drugs in the Hyderabad Assigned Districts is regulated by the Abkari rules, copies of which have been sent to Secretary, Hemp Drugs Commission. Opium and hemp drugs in the Hyderabad Assigned Districts are treated in one farm, and where opium shops exist, hemp drugs are allowed to be sold.

This farm is worked uniformly throughout all the districts in the Hyderabad Assigned Districts by the Deputy Commissioners through their tahsildars. There are no separate Excise officers to control the vend of drugs. A monopoly of the right to vend is sold by auction each year by the Deputy Commissioners under the orders of the Commissioner, and the highest bidder usually obtains it and is licensed. The opium and hemp drugs farm being sold together, the proceeds are credited to opium and drugs. No information is, therefore, separately available as to the value of hemp drugs, and hence the columns requiring this information in the appended statement C are left blank. It is, however, supposed that the revenue from hemp drugs is about one anna in the rupee, or $\frac{1}{16}$ th of the value of the whole farm auctioned. This statement is based on enquiries made of the farmers, and as nothing certain can be obtained, I have omitted these figures from statement C.

The question of separating the sales of hemp drugs from opium has been very recently taken up, and it has been decided to separate them from the 1st April 1894.

I now turn to the points mentioned in the note accompanying letter No. 23, dated 11th August 1893, and take them *seriatim*.

Up to the year 1875 the cultivation of ganja and bhang was not restricted in Berar.

Control of the growth of the hemp plant.

* Notification No. 55, dated 5th August 1874.

Rules regulating and restricting the cultivation of ganja and bhang in the Hyderabad Assigned Districts were first issued* in the year 1874 and were brought into force from the 1st of April 1875. Under these rules the cultivation of ganja and bhang was strictly prohibited except under a license. The Deputy Commissioners were authorized to grant such licenses, and they had to be written on a stamp paper of Rs. 8 (to be supplied by the cultivator) without reference to the area cultivated.

Under these rules the village officers were bound to make immediate reports of unlicensed cultivation, and the Deputy Commissioners were authorized to cause the destruction of such crops and plants of spontaneous growth. Cultivators of unlicensed ganja and bhang crops were made liable to a fine not exceeding one hundred rupees for each offence, and half the fines realized were made payable to informants as rewards.

The effect of these rules was that the cultivation of ganja was confined to a very few villages in the Akola, Buldana and the Amraoti districts, the villages in the first two districts being mostly in the vicinity of the town of Khamgaon and those of the Amraoti district in the Morsi taluk of that district. Table A appended to this will show the extent of ganja cultivation in the Hyderabad Assigned Districts between the years 1877-78 to 1892-93, inclusive, and from the figures it will be observed that it has been very limited.

The above rules remained in force without any change till the year 1884, when they were modified by increasing the fee for cultivation from Rs. 8 per license to Rs. 10 per acre or part of an acre cultivated. This had the effect of further curtailing the cultivation of ganja, *vide* figures in Table A. From the year 1885-86 the cultivation has gone down immensely.

At the time these modifications were made the Commissioner made it obligatory on the vendors of ganja and bhang to keep accounts of their receipts and disbursements.

These modifications were originally introduced as a tentative measure, but have since been continued. As it is, the amount of land cultivated is very insignificant: on an average of the past seven years it is about 55 acres per year in the whole province.

The rules of 1875, therefore, with the modifications of 1884, are the rules at present in force, and so far as is known works satisfactorily.

As already stated, the farm for manufacture, etc., of hemp drugs is given out with the

Manufacture or importation and sale of hemp drugs.

opium farm, and consequently these drugs are manufactured, imported, and sold by opium vendors only. The manner of manufacturing these drugs is described in the Memorandum A, which is separately submitted.

The local produce is not sufficient for the wants of the province, and therefore ganja is imported usually from Khandwa in the Central Provinces, sometimes from Khandesh in the Bombay Presidency. No duty is levied on importations. On an average it is estimated that about 800 maunds of ganja is annually imported into the Province; this with the ganja locally produced is apparently sufficient for the requirements of the people who indulge in this drug.

There is no means of ascertaining what portion of the population indulges in hemp drugs; therefore any calculations require us to deal with the entire census population or the total of the male and female adult population. The Hyderabad Assigned Districts' total population by last census is 2,897,940; the adult population, male and female, is 1,794,174. Now 800 maunds are on the average imported per annum, and about 500 raised locally, which gives a total of 1,300 maunds. If this were all consumed, it would mean on the whole population 14 tolas per head; on adults 23 tolas per head per annum. The 500 maunds estimated as on the average to be locally raised is arrived at by assuming that the 55 acres, the average of the past seven years, under hemp gives 10 maunds per acre.

In reality the farmers' returns of consumption (column 42, statement C) are wholly unreliable; therefore I have taken the whole produce raised locally and imported, to calculate the incidence per head of consumption, as a safer guide.

No duties are imposed on hemp drugs. The only revenue that is derived from these drugs is the price of the farm combined with opium and the license fee on cultivation.

Duties imposed.

License fee on cultivation.

No fee is levied on the licenses for importation. They are granted free to the licensed vendors.

The above information applies to ganja and bhang. Charas is not used in the province. There is only one kind of ganja in the province, and that is the flat ganja.

(a) The system of administration throughout the province is uniform. The central controlling authority is the Deputy Commissioner of the district.

The administration is carried on by the tahsildars with the assistance of the village officers.

The following are Abkari officers under the rules:—

Deputy Commissioners,

Assistant Commissioners,

Tahsildars,

Naib-Tahsildars, and

Police officers of a rank not below that of Inspectors and chief constables in charge of police stations.

(b) Wild hemp is not found in the province.

(c) As above stated, the cultivation of the hemp plant for the production of ganja or bhang is prohibited except under a license. It is not restricted to any particular locality. It is evident that as the area locally under hemp is small that it is more paying to import the drug than to cultivate it.

(d) The opium and drug farmers are the only importers of ganja and bhang. No charas is imported.

All the Abkari officers mentioned above have power to inspect the shops established by the farmers and to check the actual balance with the entries in the books kept; and if any irregularities are discovered, the farmers are liable to be prosecuted under the Abkari Rules, section 43.

All importers of ganja or bhang are required to take out a pass from the Deputy Commissioner. No arrangements are made for controlling the storing or transport of these drugs.

(e) The farmers are the wholesale and retail vendors. Those in the retail trade keep books showing their sales, and they are prohibited from selling more than 20 tolas of ganja and bhang to one person and are forbidden to allow the drug to be smoked on the premises. Their shops are occasionally inspected by Abkari officers to enforce these orders.

(f) The only direct or indirect tax on ganja in this province is the money paid by the farmer and the fee paid by the cultivator for a license. The latter is recoverable as arrears of land revenue and cannot possibly be evaded. The former, if not paid, is recoverable under rule 15 of the Abkari Rules by attachment and sale of moveable property of the farmer within the jurisdiction of the Deputy Commissioner. At the time of the sales precautions are taken to ascertain that the farmer's securities are men of substance, and that they possess moveable property sufficient to cover the amount tendered by the farmer for which they go security.

(g) Up to the present wherever an opium shop was permitted there hemp drugs could be sold. In future, guided mainly by the requirements of the trade, Deputy Commissioners have fixed hemp drug shops in a few localities; in all 222 shops will next year be open. This on an area of over 17,000 square miles means one shop to every 74 square miles of country.

There is nothing in the nature of local option; but if the people of any certain locality object to have a shop in their midst, the Deputy Commissioner, as against the trade, considers their objections.

(h) No rate is fixed at which the drug must be supplied by the wholesale to the retail vendor. This is left to private contract. The average retail price to consumers varies from Rs. 2 per seer to Rs. 2-4 in the Amraoti District. The Deputy Commissioner of Akola gives the prices in his district as below:—

Ganja	...	...	...	...	...	6 pies per tola.
Bhang	...	...	...	...	...	6 pies per 5 tolas.
Majum	...	...	...	...	...	6 pies per tola.
Gulkand	...	...	...	...	...	5 annas per pound.

The prices do not vary much in different districts.

(i) The maximum amount fixed for retail sales is 20 tolas or quarter of a seer for ganja and bhang and 5 tolas for charas when sold.

There is nothing laid down as to the amount of possession, and no minimum price is fixed on the drug.

(j) The smuggling of ganja has seldom been detected. There is no illicit cultivation of ganja; the inspection of crops raised is too close to admit of this.

(k) The only change in the present system is the separation of the farms of hemp drugs from the opium farm.

(l) A statement in the prescribed form, marked C, has been prepared and submitted. From it will be seen that there is very little ganja cultivation in the province, and that no ganja or bhang is exported from Berar. The number of shops and the quantity of ganja and bhang imported and sold retail can be seen from this statement. The figures are taken from those in the printed reports. From these figures it will be seen that on an average about 1,300 maunds of ganja and bhang are annually consumed in the province.

The figures in column 9 of statement C are not correct as figures of actual import for the reason given in the column of remarks of that statement. The columns showing the revenue from hemp drugs are left blank, as the information, for reasons already explained, is not obtainable.

(m) I can think of nothing further worth mentioning to make the account complete.

* *Statistics relating to hemp drugs in the Hyderabad*

[illegible]

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Assigned Districts for the years 1873-74 to 1892-93.

AMOUNT OF LICENSES FREE.					AMOUNT OF FIXED DUTY.					TOTAL REVENUE.					QUANTITY SOLD (RETAIL).						
On ganja.	On charas.	On bhang.	On other preparations of the hemp plant.	Total.	On ganja.	On charas.	On bhang.	On other preparations of the hemp plant.	Total.	From ganja.	From charas.	From bhang.	From other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant.	Revenue per head of population, column 41 + column 2.	Population per head of population, column 24.	Remarks.
27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	The entries in column 48 show in red ink the figures of import, owing to that the entries broke down the transfer of the province, and consequently a certain of the original port comes to be over and over again. For example: A. Imports from the provinces, he sells this to B. B. sells under import tax, selling these in white in red ink.
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Information for the two years (1873-1874-75) is not available and so all the other are blank.
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	644 10	...	...	...	...	4,664	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	723 6	...	...	...	...	4,566	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	757 16	...	...	...	...	4,474	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	893 23	...	...	...	...	4,420	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	763 88	...	...	...	...	4,432	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	839 3	...	...	...	...	4,424	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	750 0	...	...	...	...	4,513	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	939 29	...	...	...	...	4,568	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	801 1	...	...	...	...	6,031	...

AJMERE-MERWARA MEMORANDUM.

With reference to your office endorsement No. 3330-R., dated the 26th September 1893, and in continuation of my letter No. 721, dated the 16th October 1893, regarding the collection of certain information required by the Indian Hemp Drugs Commission I have the honour to state as follows.

2. As already reported in my letter quoted above, printed copies of the questions were sent to—

- (1) the District Superintendent of Police,
- (2) the Civil Surgeon, Ajmere,
- (3) the Revd. Dr. J. Husband, and
- (4) the Abkari Inspector.

Answers from Nos. (1), (2), and (4) have been received and are herewith submitted. These answers will, I fear, generally not be of much assistance to the Commission. The fact is that, so far as I can ascertain, there is no one in Ajmere-Merwara who has made a study of the subject or who desires any alteration in the existing system. The Revd. Dr. J. Husband, who laid the questions before the Committee of the Ajmere Total Abstinence Association, informs me that the questions asked do not come within the scope of the operations of the society.

3. The statement called for in paragraph 4 of Mr. McIntosh's circular No. 28 of 11th August 1893 has been filled in as far as possible and is herewith submitted. The only information available, which has been given in the statement in question, is the number of shops and the amounts realized by the sale of the contract of drugs for the past twenty years.

I regret that I am unable to furnish the other information required to complete the statement in respect of import, export, and sale of drugs, as no such accounts have hitherto been kept, and the present and the former contractors are unable to furnish the required figures.

The hemp plant is cultivated in Ajmere-Merwara to only an exceedingly limited extent, and here and there a few plants grow spontaneously. The total amount of hemp grown in these districts is insignificant.

No license fees or fixed duty are levied in these districts: the revenue is derived by selling the monopoly of the sale of drugs.

4. The points mooted in the memorandum referred to in paragraph 3 of Mr. McIntosh's circular of the 11th August 1893 are dealt with below:

- (1) Care is taken that the hemp plants are sold to the contractor. In the case of wild plants they are either destroyed or sold to the contractor. A copy of the rules regulating the cultivation, &c., of hemp is appended.
- (2) With the exception of bhang and majum, no hemp drugs are manufactured in these districts. Ganja and charas are imported from other districts, chiefly from the Punjab.
- (3) No duty is levied on the importation of any drugs—
 - (a) The controlling authority is the Collector of Ajmere. There is one uniform system in Ajmere-Merwara, which is carried on under the Excise Act, XXII of 1881.
 - (b) A few wild plants are found here and there, but not to any large extent. The possession and sale of these plants are regulated by the rules referred to above. The plants being so few, no difficulty is experienced in controlling their possession and sale.
 - (c) The cultivation of the hemp plant is permitted under the rules already referred to. As a matter of fact, however, but very little hemp is cultivated, and that principally by *walis* and the Brahmans of Pushkar.
 - (d) The sole importer of the drugs is the contractor, to whom a license for the exclusive right of the sale of the drugs is granted. The import is covered by *rawannas* from the authorities of the districts whence the drugs are exported. On arrival the consignments are weighed and checked with the *rawannas* by the Excise officers and the police.

- (e) There are no wholesale vendors here, and the contractor is the only person permitted to sell drugs by retail; he has his own shops in the district, which are under the supervision of the preventive staff: all shopkeepers employed by the contractor are supplied with 'nokarnamas' under the countersignature of the Collector.
- (f) The drugs contract is sold yearly to the highest bidder; no rates or other tax are fixed. In case of failure on the part of the contractor to pay the contract money, the contract is resold and the deficiency, if any, is recovered from the original purchaser.
- (g) As already stated the drug shops in the district belong to the contractor. Their number and sites are fixed by the Collector on application of the contractor with reference to the requirements of the people.
- (h) The contractor supplies the drugs to his shops in the district. The average retail prices (to consumers) are as follows:—

					First quality per rupee.	Second quality per rupee.
Bhang	...	...	...	...	1 seer.	2 seers.
Ganja	...	...	...	...	16 tolas.	20 tolas.
Charas	...	...	...	...	4 "	5 "
Majum	...	...	...	...	32 "	40 "

The prices do not vary appreciably in the different parts of Ajmere-Merwara.

- (i) The maximum amount of drugs for sale and possession is bhang or any preparation or admixture thereof, one-quarter of a seer: ganja or charas or any preparation or admixture thereof, 5 tolas.
- (j) The average number of persons prosecuted during the past three years for smuggling drugs is nine. The preventive establishment patrol the district and check smuggling on any extensive scale satisfactorily.
- (k) No modifications of the present excise system in respect to hemp drugs are under consideration.
- (l) The required statement is annexed. Explanations in regard to it have been given in paragraph 3 of this letter.
- (m) The system in force in Ajmere-Merwara is shortly as follows. The contract for drugs is put up every year to auction, and it is sold to the highest bidder, provided that there is no objection to the man. The contractor maintains shops for the retail sale of drugs at places fixed by the Collector with reference to the requirements of the people. But very little hemp is cultivated in Ajmere-Merwara, although, subject to certain rules, the cultivation is not prohibited and but a small quantity grows wild. The hemp plants are sold to the contractor. Bhang and majum are the only preparations made locally, ganja and charas being imported from other provinces, usually from the Punjab. The retail shops are supervised by the preventive establishment, who also patrol the district and successfully prevent smuggling on any large scale.

Statistics relating to hemp drugs in the Ajmere-

Year.	Total population.	CULTIVATION OF HEMP PLANT FOR NARCOTICS.						AMOUNT OF IMPORTS FROM OTHER PROVINCES OR STATES IN MAUND AND SEERS.				AMOUNT OF EXPORTS TO OTHER PROVINCES OR STATES IN MAUND AND SEERS.				NUMBER OF LICENSES FOR WHOLESALE VEND.					NUMBER OF LICENSES FOR RETAIL VEND.				
		Area under cultivation.			Licenses for cultivation.			Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.	Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.	Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.	Total.
		Ganja.	Charas.	Bhang.	Ganja.	Charas.	Bhang.																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
								M. s.	M. s.	M. s.	M. s.	M. s.	M. s.	M. s.	M. s.										
1873-74	216,032	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1874-75		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1875-76		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1876-77		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1877-78	301,301	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1878-79		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1879-80		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1880-81		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1881-82	460,722	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1882-83		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1883-84		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1884-85		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1885-86	542,351	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1886-87		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1887-88		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1888-89		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1889-90	542,351	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1890-91		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1891-92		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1892-93		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

N. B.—Column 26 shows the number of drug shops belonging to the contractor.

Note.—The figures for shops and revenue in this return for the years marked with an asterisk will not coincide with those in the Annual Administration Reports, as the

Merwara District for the years 1873-74 to 1892-93.

AMOUNT OF LICENSE FEES.					AMOUNT OF FIXED DUTY.					TOTAL REVENUE.					QUANTITY SOLD (RETAIL).				Revenue per head of population, column 41—column 27.	Population per retail license, column 28—column 26.	Remarks.
On ganja.	On charas.	On bhanga.	On other preparations of the hemp plant.	Total.	On ganja.	On charas.	On bhanga.	On other preparations of the hemp plant.	Total.	From ganja.	From charas.	From bhanga.	From other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.			
27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs. a. p.	Mds. s.	Mds. s.	Mds. s.	Mds. s.	Rs. a. p.		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,285 0 0	...	...	...	...	007 0 0	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,091 0 0	...	...	...	...	008 0 0	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	3,353 0 0	...	...	...	...	010 0 0	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	3,501 0 0	...	...	...	...	009 0 0	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	3,424 0 0	...	...	...	...	008 0 0	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	3,200 0 0	...	...	...	...	008 0 0	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	3,130 0 0	...	...	...	...	008 0 0	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	3,675 0 0	...	...	...	...	000 0 0	22,018	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	3,455 0 0	...	...	...	...	007 0 0	35,410	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	4,316 0 0	...	...	...	...	019 0 0	35,410	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	4,810 0 0	...	...	...	...	010 0 0	35,410	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	5,931 0 0	...	...	...	...	013 0 0	28,705	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	5,431 0 0	...	...	...	...	011 0 0	28,705	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	5,430 0 0	...	...	...	...	011 0 0	28,705	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	5,900 0 0	...	...	...	...	012 0 0	20,031	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	5,375 0 0	...	...	...	...	011 0 0	20,031	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	*4,935 0 0	...	...	...	...	010 0 0	20,031	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	*6,335 0 0	...	...	...	...	013 0 0	20,031	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	6,740 0 0	...	...	...	...	012 0 0	23,689	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	7,270 0 0	...	...	...	...	013 0 0	30,130	

N. B.—Column 41 shows the contract money.
* include opium shops and outstanding balances.

COORG MEMORANDUM.

The answers refer to ganja, which is called indifferently in Coorg, ganja or bhang. Charas is unknown.

Only one system in the small province of Coorg.

The Commissioner of the province is head of the Excise.

Two Inspectors of Excise and six other officials under the Commissioner.

On Act No. XXII of 1881, an Act to amend the law relating to Excise Revenue in Northern India, British Burma, and Coorg. On the rules framed in conformity with sections 11, 12, 20, and 55 of that Act, sanctioned by the Chief Commissioner of Coorg as the chief revenue authority in the province, having effect from 19th May 1882.

I am doubtful whether wild hemp is actually found, but hemp springs up in the coffee near early lines and near the huts of the wild tribes and no one owns to its cultivation. A cooly in weeding the coffee will try to avoid pulling up the plant unless his master happens to be looking.

Impossible to say with any degree of accuracy, but as the contractor has not complained, and I have had no complaints from planters as to their coolies being stupefied by the drug, probably to a very limited extent indeed.

No attempt has been made to control the possession of such drug. If its sale was attempted to any extent, it would come to the ears of the licensed vendor, and the seller would be prosecuted, but I have heard of no such cases.

Cultivation not prohibited, but a license must be taken out first. As a matter of fact, however, hemp is not cultivated in the province.

To none, if a license is asked and given, but, as already stated, the plant is not cultivated in Coorg.

No ryot or other person is allowed to cultivate hemp without a license from the Parpattegar; the Excise and village officers would report any such case. There have been a few prosecutions of people for growing a few plants of hemp near their huts in the last two or three years. This has checked the practice somewhat.

Only one—the contractor.

If a ryot did cultivate for export, he would have to obtain a special pass under rule 33, but no such case has occurred. The contractor, being the sole importer, makes his own arrangements for the import, storing, and transport of the drug. For the import a license is required.

Licenses are granted by the farmer, who is the wholesale vendor and has to keep accounts: the retail vendors are selected by the farmer, but must be approved by the Commissioner, who countersigns the licenses. They are visited by the Excise officers, accounts inspected, and fortnightly returns of results reported. License holders can sell for ready money only and not more than $\frac{1}{4}$ of a seer of ganja and 5 tolas of majum.

There is no tax on ganja and other hemp drugs. The right to procure and sell ganja is leased out for 3 years to the farmer whose tender has been approved of. If the contractor fails to pay on the appointed dates the instalments due, the contract is liable to be cancelled. Besides the contract amount a fee of one rupee per mensem for each shop at Mercara and Virajendrapett, and of annas 8 in other places is paid.

No special precautions against evasions are taken; the vendors who have licensed shops, even if any unlicensed shops escaped the notice of the officials, would at once bring the matter to the notice of the Excise Department.

One shop has been allowed to each of the 6 taluks or sub-divisions of Coorg except to the Nanjarajpatana Taluk, in which there are two, one at head-quarters and one in the municipal town of Semvarpett. No local option is recognized. At the same time the Commissioner would never sanction the opening of a shop unless the inhabitants either petitioned for it or were willing to have it.

No, the contractor makes his own arrangements.

He sells at from 10 to 12 annas a seer to the retail vendors, and they sell at from 14 annas to one rupee to the public.

Yes, a vendor must not sell to any individual in one day more than $\frac{1}{4}$ seer of ganja and 5 tolas of majum except to the holder of a pass from a Magistrate.

No minimum price is fixed for the drug.

No smuggling from other provinces or from the Native State of Mysore has been brought to notice. There have been 8 prosecutions in the last two years for illicit cultivation, but they have been only small cases of a few plants found in compounds by the Excise officers. No special measures have had to be taken to prevent it.

None.

Is practically nil. (Extent of cultivation).

Confined to the Government farmer.

41½ maunds in 1891-92. } Amount of probable consumption.
56 maunds in 1892-93.

Rupees 798 per annum—Revenue.

The Excise officers send in to the Commissioner a diary fortnightly as regards the ganja shops.

The vice of ganja-smoking to excess is comparatively rare in the province. Kurumbaars, the wild tribe most addicted to it, are a peculiarly inoffensive non-criminal tribe; the Yerwars and Kapilas, who also smoke ganja, are more troublesome, though not by any means habitual criminals.

Statistics relating to hemp drugs in the Province of

Year.	Total population.	CULTIVATION OF HEMP PLANT FOR NARCOTICS.						AMOUNT OF IMPORTS FROM OTHER PROVINCES OR STATES IN MANUS AND SEEDS.				AMOUNT OF EXPORTS TO OTHER PROVINCES OR STATES IN MANUS AND SEEDS.				NUMBER OF LICENSES FOR WHOLESALE VAND.				NUMBER OF LICENSES FOR RETAIL VAND.					
		Area under cultivation.			Licenses for cultivation.			Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant.	Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bhang.	Of other preparations of the hemp plant.	Total.				
		Ganja.	Charas.	Bhang.	Ganja.	Charas.	Bhang.																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
								M. s.	N. s.	M. s.	M. s.	M. s.	M. s.	M. s.	M. s.										
1873-74	195,312															3				3	12				12
1874-75	192,312															3				3	12				11
1875-76	198,312															3				3	12				12
1876-77	198,312															3				3	12				12
1877-78	198,312															2				2	5				5
1878-79	193,312															2				2	5				5
1879-80	195,312															2				2	4				4
1880-81	198,312															2				2	4				4
1881-82	178,302															2				2	4				4
1882-83	178,302															3				3	4				4
1883-84	173,302															1				1	0				6
1884-85	178,302															1				1	0				6
1885-86	178,302															1				1	0				6
1886-87	178,302															1				1	0				6
1887-88	178,302															1				1	0				6
1888-89	178,302															1				1	0				6
1889-90	178,302															1				1	0				6
1890-91	178,302															1				1	0				6
1891-92	173,055							50 0								1				1	0				6
1892-93	173,055							63 0								1				1	0				6

N.B.—A small quantity of ganja sprung up spontaneously about Triserpet in ryots' fields.

for the years 1873-74 to 1892-93.

AMOUNT OF LICENSE FEES.					AMOUNT OF FIXED DUTY.					TOTAL REVENUE.					QUANTITY SOLD (DETAIL).				Population, column 2.	Population per head of column 2.	Population not total license, column 3.	Remarks.
On ganja.	On charas.	On bhanga.	On other preparations of the hemp plant.	Total.	On ganja.	On charas.	On bhanga.	On other preparations of the hemp plant.	Total.	From ganja.	From charas.	From bhanga.	From other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.				
27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
R. s. p.	Rs.	Rs.	Rs.	R. s. p.	Rs.	Rs.	Rs.	Rs.	Rs.	R. s. p.	Rs.	Rs.	Rs.	R. s. p.	M. s.	M. s.	M. s.	M. s.				
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14,026	Columns— 3, 4, & 5 ... Bhanga or ganja is not cultivated in Coorg.	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14,029	6 to 8 ... No licenses were issued.	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14,028	9 to 12 ... Accounts of imports have not been kept by the former contractors prior to 1891-92.	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14,026		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	33,662	13 to 16 ... No exports during the years.	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	33,662	18, 19, 20 ... } No separate licenses have been given.	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	42,078	23, 24, & 25	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	42,078	27 to 41 ... Information is not available from 1873-74 to 1892-93 owing to the incorrect amount and license fees in ganja having been included in the amount of opium contract. Separate duty was not levied on ganja and other drugs.	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	41,575		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	41,575		
652 8 0	...	...	...	652 8 0	...	...	...	...	...	652 8 0	...	...	...	652 8 0	...	...	...	...	...	0.70	29,717	
658 0 0	...	...	...	658 0 0	...	...	...	...	...	658 0 0	...	...	...	658 0 0	...	...	...	...	...	0.70	29,717	
659 0 0	...	...	...	659 0 0	...	...	...	...	...	659 0 0	...	...	...	659 0 0	...	...	...	...	...	0.70	29,717	
693 0 0	...	...	...	693 0 0	...	...	...	...	...	693 0 0	...	...	...	693 0 0	...	...	...	...	...	0.75	29,717	42 to 45 ... Accounts were not kept by the contractors prior to 1891-92.
698 0 0	...	...	...	698 0 0	...	...	...	...	...	698 0 0	...	...	...	698 0 0	...	...	...	...	...	0.75	29,717	
698 0 0	...	...	...	698 0 0	...	...	...	...	...	698 0 0	...	...	...	698 0 0	...	...	...	...	...	0.75	29,717	46 ... Vide explanation for column 41, therefore the revenue per head of population is shown blank up to 1892-93.
798 0 0	...	...	...	798 0 0	...	...	...	...	...	798 0 0	...	...	...	798 0 0	...	...	...	...	...	0.85	29,717	
798 0 0	...	...	...	798 0 0	...	...	...	...	...	798 0 0	...	...	...	798 0 0	...	...	...	...	...	0.85	29,717	
798 0 0	...	...	...	798 0 0	...	...	...	...	...	798 0 0	...	...	...	798 0 0	41 20	...	...	...	...	0.88	29,942	
798 0 0	...	...	...	798 0 0	...	...	...	...	...	798 0 0	...	...	...	798 0 0	56 4	...	...	...	...	0.88	29,942	

In some years, was sold to the Government contractor by the owners of the fields.

BALUCHISTAN (QUETTA-PISHIN) MEMORANDUM.

No. 7432, dated the 30th December 1893.

From—The Political Agent and Deputy Commissioner, Quetta-Pishin,

To—The Agent to the Governor-General and Chief Commissioner in Baluchistan.

I have the honour to acknowledge the receipt of your office endorsement No. 6286, dated the 17th ultimo, forwarding a copy of the correspondence from the Secretary, Indian Hemp Drugs Commission.

2. In reply I beg to report that the only social body which seemed likely to take an interest in the matter appeared to me the "Band of Hops, Baluchistan," Quetta. It is comprised of men of almost all religious denominations, and the object is the total abstinence from all intoxicating drugs and drinks. A copy of the questions set forth by the Commission, together with a copy of the correspondence, was sent to the Secretary, who has written to say that "the society is not in a position to answer the questions."

3. The questions were sent to the Assistant Political Agent, Quetta, the Extra Assistant Commissioner, Pishin, and the Native Assistant, Chaman. The replies furnished by the Extra Assistant Commissioner, Pishin, is marked A. The other two officers have not answered any of the questions.

4. The questions set forth for "medical evidence" were forwarded to the following officers:—

- (1) Principal Medical Officer, Quetta ... 1 copy.
 (2) Agency Surgeon, for Civil Surgeon, Quetta, Hospital Assistant, Quetta, Pishin, and Chaman ... 4 copies.

They were requested to furnish the replies by the 15th instant, but no answer has yet been received. Their replies will be submitted to you immediately they are received in this office.

5. I have recorded my own replies to the questions, which are marked B.

6. A statement was attached to the Secretary's letter No. 28, dated the 11th August 1893, which requires information from 1873-74 to 1892-93. The Quetta-Pishin district was formed only in 1883, but I regret that the figures are not available for more than three years. These, too, as far as the number of retail licenses goes, are not very accurate, the information having been obtained from the contractors.

The contractors cannot furnish the quantities imported each year, nor the amount of each drug sold. One contract is given for intoxicating drugs, and the revenue derived from bhang, ganja, and charas respectively cannot be ascertained. From the statistics obtained for the first six months, April to September, of the current financial year, it appears that proportion of sales of the three articles is approximately as under:—

Bhang	...	...	...	...	...	1
Charas	...	...	...	...	...	12
Ganja	...	...	...	...	...	1
						14

7. The sale of these drugs is now regulated by the rules framed by the Revenue Commissioner on the 14th July 1893, which are embodied (*vide* pages 21, 22, 25, and 26) in a memorandum on the excise system of this district, a copy of which is enclosed, marked D.

8. In the third paragraph of his letter No. 28, dated the 11th August 1893, the Secretary has asked that a memorandum should be prepared setting forth clearly and fully the system of administration at present in force in respect to these drugs. To this letter a note is added containing the points in regard to which the Commission specially desire information. I beg to record below the information as far as this district is concerned:—

(a) The system is uniform in the district. The general control rests with the Deputy Commissioner. The administration of the system, which is based on Act XXII of 1881 and the rules made thereunder by the Revenue Commissioner, is carried out by the Assistant Political Agent at Quetta, the Extra Assistant Commissioner at Pishin, and the Native Assistant at Chaman.

(b) Wild hemp is not found in this district.

(c) Hemp is cultivated to a very small extent in one or two villages of the Quetta subdivision. The produce is sold to the Government contractor. The hemp produced during the last year, 1892-93, did not amount to more than some twelve seers.

(d) The contractors who obtain annually the right to sell the drugs by retail import the drugs. Permits are issued to them to enable them to import drugs from Sindh and the Panjab. No special measures are adopted to supervise the storing and transport of these drugs.

(e) The system of licensing the retail vend is given in the rules referred to in the 6th paragraph of this letter.

(f) The right to sell the drugs is sold annually by public auction. The amount thus fixed is recovered by monthly instalments.

(g) There is no "local option." The number of shops is fixed by the Deputy Commissioner. Shops are generally allowed in thickly populated parts of the town.

(h) No rate is fixed at which the drugs must be sold. The contractor fixes his own prices. The present retail prices of the drugs are the following:—

Bhang	...	...	...	Rs. 1 per seer.
Charas	...	...	...	Rs. 20 per seer or 4 annas a tola.
Ganja	...	...	...	7-8 per seer or Rs. 0-1-6 a tola.

(i) The maximum amount fixed for retail sale of each drug is the following:—

Bhang	...	...	...	½ seer.
Charas	...	...	...	5 tolas.
Ganja	...	...	...	5 "

(j) No cases of smuggling from other provinces or Native States have come to my notice.

(k) No modifications of the present excise system in respect to hemp drugs are under consideration.

Statistics relating to hemp drugs in the Province of Baluchistan

Year.	Total population.	CULTIVATION OF HEMP PLANTS FOR NARCOTICS.						AMOUNT OF IMPORTS FROM OTHER PROVINCES IN MALDAS AND SEERS.				AMOUNT OF EXPORTS TO OTHER PROVINCES IN KAUNDS AND FUSERS.				NUMBER OF LICENSES FOR WHOLESALE VEND.				NUMBER OF LICENSES FOR RETAIL VEND.					
		Area under cultivation.			License for cultivation.			Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.	Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.	Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.	Total.
1	2	3	4	5	6	7	8																		
(a)																									
1880-81	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	3	13	13	13	..	39
1881-82	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	3	13	13	13	..	39
1882-83	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	3	13	13	13	..	39
1889-91	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	3	9	9	9	..	27
1891-92	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	3	8	8	8	..	24
1892-93	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	3	7	7	7	..	21

(a) Census of 1891.

(b) C) grad, bang, and gaeja form one contract.

(c) Columns 9 to 15, information not available.

(Quetta-Pishin District) for the years 1873-74 to 1892-93.

AMOUNT OF LICENSE FEES.					AMOUNT OF FIXED DUTY.					TOTAL REVENUE.					QUANTITY SOLD (DETAIL).				Revenue per head of population, column 41 + column 2.	Population per retail license, column 2 + column 26.	Remarks.	
27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45				46	47	48
On ganja.	On charas.	On bangs.	On other preparations of the hemp plant.	Total.	On ganja.	charas.	On bangs.	On other preparations of the hemp plant.	Total.	From ganja.	From charas.	From bangs.	From other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bangs.	Of other preparations of the hemp plant.				
...	...	...	...	(b) Rs. A. P. 9,000 0 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	9,300 0 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	10,125 0 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	5,050 0 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	2,700 0 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	4,250 0 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
															Not known.							
															Rs. A. P.							
															9,000 0 0							734
															9,300 0 0							734
															10,125 0 0							734
															5,050 0 0							1,787
															2,700 0 0							1,954
															4,250 0 0							2,232

(3) Columns 27 to 30, 37 to 40, one contract is given for interdicting drugs. Details not available.

(e) Columns 32 to 36, no fixed duty is levied.

(f) Columns 42 to 45, statistics not available.

KASHMIR STATE MEMORANDUM.

1. Cultivation of hemp does not prevail in Kashmir.
2. The hemp plant, however, grows spontaneously throughout Kashmir proper.
3. It is abundant in Wantipora, Haripora, and Anantnag tahsils of the Anantnag district, and in the Nagam tahsil of the Srinagar District, growing on both banks of the river Jhelum and Arveni and Kaimu nullahs.
4. The growth of wild hemp is ordinarily dense. Almost all wild hemp which is called Talia in the Punjab, and is generally female plant in the above-mentioned tahsils, is used for the preparation of ganja locally known by name gard bhang (chura charas).
5. The total quantity of gard bhang annually manufactured in ordinary years is about 70 maunds, but in the year Sambat 1950 the total production of ganja amounted to about 35 maunds, the hemp plant having been considerably damaged by the recent flood.
6. Four hundred maunds of fibre are annually produced, but, for reasons stated above, the total quantity of fibre in Sambat 1950 amounted to 160 maunds only.
7. Down the city on both banks of the river Jhelum wild hemp known as Kathiya bhang does not produce gard bhang (chura charas), and it is only used for its fibre and twigs for burning.
8. About 600 maunds of fibre is annually produced down the river and in the Utarmachi-pura and Sri Pratap Singhpora tahsils and ilaqa Magan of the Pattan Tahsil and Kishahama.
9. Zamindars pay to the lessee fixed amount as duty which varies according to the extent of the growth for the fibre and twigs of the hemp plant growing down the city and in the tahsils mentioned in paragraph 8.
10. The leaves of the hemp plant are trodden under foot, and cleaned by sieve to prepare gard bhang, and this process is continued until the leaves are reduced to powder and seeds separated. This is always done by lessee in Srinagar, where the leaves are brought to undergo this process of manufacture.
11. Manufacture and sale of gard bhang (chura charas) and fibre are auctioned, and the highest bid in the current year, Sambat 1950, amounted to Rs. 3,240.
12. The monopoly of sale is practically given to the lessee, who appoints his own men for retail sale and makes his own arrangements for control of the growth of the wild hemp plant, the production of the ganja, and for its fibre.
13. The number and sites of retail shops are not fixed, and it is optional for the lessee to open retail shops at suitable places not objected to by the people according to the requirements of the consumers.
14. The maximum quantity for retail sale to, or possession by, the ordinary consumers of gard bhang is 5 tolas.
15. No minimum price is fixed for "gard bhang," but it is usually sold at 3 pice per tola.
16. Illicit sale to, and possession of gard bhang by, consumers in excess of the maximum amount are now generally dealt with on the criminal side under the State Penal Code for disobedience of rules duly promulgated. The rules are, however, defective and make no provision for prosecuting a man manufacturing ganja without a license or destroying the wild hemp plant, or for other similar cases, or binding the lessee to keep up register of produce of the drugs and sale. Framing of the new rules as more effective preventive measures for such purposes is under consideration.
17. The illicit sale of the Yarkand charas apparently prevails, but to a very small extent, as the Yarkand charas is not liked by the Kashmiris, which is the only drug passing through Kashmir for British India.
18. The drug being usually leased, lessee makes his own arrangements for prevention of the illicit sale, as he does for the control of the growth of the plant. The contractor of duty on custom and octroi also in his own interest has supervision on the Yarkand charas to see that it passes the country sealed intact, as, if sold in the city, he is entitled to duty on the same.

19. The annual consumption of the ganja or locally known gard bhang (chura charas) is about 63 maunds, or, in other words, the entire quantity thus manufactured is locally consumed.

20. The gard bhang as produced in this province is of inferior quality, and being not liked by the people in British India its smuggling is of rare occurrence, or in fact I cannot quote a single case of this nature.

21. In the present year lessee, on account of damage done to the hemp plant by the recent flood, could not produce more than 35 maunds, and he had therefore purchased the Yarkand charas passing through Kashmir to meet the local requirements by mixing the Yarkand charas with the local produce, foreign produce being not liked by the consumers, generally.

22. Green or dry leaves of bhang are not sold for drinking and smoking. Bhang is very seldom used in this province for drinking and it is not at all used for smoking, and the people drinking it, whose number can hardly be more than 200, clean the dry leaves in their houses and roast them a little. A few dry leaves are put in a koondi with some black-pepper to prepare a fluid, and sometimes sugar also is mixed to make the liquid sweet to the taste. There is no prohibition for possession of the bhang leaves in any quantity.

23. Bhang is also used in the preparation of majum, which is eaten to some extent by the Hindustanis and well-to-do Kashmiris.

24. The quantity of majum does not exceed one maund a year.

25. Majum is manufactured by slightly boiling leaves, which are taken out of water and put into hot ghi; ghi possessing narcotic properties when mixed with ata and sugar makes majum for eating, but there are no habitual eaters of majum.

26. Cultivation of hemp in this province is only impossible on the hills; and, excepting the stony lands, it can be cultivated throughout the province; but on account of the wild hemp, the growth of which is abundant throughout Kashmir proper, cultivation of the plant does not prevail at all, though not prohibited by the State.

27. Higher up the river in the three tahsils of the Anantnag district and in the Nagam tahsil of the Srinagar district the hemp plant is cut by the zemindars of the neighbouring villages in the month of Kartik, lessee on behalf of the State, when hemp and manufacture of ganja are auctioned, receiving leaves of the plant in full and half of the fibre, the rest half of the fibre and the twigs going to the zemindars in lieu of their wages.

28. Ganja does keep good with ordinary care in skins of sheep at most for two years after which it quite loses its effect, and no measure can prevent its deterioration. If not carefully kept free from wet and atmosphere, it loses its effect earlier than this.

29. Fakirs and a few Musalmans and Pandits of the Srinagar city and towns smoke gard bhang (chura charas).

30. The villagers are not accustomed to these drugs.

31. The total number of persons who do smoke ganja is in this province approximately 2,000, and including the people of British India, the servants of visitors in spring, and the fakirs visiting the country on pilgrimage, the number may fairly be taken as 2,500, and they can be classed as follows:—

Habitual moderate consumers, each consuming as an average about $\frac{1}{2}$ tola per diem, costing about one pice Kham	...	...	...	2,000
Habitual excessive consumers, each consuming as an average about 1 tola per diem, costing 3 pice	...	...	...	50
Occasional moderate consumers, each consuming as an average about one masha	...	...	...	400
Occasional excessive consumers, each consuming about $\frac{1}{2}$ tola, costing 2 pice and a pie	...	...	...	50

Bhang is believed to be an astringent and anti-rheumatic also.

32. The consumers are generally of low classes, Muhammadan and Hindu fakirs and a few notoriously bad characters, though well-to-do persons, mostly illiterate, idleness leading them to the practice of consuming gard bhang, and they are generally grown-up men.

33. The use of the hemp drug as a habit is doubtless injurious mentally and physically, but there are other stimulants which are in no way less injurious than these drugs. The use of bhang for drinking, which is in no way stimulant, is of course most injurious, making the consumers lazy, coward, and senseless when taken in excess.

34. Bhang is considered as digestive, but I have seen cases in which consumers being intoxicated ate much, and the result was on the contrary just the reverse, causing indigestion and leading to frenzy.

35. It is easier than opium to break off the habit of smoking ganja or gard bhang as locally known, and the habit of consuming the same is due to bad company and idleness, which may gradually develop into the excessive, though moderate in the beginning. Considering

the population of the province, which, according to the recent census, is 949,041 souls, the number of consumers of *gand bhang* is very small, and in case of entire prohibition, which may give rise to discontent among the habitual consumers, it cannot amount at all to a political danger in the Kashmir Province.

36 The area under the wild *bhāng* being not measured and the lessees being not required under the rules to keep up registers, I cannot furnish information by years as asked for in the statement. I, however, give revenue on account of hemp drugs for the last twenty years. I could not get any further information for compilation of the statement, and it is impossible to prepare statement without such information as far as figures by years are concerned.

				Year.	Revenue.	Remarks.
					R. A. P.	
Sambat	1931	...	...	...	8,708 4 0	
"	1932	...	...	...	8,371 11 0	
"	1933	...	...	...	9,517 2 0	
"	1934	...	...	...	9,367 11 0	
"	1935	...	...	...	1,039 9 6	
"	1936	...	...	...	1,053 6 0	
"	1937	...	...	...	3,471 0 0	
"	1938	...	...	...	3,200 0 0	
"	1939	...	...	...	3,200 0 0	
"	1940	...	...	...	3,239 0 0	
"	1941	...	...	...	3,809 5 0	
"	1942	...	...	...	4,250 0 0	
"	1943	...	...	...	4,250 0 0	
"	1944	...	...	...	4,350 0 0	
"	1945	...	...	...	4,347 0 0	
"	1946	...	...	...	4,750 0 0	Revenue is entered in "Chilki" rupees, one "Chilki" being equal to 10 annas Imperial.
"	1947	...	...	...	6,008 5 3	
"	1948	...	...	...	8,320 0 0	
"	1949	...	...	...	7,102 9 6	
"	1950	...	...	...	5,181 0 0	

NEPAL DARBAR MEMORANDUM.

ANSWERS TO QUESTIONS RELATING TO HEMP DRUGS.

The ganja of this part of the country is of two kinds, the stem of one is white and of the other black: the latter is better than the former. Some of the plants of both kinds bear flowers, and such plants are no good. The plant which does not bear flowers, and the fine leaves of which get twisted together, is the ganja. The method of preparation is as follows:—

When the plant puts forth fine down, the tip of the plant is cut off and the big leaves are plucked off, and the plant is shaken from time to time, so that the down may fall off. This causes a large number of branches and fine leaves to be produced and the latter getting twisted and stuck together are called in Nepalese *Lāṭā*. When it is found that the plant is in the *Lāṭā* state it is cut down and kept in the dew for about a week, and after that each *Lāṭā* is separately wrapped in a piece of fine plantain bark and being tightly tied with string is put by. Some people flatten it by pressing it under pieces of tat (gunny). Two or three days after this it becomes fit for use. The ganja plant exudes a thin gummy water. That plant is squeezed between the palms of both hands, and the gummy substance, which sticks to the hands, is scraped into a vessel and is called *charas*. This *charas* is also of two kinds: the second kind is here called *Yarkān* and is somewhat better than *charas*.

Near the Himalayas west of Katmandu, that is, in the hills from Mankamana to Redi, the ganja grows somewhat more abundantly than in the other mountainous parts of Nepal, and in the Nepalese Terai it is also somewhat more abundant than in the hills.

Ganja is known by no other name in this country; both the black and white stem plants are called ganja. The plant which produces much seed is no good; that which produces little seed is good.

It cannot be ascertained in what special kind of soil and at what elevations it grows, because it grows here in different places.

Sometimes it grows densely and sometimes scattered. It has no particular habit in this respect.

No one cultivates ganja in this country. Some persons in the hills plant a few trees which are to be had growing wild. The leaves of the plants which bear flowers are *bhāng*. Particulars regarding *charas* are given in answer to question No. 2.

Ganja is not cultivated here, it grows wild, so no methods of cultivation can be stated.

By slitting the stem of the plant and inserting a piece of opium or clove or *bhiroza* wood and tying up the part with string, the ganja becomes somewhat more intoxicating. This is done by those who know about it and is not the work of any particular class.

No one sows the ganja seed in this country; the plant grows wild.

The male plant of the ganja is solid and the female one is hollow. The male plant is more intoxicating than the female. When the plant has attained a height of two or two and a half feet it is slightly slit, and ascertained whether it is a male or female.

There is no one in this country who cultivates only ganja, and it is not the custom to cultivate it here, because it grows wild in different places. Therefore it cannot be stated in what kind of soil it grows. There being no cultivators of it, there is no prohibition against its cultivation. A small duty is levied simply to keep down consumption.

MEMORANDUM

ON THE SYSTEM OF ADMINISTRATION IN HIS HIGHNESS THE NIZAM'S DOMINION IN RESPECT TO THE HEMP DRUGS.

I.—The control of the growth of the hemp plant.

1. The use of the drugs in question in this dominion being very limited, and having never prevailed in any considerable extent, have drawn no particular attention of the administrators to attach any special rules or regulations in the shape of law in respect of the same. However, it is not allowed that any one may grow the hemp if he likes to.

Though there is no particular staff to take care of growing the hemp, yet the contractors of the ganja sale monopoly watch this very keenly, and at their complaints and bringing the cases to the notice of the local Revenue authorities due action is taken to destroy the crop grown by any person for his private use.

No order or any kind of license is required for growing the hemp: any one if he knows the secrets of growing and curing it can cultivate the same, but it is an understood law that he must sell the produce to the authorized contractors. There not being any strict supervision or control over this, it cannot be said that this rule is invariably and strictly observed. But at the same time it may be noticed here that there are very limited number of cultivators in a very few places in the whole territory who know the art of growing and curing ganja, and it is grown not more than enough for the local wants.

2. As no wild hemp has been found to grow in this country, therefore no notice about it is taken.

3. The export and import of the drugs to and from the British territories are very systematically and strictly controlled by the Custom Department and a duty of Rs. 10 per maund is levied on the import as well as on the export of ganja and Rs. 3-5-0 on bhang.

N.B.—Only one kind of ganja, flat, is manufactured here; the broken leaves of the plant go as bhang, which is of very inferior kind. Charas is almost unknown in the whole dominion.

II.—The sale of hemp drugs.

4. The sale of ganja is controlled and restricted by giving the monopoly of it to one person or company for a limited jurisdiction. The system of giving the monopoly as a rule is uniform for the State. It is auctioned at the end of a financial year by the Revenue officers in their districts, in part and parcel for one or more years. In small districts the contract of the sale is given together with other poisons three or four* in number, and even with the opium, because, owing to the small sale of the drugs in question, people do not venture to take them separately. The contract for Hyderabad City is given by the Excise Department. The contract given by the Revenue officers also remain subject to the administration and orders of the Commissioners of the Department.

5. The said contractors are authorized to purchase ganja from the growers—they keep a store of it and sell it to the retail vendors, or keep their own shops in their jurisdiction. These contractors generally sublet the retail vending, and supply the drugs at some fixed or the market rates. The contractors purchase their stock from the places within the State which have reputation for growing ganja. Only in very bad years, when the ganja crop totally fails here, it is imported from the British territory, and the same cause makes it export. The custom duty on the frontier of the State is against the trade.

6. There is no restriction of any other kind in the sale of the drugs—it can be sold at any place, to any person, and up to any quantity.

No site for shops is fixed by the Government authorities, i.e., the Excise or Revenue officers. In the districts no license for the shop is required and no shops are auctioned.

The stock kept by the wholesale contractors and the shops of the retail vendors are under no inspection and supervision.

The sale being so small, and there being no fear or chance of any kind of smuggling no supervision is necessary.

7. No rate of the whole or retail sales of the drugs is fixed. The average price of the wholesale of ganja has been about Rs. 25 per maund, and to the retail vendors it is sold for

Rs. 1 to 1½ per seer, who sell it to the consumers at the rate of one tola from about ¼ to ½ an oz. for a quarter of an anna, the bhang from 1 to 2 ozs. for the same money, and the majum about one ounce for one anna.

As far as my inquiries go, about the same prices seem to prevail in all parts of the dominion in an ordinary year; but in a bad year, and when ganja is imported from outside of the State and for which the custom duty at the rate of Rs. 10 per maund is paid, the price rises. In some part it has been double last year, as owing to the excess of rain the ganja crop had failed.

8. No maximum or minimum price or amount is fixed by the Government for any kind of sale, or possession by ordinary consumers, or for retail sale of the drugs.

9. As enough of the hemp is grown in this country, as it is quite a cheap thing, as stated before, and as the customs duty is a great check upon its trade, consequently there is no temptation for any kind of smuggling from other provinces or any other Native State, the illicit cultivation, possession, or the sale of the drugs; hence no special measures to prevent this are necessary.

10. As the Government revenue from this source is very limited and the consumption of the drugs is not great, therefore the modifications of the present excise system have not attracted any particular attention. However, at any want of the kind being felt, due actions certainly will be taken by the Excise Commissioner.

III.—The Government revenue and the duties imposed on the drugs.

Till some five years ago, the drugs in question were sold in Hyderabad City by a few shopkeepers who had enjoyed the monopoly of it for years at the payment of certain sum called "nazrana." In the districts the monopoly of the sale of them together with other poisons was also enjoyed by certain banyas uninterruptedly. The Government circular, No. 52, dated 1294 Hijri, provides that a duty from annas 2 to Rs. 3 per month will be levied on the ganja and bhang shops in the town of Hyderabad, and accordingly the nazrana or mashul was paid.

From the year 1298 F=1889 A.D., this system was changed with giving the monopoly to the highest bidder.

As the drugs under the standing arrangements are generally included with the contract of opium or the contract of other poisons, as stated before, therefore their separate account and statistics are not available; but the following figures and the appended statements will give a fair idea of the financial aspects of the matter under report.

The statements A and B* will show the export and import for last five years of ganja and bhang respectively from and to British territory, as well as the places in His Highness's dominions subject to octroi. They prove that the trade of the drugs is not much.

When the crop in this country fails, a little of it is imported, and the same case is vice versa. The custom duty, which is Rs. 10 per maund on ganja and Rs. 3-5 per maund on bhang, is perhaps against this trade.

Statement C* will show the rail-borne traffic for last five years of the drug from the tract in which the hemp is sown for the use of about two-thirds of the population of this country. Of course the statistics for the quantity carried by other means are not available. However, the figures and other facts prove that the production of the drug is very limited. For instance, in Hyderabad City and cantonment there are no more than 46 shops, and in the whole dominions only 270 shops of ganja and bhang; 28 shops of majum are at present in Hyderabad, and about 50 shops of the same are in all districts.

Some of the majum shops in the districts are temporary; they make and sell majum only in Moharrum, Holi, and such other festivals.

The revenue derived in the city of Hyderabad for last five years stand thus:—

					Rs. A. P.
For the year 1298 F.	...	...	...	...	986 15 7
" 1299 F.	...	...	...	...	1,600 0 0
" 1300 F.	...	...	...	...	1,600 0 0
" 1301 F.	...	...	...	...	1,600 0 0
" 1302 F.	...	...	...	...	1,100 0 0

The monopoly of the districts has been sold for the amount as follows. This includes the sale of other poisonous drugs too:—

					Rs. A. P.
For the year 1298 F.	...	...	...	...	10,900 9 0
" 1299 F.	...	...	...	...	9,762 3 0
" 1300 F.	...	...	...	...	10,227 7 7

*Not printed.

The above statement is exclusive of the monopoly given by the Sarfkhas, Paigha, and Jagirs, for which no statistics are available. The Government revenue from the custom duties on the import and export of ganja and bhang for the last five years has been as follows:—

Name.	Year.	Import.	Export.
		Rs. A. P.	Rs. A. P.
Ganja	1297 F.	334 8 0	194 0 0
	1298 F.	375 8 0	48 4 0
	1299 F.	701 8 0	22 0 0
	1300 F.	704 12 0	2 3 0
	1301 F.	753 8 0	189 8 0
TOTAL	.....	3,969 12 0	455 15 0
Bhang	1297 F.	45 5 0	.....
	1298 F.	51 12 0	6 3 0
	1299 F.	58 10 0	.....
	1300 F.	55 15 0	.....
	1301 F.	55 11 0	.....
TOTAL	.....	267 5 0	6 3 0

The sale of the drugs in the towns visited by me for the purpose is ascertained thus:—

	Ganja.	Bhang.
Hyderabad, per day	1½ maunds.	20 to 40 seers.
Raichur	1 to 2 seers.	½ a seer.
Gulbarga	10 to 15 seers.	
Aurangabad	2 to 3 „	About 1 seer.

For further details *vide* my answer to the printed question forwarded on the 12th of November 1893.

M. HOSSAIN,

Director of Agriculture and Commerce, Nizam's Dominions.

MEMORANDUM ON GANJA IN MYSORE BY MR. L. RICKETTS, EXCISE COMMISSIONER.

1. The species of Indian hemp which is in use in the Mysore Province, under the appellation of "ganja" in Hindustani, or "Bangi-soppu" in Kanarese, is what is generally known as the *Cannabis sativa* of Linn. The plant is cut during inflorescence with the resin carefully preserved on the leaves, dried and made into bundles.

2. The cultivation of the above hemp in Mysore is forbidden except under a free license granted by the Deputy Commissioner of the district on condition that, within one month after the preparation of ganja, the latter shall be sold to the licensed ganja contractor at a fair valuation, or exported under the Deputy Commissioner's pass, and that the licensee may, if he so desires, retain for his own private consumption ganja not exceeding 14 lbs., provided that the area of the land cultivated with hemp is not less than one acre. Except in three or four small plots of land in which the licensed cultivators failed from inexperience to make proper ganja, no attempt has been made by any one to grow the hemp in this province, evidently owing to the cultivators of land being ignorant as to the stage of growth when the plants should be cut so as to be fit for ganja. Therefore the ganja required for consumption in this province is imported from the Madras Presidency. Wild hemp is nowhere found in this province. Self-sown hemp is occasionally to be met with in gardens and backyards of native houses; but when found they are immediately uprooted and destroyed.

3. Besides the pure ganja, the only preparations of it generally used and recognized in this province are majum and halva. Majum is a condiment made with ganja powder and other materials in the following proportions:—

	By weight.
Ganja powder	20 seers.
Poppy-seeds	10 „
Dalchini (cinnamon) and anise-seed	6 „
Jaggery	2 maunds.
Ghee	3½ seers.

The ganja powder is put into syrup made of jaggery and water and boiled. The mixture is then boiled with ghee and the other ingredients above referred to to form what is called majum. Halva is also a condiment prepared from the expressed juice of ganja powder boiled in water. In the liquid so obtained, sugar is dissolved and mixed with almonds, plums, cloves, nutmeg, cinnamon, cardamoms, anise-seed, and other spices.

4. The system under which the revenue from ganja is derived by the Darbar is the minimum guarantee system, under which the sole monopoly of the wholesale vend of ganja for the whole province, exclusive of the Civil and Military Station of Bangalore, is given out on contract for fixed periods, on condition that the contractor of the wholesale vend shall guarantee to the Darbar that the duty payable by him on the wholesale vend of ganja and majum at the prescribed rates shall not be less than the amount guaranteed by him per annum; that he shall sell drugs only to licensed vendors; that the drugs sold shall be of good quality; that he shall always keep on hand not less than one month's supply at each wholesale shop and two months' stock at the provincial head-quarters depôt at Bangalore; that he shall carefully account for all receipts and expenditure of the drugs; and that disorderly conduct and irregular transactions at wholesale shops shall be strictly prohibited. As the hemp is practically not cultivated in this province, as explained in paragraph 2 above, the contractor is permitted to import the supplies of ganja from the Madras Presidency. The bulk of ganja consumed in this province is obtained by him from the North Arcot district of the Madras Presidency at an average cost of 2 annas per seer. No modifications in the present system are under contemplation.

5. The rates of duty payable to the Darbar on the wholesale vend of ganja and majum are as follows:—

	As.
Ganja per seer of 24 tolas	6
Majum or any other preparation of ganja except halva per seer of 24 tolas	2
No duty is levied on halva.	

6. The prescribed wholesale prices at which the contractor is bound to sell the drugs to licensed retail vendors are—

Wholesale rates.	As.
Ganja per seer of 24 tolas ...	10
Majum or any other preparation except halva per seer of 24 tolas ...	4

It will be seen from the above figures that the rates of gross profit allowed to the contractor by the Darbar are 4 annas per seer of ganja and 2 annas per seer of majum. It has been ascertained that the contractor's costs per seer of ganja are 8 annas and 11 pies, so that he gains 1 anna and 1 pie on every seer of ganja sold by him.

7. The minimum annual amounts guaranteed by the contractor for the current contract of four years from 1st July 1893 to 30th June 1897 are as per particulars below:—

	Rs.
For 1893-94 ...	12,500
" 1894-95 ...	13,000
" 1895-96 ...	13,500
" 1896-97 ...	14,000
4) 53,000	
13,250	

average per annum.

8. The wholesale vendor shall not sell the drugs in any less quantity than as specified below:—

	Ganja.	Majum.
	Seers.	Seers.
In Bangalore and Mysore towns ...	10	5
At all other places ...	5	2

9. The wholesale shops licensed free by the Deputy Commissioners of districts for the convenience of retail vendors number as follows:—

Districts.	No.
1. Bangalore, ...	14
2. Kolar ...	9
3. Tumkur ...	5
4. Mysore ...	9
5. Hassan ...	5
6. Kadur ...	5
7. Shimoga ...	7
8. Chitaldrug ...	3
TOTAL	57

10. The number of retail shops is limited to meet the wants of the consuming public. The existing retail shops are as per particulars below:—

Retail shops.	No.
1. Bangalore city ...	3
Rest of the Bangalore district ...	21
2. Kolar ...	18
3. Tumkur ...	8
4. Mysore town ...	6
Rest of the Mysore district ...	14
5. Hassan ...	5
6. Kadur ...	9
7. Shimoga ...	22
8. Chitaldrug ...	3
TOTAL	109

11. In principal towns the rates of retail shops to population are as follows:—

Bangalore city, 1 to 26,762 inhabitants.
Mysore town, 1 to 12,341 inhabitants.
In the mofussil, excluding the above towns 1 to 46,892 inhabitants.

12. The prescribed retail prices at which licensed retail vendors are bound to sell the drugs to the public are:—

Retail rates.	As.
Ganja per seer of 24 tolas ...	13
Majum or any other preparation, except halva, per seer of 24 tolas ...	6

The rates of profit allowed to them by the Darbar are therefore 3 annas per seer of ganja and 2 annas per seer of majum.

13. No license fees are levied for the retail vend of the drugs except in the cities of Bangalore and Mysore, where a fee of Rs. 3 per mensem is charged for each license.

License fees.

14. The licensed retail vendor shall not sell more than 4 tolas weight of the drugs to any person during any one day. He shall not permit disorderly behaviour in his shop or premises, suffer any gambling whatever therein, knowingly permit prostitutes or persons of bad character to meet therein, or permit any person to take the drugs in any such quantity as to produce stupefaction or to consume the same in the shop or premises, or knowingly sell the same to persons keeping ganja-khanas, where people resort to smoke or partake of the drugs. He shall be bound to give information of suspicious characters to the Magistrate or Police officer.

Restrictions to retail vend.

15. The direction and control of the administration of ganja revenue, as well as other items of excise revenue, vest in the Excise Commissioner, the principal executive authorities being the Deputy Commissioners of districts.

Direction and control of the administration of ganja revenue.

16. The Excise laws under which the ganja revenue is administered throughout the province under one uniform system described in paragraph 4 above are the Imperial Excise Act XXII of 1881 as amended by Act VI of 1885; and as extended to this State by Regulation III of 1895 and the rules framed thereunder.

The Act and Rules in force.

17. The drug is imported by the contractor on duly signed passes, and, on its arrival at Bangalore, it is duly weighed and checked with the entries in the passés by the Government supervisor in charge of the provincial depôt. The drug is then stored in the provincial depôt. The requisite supplies of the drug are on written application issued to the wholesale shops under the contractor with transport passes duly signed and sealed by the supervisor in charge of the provincial depôt. On arrival of the consignments at the places of destination, the local taluk officials duly check them and make them over to the wholesale vendors concerned, who at once duly book the consignments in the prescribed registers furnished by the Darbar. The wholesale shops are from time to time inspected and the sales therein checked and verified by the inspecting officers of the department. The sales in retail shops are likewise checked and verified by the said officers.

Mode of collection of duty and precautions against evasion.

18. The duty is collected in the following manner:—

- (1) The minimum amount guaranteed by the contractor is payable to the Darbar in 12 equal monthly instalments on or before the 20th of each month.
- (2) The contractor shall pay into the local treasuries of the State duty on wholesale sales of the drugs at the prescribed rates. If the total amount of the duty accruing on the wholesale sales be not sufficient in any month to make up the instalment of the guaranteed amount for that month, the contractor shall pay such further amount as may be required to make up the deficiency. On the other hand, if the said duty exceed the said instalment, the excess shall be available to make up the deficiency in any other month of the same official year, this deficiency being adjusted by short payments into the treasury when the instalment for the month is tendered to the extent of such net excess sales as may be available when such instalment fell due. If the total amount of duty due on the wholesale sales for any year of the contract period exceed the guaranteed amount for that year, the contractor shall not be entitled to the benefit of such excess.
- (3) To secure the duty leviable on the drugs imported and consumed the following precautions are adopted:—
 - (a) No one shall be permitted to import or sell the drugs by wholesale except the licensed contractor.
 - (b) Any person found in possession of more than 5 tolas of the drugs shall be liable to prosecution.
 - (c) No person except licensed vendors shall sell the drugs in any form whatever.
 - (d) No one except the licensed contractor shall purchase the drugs from any one permitted to cultivate the hemp.

19. The right of retail vend is not disposed of generally by public auction. But when more than one application is received for one and the same shop, the Deputy Commissioner of the district concerned sometimes puts it up to auction. When an application for a license to sell the drugs is received, the local residents and officials are consulted; and if the want for a shop is really felt, the license is granted by the Deputy Commissioner with the previous sanction of the Excise Commissioner, the site for the shop being fixed by the Deputy Commissioner.

20. In addition to the establishment of a separate excise staff for the prevention and detection of clandestine cultivation and import of ganja, the members of the Police Revenue Sayer, Octroi, and Municipal Departments have been appointed as Excise officers under sections 24 and 34A of the Excise Act. Illicit cultivation and smuggling are not carried on to any appreciable extent.

21. Ganja is used for smoking by simply crushing the dry leaves and mixing them with tobacco in the proportion of two parts of the former to one part of the latter. Majum and halva are generally eaten in sweetmeats. An infusion of the withered flowers of the hemp plant is occasionally made and mixed with pepper, poppy-seed, and fried Bengal gram, the preparations being either diluted and drunk under the name of "ramras," or made up into pills and swallowed, or dissolved in jaggery water and milk or expressed juice of the cocoanut and drunk under the name of "bhang." The generality of the consumers are said to be Mahomedans, many of whom are idle and disreputable men of the lower classes, as also Bairaghis, Gosayis, Rajputs, and a few other Hindus. It is represented that where the quantity consumed is below 2½ tolas weight, it does not produce any bad effects; but where this is exceeded, stupefaction or even temporary insanity is the result. In the Lunatic Asylum, Bangalore City, instances were to be met with of patients affected by excessive use of ganja. The Excise Commissioner is, however, not aware of any instances in which crime was excited under its influence or permanent insanity was produced by it. He is informed that it tends to affect the nervous system and undermine the constitution gradually.

22. The revenue from ganja for the past 20 years is as per particulars below:—

Years.	Revenue. Rs.
1873-74	10,296
1874-75	9,959
1875-76	11,312
1876-77	11,240
1877-78	11,026
1878-79	10,224
1879-80	6,190
1880-81	4,036
1881-82	6,033
1882-83	6,127
1883-84	7,528
1884-85	8,061
1885-86	8,556
1886-87	6,963
1887-88	6,872
1888-89	7,557
1889-90	9,400
1890-91	11,501
1891-92	15,517 for 15 months or 12,411 for 12 "
1892-93	14,197

In the year 1878-79 the privilege of selling ganja in the province was partly rented out and partly worked under a system of license fees. The gradual fall of the revenue from 1879-80 was due to the contract system having been replaced by the *amari* management. In consequence of efficient preventive measures adopted since June 1889 to put down illicit cultivation of the hemp and smuggling of the drug, the revenue increased from Rs. 9,400 in the year 1889-90 to Rs. 14,197 in the year 1892-93. In 1891-92 the official year was ordered to be reckoned from 1st July to 30th June instead of from 1st April to 31st March, and therefore

that year consisted of 15 months, during which period the revenue amounted to Rs. 15,517, the average for 12 months being Rs. 12,414. As the ganja contract of the Civil and Military Station of Bangalore has been given out separately by the Resident since the year 1886-87, the ganja revenue thereof is not included in the abovementioned figures from 1886-87.

Consumption of ganja. The total consumption of the drugs in 1892-93 was 41,326 seers.

Incidence of consumption per head of population. The incidence of consumption per head of population in 1892-93 was one-fifth of a tola.

Incidence of ganja revenue. The incidence of ganja revenue per head of population in 1892-93 was ¼ pie.

The arrack and toddy revenue for 1892-93 being Rs. 15,92,475-5-6 and Rs. 13,89,054-8-8, respectively, the ganja revenue for the same year is inconsiderable when compared with the arrack and toddy revenue and also with the total population of the province, excluding the Civil and Military Station of Bangalore, namely, 4,843,523 inhabitants.

MYSORE

Statistics relating to hemp drugs

Year.	Total population of district.	CULTIVATION OF HEMP PLANT FOR NARCOTICS.						AMOUNT OF IMPORTS FROM OTHER PROVINCES OR STATES IN MANDS AND SEERS.				AMOUNT OF EXPORTS TO OTHER PROVINCES OR STATES IN MANDS AND SEERS.				NUMBER OF LICENSES FOR WHOLESALE VEND.					NUMBER OF LICENSES FOR RETAIL VEND.					
		Area under cultivation.			Licenses for cultivation.			Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.	Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.	Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.	Total.	
		3	4	5	6	7	8																			9
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
1873-74	1,073,003 C. and M. Station S1510							M. s.	M. s.	M. s.	M. s.	M. s.	M. s.	M. s.	M. s.											
1874-75																										
1875-76																										
1876-77																										
1877-78																										
1878-79																										
1879-80																										
1880-81																										
1881-82																										
1882-83																										
1883-84	4,008,613 C. and M. Station 02510																									
1884-85																										
1885-86																										
1886-87																										
1887-88									544 19								43			5	4	86			14 119	
1888-89									690 2								43			5	48	90			14 110	
1889-90									543 20								49			6	52	94			16 108	
1890-91									587 26											6	63	89			15 104	
1891-92									4,608 38									52			6	61	107			15 122
1892-93									467 12									67			7	64	106			16 125
								1,829 32									67			7	84	108			16 125	

18th September 1893.

MYSORE MEMORANDUM.

DATE.

for the years 1873-74 to 1892-93.

AMOUNT OF LICENSE FEES.					AMOUNT OF FIXED DUTY.					TOTAL REVENUE.					QUANTITY SOLD (RETAIL).				Revenue per head of population, column 41 + column 2.	Population per retail license, column 2 + column 36.	Remarks.
On ganja.	On charas.	On bhanga.	On other preparations of the hemp plant.	Total.	On ganja.	On charas.	On bhanga.	On other preparations of the hemp plant.	Total.	From ganja.	From charas.	From bhanga.	From other preparations of the hemp plant.	Total.	Of ganja.	Of charas.	Of bhanga.	Of other preparations of the hemp plant.			
27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45			
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	M. s.	M. s.	M. s.	M. s.	Rs. s. p.	47	48
					10,296	...	...	...	10,296	10,296	...	...	...	10,296					0 0 4	...	
					9,939	...	...	...	9,939	9,939	...	...	...	9,939					0 0 4	...	
					11,342	...	...	...	11,342	11,342	...	...	...	11,342					0 0 4	...	
					11,240	...	...	...	11,240	11,240	...	...	...	11,240					0 0 4	...	
					11,026	...	...	...	11,026	11,026	...	...	...	11,026					0 0 4	...	
					10,224	...	...	...	10,224	10,224	...	...	...	10,224					0 0 4	...	
					6,130	...	...	...	6,130	6,130	...	...	...	6,130					0 0 2	...	
					4,036	...	...	...	4,036	4,036	...	...	...	4,036					0 0 2	...	
					6,033	...	...	...	6,033	6,033	...	...	...	6,033					0 0 3	...	
					6,127	...	...	...	6,127	6,127	...	...	...	6,127					0 0 3	...	
					7,523	...	...	...	7,523	7,523	...	...	...	7,523					0 0 3	...	
					8,061	...	...	...	8,061	8,061	...	...	...	8,061					0 0 4	...	
					8,556	...	...	...	8,556	8,556	...	...	...	8,556					0 0 4	...	
					6,943	...	...	...	6,943	6,943	...	...	...	6,943	438 29	...	...	30 4	0 0 3	44,032	
					6,872	...	...	...	6,872	6,872	...	...	...	6,872	512 17	...	...	27 29	0 0 3	44,032	
					7,557	...	...	...	7,557	7,557	...	...	...	7,557	434 32	...	...	40 30	0 0 3	44,344	
					9,400	...	...	...	9,400	9,400	...	...	...	9,400	642 14	...	...	29 0	0 0 4	46,872	
					11,501	...	...	...	11,501	11,501	...	...	...	11,501	794 38	...	...	24 25	0 0 5	39,701	
					15,570	...	...	...	15,570	15,570	...	...	...	15,570	1,078 16	...	...	31 36	0 0 6	38,748	
					14,197	...	...	...	14,197	14,197	...	...	...	14,197	1,006 12	...	...	27 33	0 0 5	38,748	
Included in the Total Ganja Revenue.																					

L. RICKETTS,

Excise Commissioner.

EXTRACT FROM MEMORANDUM REGARDING GANJA AND ITS PREPARATIONS IN MYSORE BY MR. J. G. McDONNELL, SPECIAL ASSISTANT EXCISE COMMISSIONER IN MYSORE.

I.—I framed the two sets of draft rules to deal with the check and supervision over drugs falling under the Excise Act for both the Mysore State and the Civil and Military Station of Bangalore, *vide* references quoted in the margin. The new rules (draft) printed and sent up to, and now before the Mysore Government, were originally drawn up by me in 1889, in co-operation with Colonel Campbell, the first Excise Commissioner in Mysore.

(1) Pros. of the Government of Mysore, No. 212, dated 27th February 1885, covering Notification No. 229, dated 27th idem.
(2) Notification No. 2531—2756, dated 11th September 1896, by the Resident of Mysore.

For the purposes of the present enquiry I have made it my special duty to conduct personally a thorough investigation again into the whole subject, and the results recorded in this paper have thus the benefit of having been effected by an officer who has had 14 years' experience of this subject, and who has, moreover, been brought in constant and direct contact with both sellers and consumers at Bangalore and throughout the Mysore State during his tours of inspection. To render this paper as complete as possible I have enlisted the aid of a medical practitioner to give me the help required to dispose of the medico-legal queries put by the "Indian Hemp Drugs Commission."

II.—The following may be accepted as the definitions of ganja and the names under which the different productions and preparations thereof are locally known in the Province of Mysore:—

(1) *Botany*.—It is an annual, generally dioecious. Root, white, fusiform. Stem, three feet to six, or twelve or more feet high in Mysore, erect, simple when crowded, branched when growing apart, angular, pubescent. Leaves, on long weak petioles, opposite or alternate, digitate, scabrous, leaflets 5 to 7, narrow, lanceolate, sharply serrated. Stipules, subulate. Inflorescence, males, racemose; females, in spikes. Fruit, ovate, one-celled, with a solitary seed.

(2) *Characteristics of Ganja*.—The flowering tops of the female plant bearing the remains of flowers, the ripe fruit and seed, the whole forming with the resin exuded and moistened with dew an agglutinated spike—rather longer than broad—carefully picked off and dried. It is of a dusky green colour and a characteristic odour.

(3) *Designations of Ganja, its products, and preparations*.—The "Indian hemp" referred to in the Ganja Rules and by the Indian Hemp Commission is the *Cannabis sativa*, Linn. N. F. *Utricularia* of the Pharmacopœia. *Hindustani*—Ganja; *Canarese*—Bangi-Soppu; *Tamil*—Ganja-Yela; *Telugu*—Bangi-Aku. The intoxicating native productions and preparations of the plant are known as (1) ganja, (2) charas (resin), (3) bhanga, (4) majum, (5) alua, (6) churun, (7) curry, (8) preparations according to pharmacopœia, (a) *Cannabin*, (b) *Extractum Cannabis Indicae*, (c) *Tinctura Cannabis Indicae*, (d) *Cannabina Tannas*, and (e) *Cannabinon*.

1. *Ganja*.—There are three varieties of ganja, which are or have been utilized in the Province of Mysore:—

(a) *Mulki or Kulli Ganja*—sample in bottle marked (A).—See para. II, clause (2), above for a description of the plant and para. III (a) for mode of cultivation, &c. As a rule the tiny leaflets are picked out by hand from the tops or agglutinated spikes as they appear when the plant is growing, and the leaves are only seen on the larger branches and stems. The sample seen was not preserved by a professional cultivator, and clearly appears to have been prematurely removed from the plant, as the leaflets are apparent and large instead of being absent. The tops or agglutinated spikes are pinched off after heavy dew has fallen. In the sample sent it has been pressed instead of being preserved as usual in spikes. It will thus be seen that in good mulki or kulli ganja there should be very few or no tendrils at all: the resin, the flower, the ripe fruit, and a few immature seed all combined constituting the drug. The price is Rs. 75 to 80 per maund of 25 lbs. The ganja, when moistened with dew or water, is clammy to the touch as the resin is thus partially dissolved. The tops or agglutinated spikes when plucked are then put into a pot, the mouth secured against the action of the air with cloth covered with a coat of moistened clay and preserved for use. Thus treated and preserved from the action of the air, damp, etc., it retains all its virtues for a very long while. In one chemist's shop I saw the ganja preserved in a large glass-stoppered jar. In another I observed the "tincture" to be kept in a crystal-stoppered bottle, while the "extract" was kept in a loosely covered porcelain cup. In the latter case it must necessarily lose its virtues sooner than in the two former. In out-lying villages, where it is not pressed, it is exposed to the sun for three days,

* Note.—From Dr. Alexander Milne's "Manual of Materia Medica and Therapeutics," Second Edition, p. 49 modified to suit the circumstances in Mysore.

and then made into bundles, each containing twenty-four stalks 12 to 18 inches long with the tops or agglutinated spikes attached thereto as originally severed from the plant.

(b) *Vellore Ganja*—sample in bottle marked (B).—This ganja is imported from the Vellore district in the Madras Presidency. It is obtained as the "kulli" in Mysore, but the tops or agglutinated spikes appear to embrace a large number of the smaller leaflets. These tops or agglutinated spikes are spread out on a date mat and packed quite closely together. Another mat is then placed over this and heavy flat stones laid thereon to compress the drug into flat cakes half an inch or so thick and several inches wide. The ganja is then made into parcels of two and a half maunds each, which are covered over with goni (hemp) cloth. It is then ready for the market. It is not so much appreciated as the "kulli" or "mulki" ganja. There is a good deal of powdered ganja added in packing. This is generally due to some of the larger leaflets being utilized; but more frequently the parcels made up by the cultivator are opened by the "chetti," trader, and some of the rejected powder obtained from the retail dealer inserted between the cakes. The rejected powder is a regular item of trade for this fraudulent purpose. The presence of the resin is not so marked in the Vellore ganja as in the "kulli" or "mulki" ganja. In many cases I was informed the resin or charas has been extracted by the application of warm water applied over the mats and then dried to prevent its becoming mouldy.

(c) *Cocanada Ganja*—sample in bottle marked (C).—The spikes have been removed from the stalks. They seem fresh. This ganja is imported from the district of Cocanada in Her Majesty's territory. When the ganja has become matured branches 6 to 9 inches long are wrenched off. A large goni-bag, about five feet long, to one end of which another circular piece of goni three feet in diameter has been stitched on, is provided. Into this goni-bag the ganja branches with the tops or agglutinated spikes on, after being dried, are thrown in and two men trample them down. Another armful of ganja is then thrown in and trampled down; and so on till the bag is quite full. The bag holds about 10 to 12 maunds. The upper opening is then closed in with branches of the ganja plant with hemp cords passed through and laced to the edges of the goni-bag. It is thus easily tampered with en route. From the careless manner in which the drug is gathered, the larger leaflets are utilized. The longer it is kept the darker the colour becomes. The light green colour observed in the fresher stuff is generally absent in the drug imported into Mysore. The price is Rs. 3 to 4 per maund delivered in Bangalore. This is the rate when purchased from the producer (see para. III (b) under Cultivation).

2. *Charas*.—This is the concentrated resin exudation collected from the leaves and tops or agglutinated spikes of the ganja plant. Men dressed in complete leather suits pass through the ganja fields rubbing and crushing themselves roughly against the plants early in the morning, just after sunrise and when a fall of dew has taken place. The gummy matter is then scraped off from the leather suits and forms the ganja-resin of commerce. There are other ways of collecting the resin, either by rubbing the leaves between the palms of the hand or over a cloth, and then collecting the resin deposited from the leaves, &c., which in that case is naturally mixed with the chaff. To test the vitality of the drug a pinch of ganja is placed in the palm of the left hand and pulverized with the thumb of the right hand, and a little water is then added. If the powder becomes adhesive and can be formed into a ball, it is good. If not, it is mere chaff, especially if it appears stale and mouldy and is dark in colour and the drug has lost its characteristic odour.

3. (a) *Bhang*.—This preparation of ganja is made up of the ingredients and in the proportions noted against each in the

No.	Name of Ingredients.	Quantity.	Price.
		Gra.	Rs. A. P.
1	Ganja	220	0 0 8
2	Cuscus (poppy-seeds)	120	0 0 1
3	Pepper	120	0 0 1
4	Dry ginger	40	0 0 1
5	Soapa (caraway seeds)	10	0 0 1
6	Cloves	10	0 0 1
7	Cinnamon	10	0 0 1
8	Cucumber seeds	120	0 0 1
9	Cardamoms	10	0 0 1
10	Almonds	120	0 0 4
11	Nutmeg	10	0 0 1
12	Rose	60	0 0 2
13	Sugar, 1/2 seer	2,160	0 0 9
14	Milk, 1/2 seer	20 oz.	0 1 6
	TOTAL	.....	0 3 11

table as per margin. The ganja was put into 10 oz. of cold water and boiled for 5 minutes. The ganja was kneaded into the hot water with the hand, and the moisture drained and expressed with the hand therefrom. The stalks and seeds were then removed. The residuum was ground on a curry-stone into a fine paste and milk added as required to keep up the consistency. The other ingredients were then cast in and ground with the ganja into a fine paste. The weight of this ball was 530 grains. The cuscus and cucumber seeds were ground and kept separately in one ball, the weight of which was 440 grains. Both these balls were dissolved in 20 oz. of milk and passed through muslin, and the sediment, which weighed 340 grains, was then thrown away, as it was of no use. Sugar was then put in and the whole mixture was again strained. This mixture is enough for two men in one day. One-fourth of the quantity was taken before, and the other after meals, by each of the two men to whom it was given by me.

Bhang is sometimes eaten dry without the addition of water or milk. A man will take one and half tolas (270 grs.) in two doses or the whole at once as he is habituated to its use or not. "Bhang" is made daily as needed. "Bhang" is made at home and consumed there. "Bhang" is not sold in the bazaar in the Mysore Province. Marwadis, when making bhang (a), omit items 4, 6, and 7, but use milk only at the Holi (Kama) feast and on other occasions they add ghee.

(b) "Bhang-Subjee" is that to which "subjee (*Ocimum Basilicum*) seeds" have been added.—All the ingredients used for bhang (3a) above, except sugar and milk are used for the "bhang-subjee." Water is substituted for milk. It is a cooling drink, especially in hot weather.

4. *Majum*.—A recipe for making six maunds of majum is given in the margin. It is

No.	Name of ingredients.	Quantity.			Price.		
		Mds.	Sr.	T.	Rs.	A.	P.
1	Ganja (at cost price) ...	1	25	...	5	11	0
2	Cloves ...	...	3	...	0	10	0
3	Soapu (caraway seeds) ...	...	4	18	0	9	6
4	Cuscuta (poppy-seeds) ...	...	15	8	2	8	11
5	Cinnamon ...	...	4	12	0	13	6
6	Jaggery ...	5	10	...	7	8	0
7	Ghee ...	...	15	...	4	3	6
	Firewood, 3 maunds ...	...	...	...	0	6	0
	Cooly ...	...	...	...	0	9	7
	TOTAL ...	7	37	14	23	0	0

the contractor's cost Re. 0-1-6.

He sells it to the retail vendors at Re. 0-4-5.

5. (a) *Ordinary Alwa*.—A recipe for this preparation as made and sold in the bazaars

No.	Name of ingredients.	Quantity.			Price.		
		Seer.	Rs.	A.	P.		
1	Rollong ...	1	0	3	0		
2	Sugar ...	1	0	1	6		
3	Ghee ...	1	0	2	3		
4	Almonds (unshelled) ...	2½	0	5	0		
5	Essence of rose ...	1½	0	0	6		
6	Ganja ...	*	0	0	0		
	Firewood ...	...	0	0	9		
	TOTAL ...	...	...	...	...	...	...

The essence of rose is then added. If a small piece of the alwa is applied to the tongue and it does not adhere to it, it is a proof that the process is completed. The almonds cleaned are placed entire on top of the alwa after the process is completed. When private parties want ganja added they supply the needful to the sweetman, who boils it with water till ebullition ensues, the water is then expressed out of the drugs and rejected, and the residuum is put into the ghee and boiled again and the syrup and residuum of the rollong are then added and the process completed as set forth above.

* According to the requirements of each private party needing the alwa. The quantity for adults in ordinary cases is given in receipts No. 5 (b) and (c) in next page.

(b) *Alwa*.—A recipe for the preparation of alwa for children. (1) One tola (180 grs.) of ganja should be boiled

No.	Name of ingredients.	Quantity.			Price.		
		Tolas.	Rs.	A.	P.		
1	Ganja ...	1	0	0	6½		
2	Nutmeg ...	2	0	1	6		
3	Cunchoori-root ...	1	0	0	3		
4	Cardamoms ...	1	0	0	3		
5	Cloves ...	1	0	0	1		
6	Caraway seeds (Soapu) ...	1	0	0	1		
7	Cinnamon ...	1	0	0	1½		
8	Sandal ...	1	0	0	2		
9	Anise-seed ...	1	0	0	3		
10	Rose petals ...	3	0	0	9		
11	Honey ...	1	0	0	6		
12	Dry figs ...	1	0	0	1½		
13	Sugar ...	2½	0	1	6		
14	Almond ...	2½	0	2	0		
15	Koonkum flower (saffron) ...	1	0	1	0		
16	Pachchai-kurpoor ...	1	0	2	0		
17	Ghee ...	12	0	2	3		
18	Firewood ...	...	0	1	4		
	TOTAL ...	75½	0	15	0		

with a quarter seer (5 oz.) of cold water for quarter of an hour, the ganja is then taken in the hand and all the water expressed out of the residuum. The stalk and seeds are then removed. The ganja is now boiled with half a seer (12 tolas) of ghee for half an hour and then strained and the sediment rejected. (2) The sugar is now boiled with quarter seer (5 oz.) of cold water till it becomes a thick syrup. (3) The poppy-seed, dry figs, almonds, and rose petals should be well ground and put into item (2) and well mixed. The other ingredients should be well pounded. Koonkum flower and pachchai-kurpoor should be ground with a little water to form a sauce. All the ingredients are now cast into one vessel and the honey added and well mixed. This preparation is sold at one cash per ball of 54 grains which is a dose for a

child eight years old. The ball contains ½ grs of ganja.

(c) *Alwa-Kamera-Jafan*.—A recipe for this preparation for adults is given in the

No.	Name of ingredients.	Quantity.			Price.		
		Tolas.	Rs.	A.	P.		
1	Ganja ...	4	0	6	6		
2	Nutmeg ...	4	0	3	0		
3	Cunchoori-root ...	4	0	0	4		
4	Cardamom ...	1	0	0	6		
5	Clove ...	1	0	0	2		
6	Caraway seeds (soapu) ...	2	0	0	2		
7	Cinnamon ...	1	0	0	1½		
8	Sandal ...	1	0	0	2		
9	Anise-seed ...	1	0	0	3		
10	Mace ...	1	0	2	0		
11	Ghee ...	6	0	1	2		
12	Jaggery ...	2½	0	0	10		
13	Firewood ...	...	0	0	9½		
	TOTAL ...	50	1	0	0		

margin. (1) The ganja should be boiled well and the water expressed out and rejected. The residuum is then ground. (2) The other ingredients should be pulverized and mixed with the ganja powder after it has been well boiled with ghee. This preparation is sold at five cash per ball of 180 grains, which contains 14½ grs. of ganja. The material difference between the two preparations b and c consists in the liquid infusion of the ganja after being boiled with the ghee being retained for children while in that for adults the "sediment" of the ganja after being boiled with water is bodily added to the preparations while the water is rejected.

(6) *Churun*.—A recipe for the preparation of churun is given in the margin. The

No.	Name of ingredients.	Quantity.			Price.		
		Tolas.	Rs.	A.	P.		
1	Ganja ...	3	0	1	8		
2	Kadale (Bengal gram) ...	6	0	0	2		
3	Cuscuta (poppy-seeds) ...	1	0	0	1		
4	Cinnamon ...	1	0	0	1		
5	Clove ...	1	0	0	1		
6	Pepper ...	1	0	0	1		
7	Almond ...	1	0	0	1		
8	Ginger ...	1	0	0	1		
9	Dry cocconut ...	3	0	0	1		
10	Fried rice ...	3	0	0	1		
11	Beaten rice ...	3	0	0	1		
12	Soapu (caraway seed) ...	1	0	0	1		
13	Sugar ...	6	0	0	3		
14	Ghee ...	6	0	1	2		
15	Firewood ...	...	0	0	8		
	TOTAL ...	33½	0	4	6		

ganja is mixed with 6½ oz. of cold water and boiled for 20 minutes. The water is all expressed out of the ganja with the hand and the other ingredients are all fried properly on a metal or earthen platter and then ground to a fine powder on a curry-stone, except the cocconut, which is cut up into minute pieces. The whole is lastly mixed with the sugar. The ghee is first dissolved and then added to the mass and well mixed up. The total quantity weighed about 22 tolas. This is enough for five men for one day, but only three men ate of this quantity—4 tolas (720 grs.) each. It is eaten little by little at intervals during the day. It will keep for six months. Each tola of churun contains 16½ grs. of ganja.

(7) *Curry*.—With other ingredients of a native curry a tola (180 grs.) of ganja is ground on a curry-stone and added to every ½ seer (one lb.) of mutton used and partaken of by the meat-eating classes.

(8) The following are the preparations of ganja according to the British Pharmacopoeia with a brief summary giving the analysis, mode of preparation and doses, the medicinal

properties of the drug, the antidotes applied in case of overdose, and the actions and uses thereof extracted from standard medical works. I have given at the end of this paper, under head VII, the results of two special experiments made, under my personal supervision, with the native drug and that obtained from the chemist, prepared according to the Pharmacopœia.

* *Analysis*.—(a) *Cannabis*, a resin on which its properties depend and developed only in a warm country, a small quantity of volatile oil, extractive, &c. The resin is of a dark green colour, has a fragrant odour, a warm, acrid, and bitter taste, and is soluble in alcohol and in ether and in the fixed volatile oils.

† (b) *Extractum Cannabis Indica*.—Indian hemp in coarse powder, 1; rectified spirit, 5; macerate seven days, press out the tincture, distill off the spirit, and evaporate to a soft extract.

6 of Indian hemp yield 1 of alcoholic extract.

Dose—1 to 1 grain in pill.

† In *delirium tremens*, 2 grains of extract of Indian hemp given every hour for four times gave relief. L. M. R. '81, 192.

† Extract of Indian hemp varies considerably in strength, consequently the dose should always be small to commence with; toxic symptoms have been produced with 1 grain.

† (c) *Tinctura Cannabis Indica*.—Extract of Indian hemp, 1; rectified spirit, 20: dissolve = (1 in 20).

22 minims contain 1 grain of extract.

Dose—5 to 20 minims with one dram of mucilage, adding 1 oz. of water.

In prescribing the tincture it should be previously triturated with the mucilage, or the resin will be precipitated by the water.

† (d) *Cannabina Tenuis*.—(Not official).—An amorphous yellowish powder, sparingly soluble in water, alcohol, and ether. Soluble in acidulated alcohol.

Dose.—1 to 8 grains mixed with sugar and taken as a powder was introduced as a hypnotic, but its effects are very uncertain.—T. G. '85, 329, 379.

† (e) *Cannabinon*.—(Not official).—A soft resinous substance, generally found as a 10 p. c. trituration with sugar of milk, also introduced as a hypnotic, but the dose (1½ grains) was followed by excitement, collapse, and cramps.—T. G. '85, 288; L. M. R. '86, 434.

† *Medicinal Properties*.—Sedative, anodyne, and hypnotic, has been used with success in megrim and delirium, also in menorrhagia and dysmenorrhœa. It is combined with belladonna in whooping cough, in tetanus, and hydrophobia. It does not produce constipation or loss of appetite, on the contrary it restores the appetite which has been lost by chronic opium and chloral drinking.—L. '89, i, 625.

† *Antidotes*.—In case of over-dose, hot brandy and water may be given, vegetable acids, such as lemon-juice, vinegar, and the like, and the patient be allowed to sleep. A blister to the nape of the neck is recommended to control its violent action.

† *Actions and uses*.—Narcotic, antispasmodic, intoxicant. Like alcohol it produces a variety of effects on different individuals: in one a dull heavy state of pleasant reverie, with a rapid succession of unconnected ideas; in another a cheerful activity with giddiness. Taken as an intoxicant in large doses Dr. Angus MacDonald says: "it quickens the circulation and exhilarates the spirits, producing a kind of mirthful or extravagant delirium, during which its victim alternately laughs, cries, sings, dances, or craves for food, all the while believing himself to be in a normal state of mind. Sometimes, however, it makes its victim ill-tempered, violent, and pugnacious. It usually produces an inordinate appetite for food, and acts powerfully as an aphrodisiac. In medicinal doses it acts upon the cerebro-spinal system, causing, in moderate

Extract half a grain to a grain cautiously increased to 4 or 5 grains according to the purity of the drug and the condition of the patient. Of the tincture ten minims cautiously increased to a fluid drachm, repeated at short intervals until the desired effects are produced. When administered in an aqueous vehicle, it requires mucilage to suspend it. The effects must be carefully watched lest the patient should injure himself whilst mentally incapacitated by it, as sometimes happens. Antimonials, selines, a blister to the nape of the neck, &c., may be employed to control its violent action.

doses, exhilaration of spirits, a kind of inebriation and hallucination followed by confusion of intellect and tendency to sleep; in large doses it causes stupor. After the primary effects of a full dose have passed off, the patient is said to be left in a state of catalepsy." Dr. Milne adds that it alleviates pain and subdues spasm, and for this purpose it has been given, but with extremely variable results (it may be owing to inert specimens of it) in neuralgia, chronic rheumatism, painful menstruation, infantile convulsions, hydrophobia, and tetanus. In the latter disease a few striking cures have been achieved, but in other cases it has failed. Spasm and spasmodic coughs are frequently relieved by it; and some obtain sleep from it who are debarr'd the more certain soporific opium, owing to its evil effects. "It differs from opium in its

* From Dr. Angus MacDonald's "Note Book of Materia Medica," pages 522 and 523.

† Companion to the British Pharmacopœia, Fifteenth Edition, 1890, by Peter Squire.

effects, chiefly in not contracting the pupil, and in not causing loss of appetite, dry tongue, or constipation." In uterine hæmorrhage it often arrests the flooding and it relieves the pain in dysmenorrhœa.

III (a) *Cultivation*.—It is grown as an ordinary dry crop. The soil should be light and red and very deeply ploughed and well manured. There should be seasonable rain, and when crop is ripe heavy dews. The most efficacious, productive, and certain way is by raising the plant in pits. When specially cultivated a circular pit two to three feet in diameter and a foot or so deep is excavated and well manured with cow-dung and ashes. The plants are made to form a circle round the edge of the pit and the centre is heaped up with manure as required. The stems rise 5 to 7 and often 12 feet high, each as thick as a man's wrist and are supported by staves secured with ligatures from the aloe leaf. In other cases single plants are raised in each pit. The stem is then the thickness of a man's arm, five feet high and as much in diameter. The stem is taken in both hands and twisted at the root just above the surface of the ground to stunt the growth. It is said that this operation produces better and a more plentiful crop of spikes. There are two distinct varieties raised, one with a dark green and the other with light green coloured-stem. The dark-stemmed variety is more potential in its effects than the other. A maund or two of good first class "kulli or mulki" ganja can be obtained from each pit treated either way. The male plant is profitless and is uprooted and thrown away.

(b) *Costs, profits, Government duty, hints to trader*.—A maund of kulli ganja is sold for Rs. 75 or 80, while the drug imported and offered by the Government contractor sells at 33½ per maund (25 lbs). The former is all profit as the labour is but casual tending, while in the other Rs. 3½ to 4 a maund go to cover the original cost, including carriage (Re. 1 per maund) to Bangalore when purchased from the Government cultivator in Her Majesty's territory. If purchased from the monopoly farmer it is double that price and more. The former price, plus Government duty, Rs. 15—Rs. 18½ to 19½ per maund, or, say, roughly, Rs. 20 per maund of 25 lbs. The Mysore Government contractor's profits are thus Rs. 12½ per maund. But this will all depend on how he sets about making his purchases, whether from the cultivator or Government monopoly farmer and in season. He should make his arrangements ere the crop is picked if he wants to purchase from the producer, while if from the monopolist he should time it, so as to secure his stock just as the new supply comes into market. If he delays, prices rise rapidly, and stocks are exported and he has naturally to pay more therefor than if secured in season. He thus loses a large slice of his profits per maund.

(c) *Clandestine cultivation—cause of*.—Clandestine cultivation pays well. There is no doubt that it is cultivated in backyards of many dwelling-houses, *hillus* (gardens attached to backyards), and in other gardens also. This is particularly the case in large towns and villages, where such privacy affords great facilities to do so. The heavy dues imposed by Government, Rs. 15 per maund of 25 lbs., and the abnormally low price across the frontier offer strong inducements to commit this fraud on the Mysore revenue.

(d) *Spontaneous growth—not wild—Government patta*.—It has been and is still often found in all the eight districts of this province growing spontaneously but not wild anywhere in Mysore, as in some parts of India. This spontaneous growth is most marked in towns and large villages. It is found in backyards and in dry fields and gardens. This is due mainly to the seed when thrown away on dust heaps finding its way with the manure utilized in the fields and gardens, and germinating there after the first rains set in. It is not more abundant in one district than another now. The cultivation is not restricted to any locality. It can be raised anywhere under the conditions imposed in the Government patta. The fibre can be utilized by the cultivator. The drug must be disposed of to the Government contractor less two seers, if so required, for the private consumption of the producer, but not for sale, provided one acre has been cultivated. The drug should be weighed by the village officers and disposed of in one month or it will be confiscated.

(e) *Mysore suited for growth—Results in two taluks noted*.—The climate and soil of the Mysore Province are well adapted for the production of the ganja plant. It has been found growing even in the Malnad after the heavy S.-W. rains are over. Some first class ganja was raised 15 years ago and later in Chickballapur taluk of the Kolar district of this province. This was evidently due to the cultivator knowing when to put down the seed and how to deal with the picking and curing of the spikes properly after being harvested. A trial at Doddballapur in the Bangalore district on the other hand failed as it was harvested prematurely and the immature stuff, about 14 maunds, was destroyed. The cultivator was ignorant of the value of the plant as a fibre producer and failed to utilize even this part of the produce.

(f) *Results of Ganja Rules as indicated by statistics of consumption*.—The enforcement of the ganja rules has removed the open cultivation of the drug and to some extent also to its growing spontaneously. The keeping of accounts has been rendered compulsory and

the rules as to their retention and production "true and correct" are rigidly enforced. These returns show the consumption to be on the increase, for it was 26,554 seers seven years ago, while in 1892-93 it was 57,015 seers for Ganja and majum.

(g) *Causes of rise indicated and improvements suggested.*—The rise is not wholly due to either the increase in population or to more persons taking to the consumption of the drug, but partially to these two causes combined with the enforcement of the rules generally for the whole province. In the City and Station of Bangalore, however, this increase is not so marked as in the outlying districts, but the reverse. The Government returns, however, do not at all represent the *actual consumption*, as both the clandestine production of the drug in the Province and the import thereof prevail to a very considerable extent. This is mainly due to the *superior quality and freshness* of the contraband "kulli" or "mulki" stuff over the stale and very inferior article offered by the Government contractor. The lack of encouragement afforded to informers and the very light sentences passed by the Magistracy for this offence greatly conduce to the rules being infringed as also to the existence of clandestine cultivation which is hard to detect and the import of the contraband drug which can be readily done with impunity. The Excise staff is too weak to cope with this evil, and but little encouragement is given to the men to stimulate their zeal. I proposed that the price of opium be raised to that at which it is sold in Her Majesty's territory, and that the price of ganja in the latter be raised to that sold in Mysore. This would remove the inducement of opium, the property of the Mysore State, after being sold to the shop-keeper, being smuggled into Her Majesty's territory; while ganja raised in Her Majesty's territory will not then find its way into Mysore. Both Governments would be benefited and each would be restricted to its own legitimate wants and know its own consumption more accurately. To ensure both Governments realizing a fair and just revenue from this source the production of ganja must be worked on the same lines as opium is with special concession to those who want to raise the plants for fibre only. In that case the village Revenue officers should see that Government revenue does not suffer by the disposal of the drug to the consumer or retail dealer, but only to the Government farmer. The surplus crop of drugs should be destroyed after 6 months if not sold to the farmer or exported. Preserved as it is in bulk and so carelessly secured from atmospheric air it rapidly deteriorates and becomes stale and unfit for use as the resin is dissipated. The drug turns black and mouldy and becomes noxious. The matter of equalizing the prices of the two drugs was referred to the Resident by the Darbar, but I am not aware of result. In large towns I suggested that the Municipal and Control officers be invested with powers of "Excise officers." They might be paid by results in the shape of rewards. Government approved of the step, but local action does not appear to have been taken. Considering that Government have made over several items of revenue to local bodies and in some places also the license fees on spirits, while mohatarfa as a separate cess is levied on drug-shops, the casual aid of such Municipal officials might with propriety be legitimately claimed by Government from such local bodies, especially as this will not interfere with their legitimate duties as the aid thus given will only be occasional.

(h) *Preparation of fibre and its market value.*—All that is required to prepare the fibre is to strip the leaves off and sever the branches, leaving clear switches or canes. These are tied into sheaves and cast into the first convenient pit of water and allowed to soak there. When the rind slips off readily between the fore-finger and the thumb pressed against the branch it is ready to be removed. This rind is beaten or trampled with the foot in the water to remove the outer coating. The result is a clean soft fibre which makes excellent cordage, cloth for packing, and bags for grain, &c. The following extract from Dr. Balfour's Cyclopaedia (pages 43 and 44) will prove interesting and gives the market price of the fibre in England and Lahore:—

"The hemp plants grow in Persia, Syria, Arabia, and throughout India. In some places for its fibre; in others, and generally, for its intoxicating products. In Kangra and the Punjab it grows spontaneously and in abundance everywhere in the sub-montane tracts in the Sutlej Valley, between Rampur and Sainganam, at an elevation of 3,000 to 7,000 feet, but is cultivated for the fibre only in the eastern portions of Kangra and Simla Hills. In 1859 an experimental consignment of two tons of Himalayan hemp was valued in the English market at from £30 to £32 per ton. The price at Lahore is about £15 to £16 per ton."

IV.—*Ganja Statistics.*—The following tables I and II give the consumption of drugs in the province and the Civil and Military Station of Bangalore for the past 7 years and Government revenue for the same period respectively. The contractor is bound to pay a fixed guaranteed amount yearly which is obtained on tenders. This is realized in twelve monthly instalments. Fees of six and two annas per seer of ganja and majum respectively sold to licensed retail dealers are levied. If a larger amount is obtained by the rates prescribed than that guaranteed yearly, it is retained by Government, and booked as "excess sales" for that

year. This additional precaution was adopted from the 1st April 1889 with advantage to Government:—

Government:—

Years.	GANJA AND MAJUM.				Total.		Remarks.		
	Station.		Province.						
	Seers.	Tolas.	Seers.	Tolas.	Seers.	Tolas.			
1886-87	...	...	7,801	...	18,753	13	26,554	13	
1887-88	...	...	7,768	...	21,606	20	29,374	20	
1888-89	...	...	8,254	12	19,023	9	27,277	21	
1889-90	...	...	8,499	...	26,854	14	35,353	14	
1890-91	...	...	8,890	...	32,784	...	41,674	...	
1891-92	...	...	8,175	...	35,498	15	43,673	15	
1892-93	...	...	6,740	...	50,239	11	56,979	11	
TOTAL	...	...	56,127	12	204,760	10	260,887	22	

Table I.—Consumption.

Years.	Minimum sum guaranteed.	Station net Revenue.	Provincial Revenue.	Total.		Remarks.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
1886-87	5,312 0 0	2,895 0 0	6,528 0 0	8,923 0 0		
1887-88	7,000 0 0	2,459 0 0	7,745 0 0	10,204 0 0		
1888-89	7,000 0 0	2,441 0 0	7,464 0 0	9,905 0 0		
1889-90	7,000 0 0	2,961 0 0	9,780 0 0	12,741 0 0		
1890-91	7,000 0 0	3,099 0 0	12,047 0 0	15,146 0 0		
1891-92	8,000 0 0	2,813 0 0	13,043 0 0	15,856 0 0		
1892-93	8,000 0 0	2,322 0 0	18,511 0 0	20,833 0 0		

MEMORANDUM BY COLONEL MAGRATH, DISTRICT MAGISTRATE AND COLLECTOR, CIVIL AND MILITARY STATION OF BANGALORE.

The system which controls the sale of the drugs commonly known as ganja and majum in the Civil and Military Station is almost the same as that prevailing in the Mysore State. Up to 31st March 1886 the contract of the Civil and Military Station for raising Government revenue was joint with that of the Mysore Darbar, the assigned tract receiving its share proportionately on the population. Since 1886-87 the contract is distinct, but the Darbar's subordinate executive staff for city also exercise supervision over the wholesale and retail drug shops in the Civil and Military Station under the orders of the Collector, the cost of establishment being also proportionately adjusted annually between the two tracts.

The rules framed (copy enclosed) by the Resident under the Excise Act provide for the control of the growth of the Indian hemp plant from which ganja is prepared; there was no occasion to issue a license for its cultivation. The drug is easily imported by the licensed contractor from Vellore and Cocanada in the Madras Presidency. The Cocanada drug is much appreciated by the consumers in this province; better sales and greater revenue are effected by such drug. The bulk of the drug imported lately has been that of Vellore. Appendix N of the ganja rules gives a full description of the drugs known in this country as ganja, majum, and bhang used by consumers in Civil and Military Station. Charas is little known in this country.

- (a) The system obtaining in the Civil and Military Station is briefly stated above. The chief executive officer is the Collector; the Resident is the chief controlling authority. Act XXII of 1881, as amended by subsequent enactments and the rules framed thereunder by the Resident, is the law on which the system is based.
- (b) Wild hemp is scarcely grown in Civil and Military Station. Any plant found growing spontaneously is uprooted by the Excise officers and destroyed under the Collector's orders.
- (c) The cultivation of the hemp plant in Civil and Military Station is interdicted, but there were two or three instances within the last seven years in which persons, in spite of Government order to stop the growth, allowed the growth of one or two plants in each case in the backyards of their houses and in the fence of their gardens. They were prosecuted and punished.
- (d) The importer of the ganja drug is the contractor for Civil and Military Station. He is also the wholesale vendor. Whenever the contractor wants to lay in a stock according to the terms of his agreement, an import pass is issued by the Collector for the required quantity. This pass is produced by him before the executive revenue officer of the district from whence the drug is imported. He is thereafter allowed to purchase the drug to the extent permitted in the import pass. On the arrival of the consignment of the drug in Civil and Military Station, the Government Head Supervisor verifies the quantity with the Collector's pass and then it is booked and stored in the Government warehouse. The daily issues by the wholesale to retail vendor are checked by the Excise officers.
- (e) The wholesale and retail vendors are under the control of the officers of the Excise department. They are licensed; full details of the conditions and restrictions will be found in Appendices B, C, and I of the Ganja Rules.
- (f) The tax or duty on ganja is levied through the licensed contractor. The contract generally extends for a period of three years at a time. Government duty is fixed at the rate of 6 annas for ganja and 2 annas for majum on a seer of 24 tolas. The contractor guarantees a fixed minimum annual revenue to Government which he is allowed to pay into Government treasury by twelve equal monthly instalments. If the sales in any month are found to realize more than the guaranteed revenue for the month, then an excess fee at the above rate is levied from the contractor; if deficient, the contractor will make good. He is, however, allowed credit for this deficiency in excess sales (if any) in any subsequent month within the same official year. Illicit smuggling of ganja tending to evasion of payment of duty is made punishable. All officers of police and municipality take precautions against smuggling; persons detected are prosecuted by the Excise executive officers before the magistracy.
- (g) The sites for retail shops are fixed by the Collector in consultation with the District Superintendent of Police, who makes a local inquiry as to the complaints of

general public and other objections to the opening of the shop in a particular locality; the Collector's sanction will be based on the result of such inquiry.

They are not auctioned. No upset prices are fixed. The number is determined with reference to the area and population. The present number in the Civil and Military Station is 6. Nothing in the nature of "local option."

- (h) The rates at which ganja is sold in Civil and Military Station to retail vendors by the Government contractor (wholesale vendor) are—

	As.
Ganja	10
Majum	4

The rates at which the vendors sell to consumers are—

	As.
Ganja	13
Majum	6

- (i) The maximum amount sold to a consumer is limited to 5 tolas in one day; any quantity over this required for special purposes must be purchased under the Magistrate's pass. The prices are those fixed by Government (*vide h*). Sales over and below the fixed price are made punishable.
- (j) The careful check placed by the officers of the Excise, Police, and Municipality prevents illicit cultivation, smuggling, and illicit sale. Such instances are rare in Civil and Military Station.
- (k) No modification of the present system is under consideration.

(l) The following table shows the quantity of imports of drugs from the Madras districts, the sales, and the amount of revenue from 1886-87 (the year from which contract was separated from that of the Darbar) to 1892-93 :—

	Import.		Sales.		Government revenue.
	Mds. of 24 seers.	Seers of 24 tolas.	Mds.	Seers.	
1886-87	200	8	...	...	*2,200
1887-88	194	23	...	...	2,200
1888-89	206	14	...	...	2,800
1889-90	189	35	...	...	2,800
1890-91	193	30	...	...	2,800
1891-92	192	8	...	...	3,000
1892-93	163	35	...	...	

* To these must be added the amount of revenue on traces sales up to 1891-92.

21st September 1893.

BARODA STATE.

MEMORANDUM.*

- * * * * *
22. Wild ganja is not to be found in this part of the country. It is neither cultivated nor does it grow spontaneously in any part of His Highness' dominions.
23. Charas is neither imported nor used by the people of this part of the country. Bawas and Atits who travel in Northern India sometimes bring charas with them, which is solely used by them.
24. When I speak of ganja and bhang, I always mean flat ganja imported from Southern Maratha Country and bhang purchased in His Highness's territory or imported from Palanpur.
25. Chura is commonly known as *garda* in this part of the country. It is not imported in its original form, but assumes it in manipulation and in the process of packing. It is used in several preparations, of which I shall speak hereafter.
26. The hemp drug is generally known in this part of the country as ganja and bhang. The names by which the drug is locally known. The consumers of ganja and bhang have given them different names and they are known by those names in different social circles.
- * * * * *
32. In none of the districts of this State does the hemp plant grow spontaneously. There is no cultivation, so to say, of the hemp plant in the State except in one place, viz., Bhadrav of the Petlad taluka. It is generally from ten to twelve bighas annually.
33. The land adapted for bhang and ganja cultivation is what is called here *goradu*, a friable sandy loam. The first operations for cultivation are started in the month of March. The land is first ploughed generally three or four times and then freely manured with dung of cattle. When the rains set in and the land is perfectly saturated it is again ploughed and harrowed. The seeds are then sown from 4 to 5 seeds per bigha. When the seedlings grow to the height of six inches they are rooted out and transplanted on the ridges made for the purpose. There they are allowed to remain for three or four months. During the interval the weeding process is continued and when the plants commence budding the male plants are removed, that the female tree may not bear fruits or seeds.
34. When the flowers are well developed the plants are cut and spread on the ground where they are allowed to remain to be softened by the nocturnal dews.
35. Early in the morning the trading process is carried on till noon, continuing to do so till the flowers with young tops assume a flat shape.
36. This is the process adopted by the cultivators for manufacturing flat ganja, the older leaves and fruit vessels being bhang. The yield per bigha of ganja is 8 to 10 mannds and bhang 8 to 12 mannds.
37. The hemp plant can be grown in any part of His Highness's territory with advantage: the conditions of climate, soil, rainfall are favourably adapted to the growth of the plant. It is thus found in the compounds of sadhus, fakirs, and other people who consume ganja or bhang.
38. It is said that this plant was sown largely in various places. But the restriction placed by the British Government on exportation obliged the cultivator to give up cultivation. It is now cultivated in one village, Bhadrav, where bhang is made for home consumption. No narcotic hemp is cultivated either for the production of charas or its flowers and seeds. The cultivators are an ordinary class of Kunbis.
39. The following is the extent of the cultivation of bhang and its annual yield for the last six years:—

Years.	Extent in bighas.	Yield in mannds.	
1888	6 15 9	50	
1889	12 11 13	125	
1890	12 17 3	139	
1891	...	...	
1892	0 17 1	10	
1893	9 14 6	68	

* Extract.

40. Two pounds of the home-bred bhang is herewith sent as a specimen for favour of being forwarded to the Secretary, Indian Hemp Drugs Commission.

41. Bhang is the only product prepared in this State. Various other preparations are made from ganja, garda, and bhang. They were formerly made by the Tambolis and the Gandhis, but at present prepared by the license holder.

55. Before February 1892 there were no restrictions placed either on the importation or exportation of bhang and ganja, the importer had but to pay the customs duty.

56. The number of shops was not fixed nor was the sale or export regulated. Everybody on payment of import duty was free to deal in the drug as he pleased. Hence the quantity disposed of in home consumption and quantity exported cannot be ascertained.

57. Ganja and bhang were then sold in every shop of the Gandhi and Tamboli, except in places where the bhang and ganja were much used. In such places the right of selling these drugs was leased out to the highest bidder and large consumption was thus brought partly under control and excessive use restricted.

58. A large quantity of bhang and ganja was then exported from His Highness' territory by traders to the surrounding Native States and much profit was made by them.

59. The export trade has now become extinct since the publication of the Notification No. 10, dated 10th December 1891, which put a stop to importation or exportation by any person other than licensed vendor for each division.

60. Bhang and ganja which appeared in every shop of the Gandhi and Tamboli are now only sold in the shops licensed for the purpose.

61. The number of shops in each division is fixed and the sale of bhang and ganja is regulated.

62. The following translation of the agreement will give a better idea of the restrictions placed upon the sale and manufacture of bhang and ganja by the Government farmer:—

"I pass this agreement in writing that my tender for the exclusive right of selling bhang, ganja, and the preparations thereof at the appointed shops, a list of which is herewith annexed in all the talukas of the Prant, for a period of three years from 1st August 1893 to 31st July 1896, is accepted on condition of my paying into the Government treasury an annual sum of Rs. ——— British currency, I bind myself to act according to the terms of the agreement mentioned below.

2. The following are the instalments by which the amount of the izara, namely, the sum of Rs. ——— British is to be paid to Government:—

I shall pay to Government the sum of Rs. ——— British annually, being the amount of the instalments aforesaid within the 15th of next month of the instalments falling due. If I shall fail to pay within the said dates, I shall pay interest at the rate of 6½ per cent. per annum on the amount of the instalment from the day next after the one on which it falls due. If the interest and the amount due be not paid in due time, Government are at liberty to recover them according to the rules for the recovery of arrears of land revenue and annul the contract.

3. I shall not be entitled to compensation if any loss is incurred by the failure of season or any other causes. The responsibility of the loss rests on my head, nor shall I claim any remission from the amount of the izara on account of such loss.

4. I shall open shops at such places as are mentioned in the list or at places which shall be fixed by the Subha of the district. I shall keep such shops open from sunrise till 9 o'clock p.m. I shall open and maintain new shops and close existing shops as may be required. I shall not complain of any loss that may accrue by such proceedings.

5. As I have farmed the right of selling bhang, ganja, and the preparations thereof, I shall make my own arrangements for procuring them. I shall not purchase these articles from persons who do not possess a license from this Government for selling them other than the cultivators of bhang and ganja in this State. In case I have occasion to import or export these articles into or from foreign territory, I shall import or export them in accordance with the rules laid down in Notification No. 10, dated 10th December 1891. I shall keep in store such quantity of the articles as shall be directed by the Subha of the district.

6. If it shall be found necessary to store bhang, ganja, and the preparations thereof in one place, I shall store them in such a place of depôt as shall be fixed by the Subha of the district. Articles issued from such a place of depôt for retail sale shall be removed and transported under a permit from the Subha or such other officer as authorized by the Subha to grant such permits. I shall keep accounts of them for each sale in accordance with the annexed form A shown to me.

7. The Government are at liberty to destroy such bhang, ganja, and other articles as are in the opinion of the Subha of the district injurious to the health of the consumers.

8. I shall not be entitled to claim the remaining stock of bhang, ganja, and the preparations thereof which shall remain at the expiration of the term of the farm or when it is annulled. Such balance shall be considered to be the property of Government, and the Subha of the district shall take it in his possession, and such portion of the bhang, ganja, and the preparations thereof thus taken in possession by the Subha, as is injurious to the health of the consumers shall be disposed of in accordance with the preceding clause 7, while the rest of the articles shall be made over to the new farmer at a price fixed by the Subha and the price thus adjusted shall be accepted by me.

9. I shall not sell bhang, ganja, and the preparations thereof at other shops or places than those already appointed.

10. I shall not sublet any shop or shops reserved for the sale of bhang, ganja, and the preparations thereof without permission of the Subha of the district. I shall not employ for the retail sale of bhang, ganja, and the preparations thereof any person, for whose employment I may not have previously received written sanction. I shall receive this sanction from the Subha of the district or from some other officer authorized by the Subha to grant such sanction before employing any person for retail sale.

11. I shall not, without permission of the Subha of the district, sell more than a seer of 40 tolas of ganja or the preparations thereof, or more than 2 seers of 40 tolas each of bhang or the preparations thereof, to any person in one day.

12. I shall not receive any articles other than cash, or keep anything in pledge in barter for bhang, ganja, or the preparations thereof. I shall sell bhang, ganja, and the preparations thereof for the money that is current in each place.

13. I shall not open any shops for the sale of bhang, ganja, or the preparations thereof, or make sale therein after 9 P.M. and before sunrise; nor shall I harbour any person of bad repute in the shops.

14. I shall not permit persons of notoriously bad character to resort to my shops, nor shall I permit gambling or disorderly conduct, or indecent behaviour therein. I shall forthwith give information to the nearest Magistrate or Police officer of any suspected persons resorting to my shops.

15. I shall have always fixed up in a prominent place at the entrance of my shops a signboard bearing the following inscription in legible characters in the vernacular language:—

‘Licensed shop for the sale of bhang, ganja, and the preparations thereof.’

16. I shall keep daily accounts printed in form B bearing the seal and signature of the Subha of the district or the Vahivatdar of the taluka, and shall daily enter the amount of articles sold in it. Besides this I shall furnish on demand by the Subha of the district such other accounts, returns, and information respecting the dealings as the Subha may require.

17. I shall, on being asked by any officer authorized to do so, produce for inspection the license I have received as well as the bhang, ganja, and the preparations thereof in the shops or in the depôt, and the accounts kept in accordance with the rules in force.

18. I shall keep in possession the proper weights for selling bhang, ganja, and the preparations thereof, and get them stamped at my own expense and shall produce them for inspection on demand by any officer authorized to do so.

19. I shall receive the balance of bhang, ganja, and the preparations thereof in the possession of the previous farmer for the prices fixed by the Vahivatdars of the talukas and shall pay the prices to the Vahivatdars.

20. I shall pay the customs duty or any tax on bhang, ganja, and the preparations thereof that may have been or may hereafter be levied.

21. If I or my servants or agents shall violate the conditions of the agreement, I shall be liable to a fine which may extend to Rs. 200; if the fine be not paid, Government is at liberty to recover it as an arrear of land revenue. And if I or my servants or agents act in contravention of, or omit to act in accordance with, the conditions of the license, or the terms of the notification issued in this connection, I shall, in addition to our liability to criminal prosecution, be held responsible for any acts or omission unless and until I prove that due precautionary measures to prevent such commission or omission were adopted.

22. If I or my servants or agents shall violate any conditions of the license or the terms of the notification issued in this connection or be convicted of an offence under any law, the license shall be liable to be withdrawn.

23. If my farm is cancelled or if I fail to fulfil the conditions before its term expires, Government shall make such arrangements as it thinks best; I shall make good any loss which Government may incur by such proceedings without being entitled to any compensation.

24. When the farm is thus annulled, all the bhang, ganja, and the preparations thereof remaining unsold shall be made over to the Subha, and shall be duly disposed of by him, and the vessels, packages, and conveyances which may have been seized shall be returned to me within two months after I shall have made good the whole loss.

25. If I fail to carry out the farm before its term expires according to the conditions of the agreement, I shall pay from my own property any sum that may be found to be due from me; and if this sum cannot be recovered from me, Government are at liberty to recover it from the amount deposited by me.

26. I shall deposit in the Government treasury a sum of 15 per cent. on the amount of the izara.

27. In case of any dispute which cannot be settled by a reference to these terms, I agree to any settlement that may be arrived at by a reference to the rules of auction sales in force.

63. The following statement will show the number of shops fixed and the number of shops opened by the farmers:—

						Number of shops fixed.	Number of shops opened.
Baroda	...	...	...	...	...	124	51
Kadi	...	...	...	...	...	95	13
Navsari	...	...	...	...	...	27	20
Amreli	...	...	...	...	...	12	12
*	*	*	*	*	*	*	*

69. The use of bhang and ganja is on the decrease in the State as will be clear from the quantity imported for sale during the last five years in each division, the reason for the decrease being increase in the price of these drugs.

70. The following is the quantity imported in all the divisions for the last five years:—

Divisions.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.
Baroda	1,237	1,265	1,123	1,133	430
Kadi	1,011	705	1,054	1,054	527
Amreli	591	385	612	220	262
Navsari	37	41	15	20	12

71. Since the introduction of the new system, the sale has very much fallen off on account of the rise in the price of bhang and ganja. Before introduction of the present measure, ganja was sold 4 tolas per pice, and now it is below one tola. Bhang was sold then 8 tolas per pice and it is now sold two tolas per pice.

72. Several persons have deposed in the course of the inquiry that the bhang and ganja have become dearer than what they were before, and that they are therefore consuming less than before; a fact not to be lost sight of that heavy duty on intoxicants lessens the consumption—a safer course to be adopted than total prohibition.

* * * * *

Administration, taxation, and control. 165. There is no cultivation of hemp drugs in the Baroda State except in one place to a very small extent.

166. No restrictions are placed on cultivation, nor are they necessary, as cultivation has died out of itself for causes beyond the control of His Highness's Government.

167. However, there is a safeguard provided that in case of any cultivation, the produce should be sold to none but the Government farmer.

168. The administration in regard to the import, export, and sale of bhang and ganja is based on the Notification No. 10, dated 10th December 1891. A translation in English is given below for easy reference, and for fully understanding the rules in force—

NOTIFICATION No. 10.

“By order of His Highness the Maharaja Sahab it is hereby notified that, whereas there is no restriction at present in the State as regards the places in which and the prices at which bhang, ganja, and the preparations thereof should be sold, and there is consequently a likelihood of these articles being misused, and whereas Government is anxious to prevent such misuse, it is hereby enacted as follows:—

“2. That except those persons who cultivate bhang or ganja in this State, no person shall without permission of the Subha, have in his possession, or in any place, more than a seer of 40 tolas of ganja or the preparations thereof, or more than 4 seers of 40 tolas of bhang or the preparations thereof.

"3. That except those who cultivate bhang or ganja in this State, and those persons or their agents who may have been licensed by the Subha to sell bhang, ganja, or the preparations thereof, no person shall sell the aforesaid articles.

"4. Cultivators of bhang and ganja in this State are permitted by the last preceding clause to sell bhang, ganja, or the preparations thereof. But these articles shall be sold only to those persons who shall have been licensed by the Subha to sell them, and to no other persons.

"5. Any person desirous of having in his possession, or of transporting from one place to another in this State, a larger amount of bhang, ganja, or the preparations thereof than what is permitted by the preceding clause shall obtain a license from the Subha for so doing.

"6. Any person cultivating bhang or ganja, who sells bhang, ganja, or the preparations thereof to persons other than the licensees, or any person who possesses without a license from the Subha more than a seer of ganja or the preparations thereof, or more than 4 seers of bhang or the preparations thereof, or who sells without a license from the Subha, bhang or ganja, or the preparations thereof, or transports them from one place to another in this State without a license from the Subha, shall on conviction before a Magistrate be liable to be punished with fine which may extend to Rs. 200 or with simple imprisonment for a term which may extend to three months; and the articles seized (that is bhang, ganja, or the preparations thereof) shall also be liable to confiscation.

"7. Inamdars, jaghirdars, and other hakdars, who may be in the enjoyment of the rights of possessing, selling, or causing to be sold, bhang, ganja, or the preparations thereof, and who may suffer loss by the withholding of these rights, shall lay their claims for compensation before the Subha within one year from the date of this notification.

"8. Any officer of the departments of Police, Revenue, Customs, Abkari, Opium, and Forest may detain and search, in any open place or on the public roads any person whom he has reason to believe to be guilty of an offence under the preceding clause 6. When the search is to be made by entering a building, it may be done by a police officer not inferior in rank to a Naib Fouzdar, or by an officer of Revenue, Customs, Abkari, Opium, and Forest departments, superior in rank to a Karkoon, or by any other person authorized by the Subha in this behalf.

"9. Any offence committed under the preceding clause 6 by any person shall be inquired into by any police officer not inferior in rank to a Naib Fouzdar, or any officer of the Departments of Revenue, Customs, Abkari, Opium, and Forest, superior in rank to a Karkoon.

"10. Any Magistrate convicting an offender under the terms of this notification may grant to any person who has contributed to the arrest and conviction of the offender a reward not exceeding one-fourth of the realized amount of the fine imposed, or the value of the articles confiscated in the case.

"11. Nothing contained in this notification shall be deemed to affect the right of medical practitioners, chemists, or druggists or vendors of medical preparations, to prepare, sell, or supply bhang, ganja, or the preparations thereof for bona fide medical purposes.

"12. This notification shall come into force on the 1st of February 1892."

169. Importation and sale of this drug is, I can say, a State monopoly since February 1892.

170. Previous to the introduction of the monopoly system, everybody was at liberty to import bhang and ganja on payment of customs duty, except at large places, which were leased out to the highest bidder. Exportation of bhang and ganja was not restricted, nor was home consumption regulated. Every street had its own shop and anybody could sell it with impunity.

171. With a view to introduce better reforms and to bring the sale of the drug under the Government control in order to restrict importation and sale, the State monopoly was introduced.

172. The chief control in regard to these drugs now rests with the divisional Subha assisted by the Abkari Superintendent, who has a number of Inspectors under him, to supervise the licensed shops, and to prevent commission of offences connected with the illicit importation or sale of the drug.

173. The Sir Subha is the chief central authority who leases out the right of vending and examines annually the divisional administration carried on by the Subha.

174. The farm for sale of the drug is either given for a year or three years. The following are the figures for the four divisions:—

Prants.	(British.)			
	Rs.	A.	P.	
Baroda ...	...	...	...	6,651 0 0
Kadi ...	...	...	...	3,580 10 4
Navsari ...	...	...	...	2,026 0 0
Amreli ...	...	...	...	1,501 0 0

175. Government farmer alone now imports the drug on payment of customs duty besides the amount shown above.

176. He sells the drug at the fixed number of shops by his agency, approved of by the Subha, and makes preparation from the drug at licensed places.

177. The imported drug is stored at depôts appointed by the Subha, and the drug in transit by the farmer through His Highness's territory has to be covered by a permit signed by officer authorized in that behalf.

178. Neither shops nor depôts can be increased without the permission of the Subha. Such permission is not granted until indispensable necessity is made out for opening a new shop or depôt.

179. The number of retail shops is fixed by the Huzur. The guiding principle in fixing the number is the requirements of these drugs at places rather than area or population. Though there is no local option ascertained before opening shops, yet they are not forced upon the people.

180. The terms of the above notification will clearly show that there is a constant supervision over the importation and sale, whether licit or illicit, by all the departments of the State, and there is a cordon of Nakas on the frontier which minimize the evils of illicit ingress or egress of these drugs.

181. With all these excellent arrangements of control, the object in view of checking the excessive use of these drugs is nullified by the clause in the said notification, rendering possession of one seer of ganja or preparations thereof, or four seers of bhang or preparations thereof, lawful. The object was a laudable one, inasmuch as it was studiously inserted to soften the severity of the measure, having had bitter experience of hardship entailed by the Opium Rules. But the object was frustrated by the cheap sales of the drug in the surrounding Native States, flooding His Highness's territory with their narcotic articles and allowing opportunities for excessive indulgence.

182. The first modification that is necessary is to make the possession of ganja over ten tolas or preparation thereof, or half a seer of bhang or preparation thereof, unlawful. This modification will not much go to prevent illicit importation of the drug as long as surrounding Native States will continue to sell cheap ganja and bhang.

183. With all these hindrances in the way placed by the cheap sale of the drug in the surrounding Native States, the new measure has been productive of anxiously looked for results. The consumption of the drug has begun to fall off (*vide* statement B*), giving figures of importation with the amount of revenue realized therefrom. The rise in the price has induced people to reduce their allowance, and though the number of consumers is, as it is said, not reduced, yet the quantity consumed is very much decreased.

184. The present measure is too young to give any decided opinion or suggest any modifications. The object of all such modifications are more or less defeated by the want of co-operation of the surrounding Native States.

185. The system of taxation on these drugs can be summed up in a few words, *viz.*, customs duty plus the amount realized from the sale of sole right to vend.

186. This taxation has in certain places increased the price four-fold and in others six-fold than what was sold before the introduction of the new measure, and the consumption has fallen off wonderfully. All this may not be due to the new measure, and although excessive indulgence in the drug be still a constant factor, yet the past result gives a promise of a future happy augury.

187. It is said that a sudden rise in the price of liquor has driven people to consume ganja in certain places. How much truth there is in this allegation, cannot be determined, but granting it to be true, the Government has no reason to deplore as the havoc committed by alcohol are more fearful than those of narcotics. I, therefore, suggest no modification in the mode of taxation or its incidence on any of the intoxicants.

188. There is only one shop in Baroda where bhang in liquid form is drunk on the premises. There are no such shops anywhere else. I see no objection to the opening of such shops as exposure to public view, and the heavy price of the drug particularly charged at such places check excessive consumption much better than when done in solitude.

189. In conclusion, I beg most respectfully to state that I have done what I could do during the short time that was allotted to me. The magnitude of the task of collecting information from those who are particularly sensitive when questioned about their mode of life and their habits, and the hot haste with which the work was to be gone through, will, I am sure, induce you to look with a great indulgence on any defects that may have crept in. The humble effort made by me in this connection, if only meet with your approval, will be the ample reward for the pains that I have taken during the last month and a half.

* Not printed.

MEMORANDUM BY MR. E. H. GUNION ON HEMP DRUGS IN CENTRAL INDIA.

1. The definitions given in Dr. Prain's report are generally accepted in this Agency. In some parts of the west Malwa and Guna agencies bhang is also called *vijaya*, *bati*, and *sabzi*. In Bhopawar the name of bhang is given not only to the dry, but to the green leaves of the hemp plant (which appear to be sometimes eaten as a vegetable), and also to the decoction made by boiling the flowering-tops of the hemp plant in fresh butter or sweet almond-oil. In Indore the male plant is called *hari* and the female *bhangera*.

2. There appears to be no spontaneous growth of the hemp plant in Central India. The plant is cultivated in the Indore State in the mahals that border on the Nerbada for its fibre and for the production of ganja and bhang. None is cultivated for the production of charas. The fibre is got from a variety of the plant known locally as *sun*. In the Indore State last year 193 bighas were under hemp cultivation. In Baghelkhand there is a limited cultivation of the plant for the production of ganja only. In the State of Dewas the hemp plant is cultivated for ganja (39 bighas, at one village and for bhang (9 bighas) at another. All over the Bhopawar Agency the plant is cultivated for bhang and ganja, rarely for charas; but the production is limited and, except in the parts adjoining British Nimar, only for the personal use of the cultivators. The plant is said to be extensively cultivated at Ujjain and Sipri, but unfortunately the Gwalior State has furnished no information.

3. In Indore and Dewas there is reported to be a slight decrease in the area under hemp cultivation. In Indore the decrease is said to be due to an increased consumption of liquor and in Dewas to the increased cultivation of hemp in Nimar.

4. As regards the method of cultivating the hemp plant, the Minister of Indore writes:—

A.—Ganja cultivation.

"The kind of soil most favourable is *rahhad*, which is usually white or light brown and near villages. Black soil is not considered specially fit for the growth of the hemp plant, but the plant thrives fairly well in black soil.

"Cowdung manure, with ashes where procurable, is mostly used. The average quantity per bigha is roughly ten cart-loads or 150 maunds.

"The ground is prepared in the usual manner by two or three ploughings and harrowing. The field is not divided into rectangles as for poppy cultivation.

"Three to five seers of seed per bigha is then sown by means of an instrument called 'sarta' in rows about twenty inches apart. The instrument is drawn by a pair of bullocks. The sowing is done some time after the rains set in, that is, in the months of July and August. The seed used for sowing is procured through experts. Every cultivator is not able to distinguish the quality and kind required. The hemp plants germinate about the fourth day, and about the sixth day green rows appear on the surface. If there is a gap in any row, fresh seed is sown. After about a month the spaces between the rows are scratched, with the object of providing sufficient earth round the roots of the plant, by means of an iron blade drawn by bullocks. The furrows are next cleared of weeds and the superfluous growth of the hemp plant is removed, so as to leave a space from six to ten inches between one plant and another. The greater the room the healthier is the growth of the plant. If the field is too weedy, the operation of weeding and cleaning has to be done a second time, and the scratching operation is performed four or five times to preserve the ridges. All male plants are then removed and female ones are only kept. The female plants do not bear flowers in the popular sense of the word, but put forth tops called *ghugarees* (flowering-tops), which appear two months after sowing. Any plant which does not bear healthy tops is removed, because, if allowed to remain, it is said to spoil the health of the neighbouring plants. The ganja field requires about three waterings after the cessation of the rains. Without these the crop is scanty and unhealthy. It is ready for collection in the month of November. The plants are not uprooted when ripe, but only the tops are cut off and gathered. When they begin to get sticky and look bright in the sunshine, it is a sure sign of the plant arriving at maturity.

"From the time of sowing to that of gathering weekly inspections are made of the field with the special object of removing inferior or unhealthy plants. It requires special knowledge to make this inspection and distinguish a superior from an inferior plant, and the work of inspection is entrusted to persons possessing practical experience of this matter, who are paid specially high remuneration—four annas a day and upwards.

B.—Bhang cultivation.

"When it is desired to obtain a crop of bhang from the hemp plant, a few male plants are retained at intervals to allow of impregnation and formation of seeds for the production of both ganja and bhang for the next year.

"I understand that in this State cultivators do not specially grow hemp for the sole purpose of obtaining a crop of bhang, which is got as an article subsidiary to the seed, to obtain which alone the cultivator seeks.

"The bhang ripens about the same time as ganja, but it requires no watering after the rains.

"While on this subject of methods of cultivation, I may remark that I am aware that Mr. E. T. Atkinson, speaking of the ganja of the North-West Provinces, says in his *Himalayan Districts*, page 761, 'the patta is imported chiefly from Holkar's territories and is of quality inferior to the Bengal ganja. It is purchased at from Rs. 5 to Rs. 6 a maund in Indore in the rough state, and pays a duty of about 4 annas per maund on exportation to British territories.'

"I am also aware of Dr. Watt's saying at page 116, volume II of his *Dictionary on the Economic Products of India*, that charas is obtained in Central India by causing men clad in leather aprons to run through the hemp fields, and that it is made in cakes and sold. Both these things are a matter of history; for my enquiries satisfy me that neither patta, nor charas is now produced, in this State at least.

"The average export of ganja annually does not exceed 377 maunds."

The method followed in Bhopawar is thus described by the Political Agent:—

"Hemp seed is sown in poppy or maize fields. When the plant is about 2½ feet high the main stem is split near the root and a piece of tile thrust in. This prevents the plant from setting seed freely, and makes the tops fit for ganja. When particularly strong ganja is required each hemp plant is watered once with half a tola of opium dissolved in water. The cultivators believe that by transplanting the young plant into the mouth of a dead venomous snake (cobra preferred) the ganja becomes unusually strong.

"The best (strongest) ganja is obtained from plants growing in the shade and sparingly watered."

As regards Dewas, the Superintendent of the Senior Branch writes:—

"The seed of bhang is used for the growth of ganja. Two seers of seed are required for one bigha. The land in which the seed is to be sown is ploughed twice and then the seed is sown. Before sowing the seed, it is soaked in water for one night. The instrument with which the seed is sown is called 'sarota.' The plant springs up in four days. Within a fortnight it grows about two or three inches. The operation of weeding and thinning the plants then begins. This is done thrice. At this stage the operation called 'parkhai' (examination of the plant) is also conducted. The object of this 'parkhai' is to root out the bhang plant from amongst the ganja plants. If only one bhang plant is allowed to remain in the field, it has the effect of turning the whole field into bhang plants. The operation is continued until the ganja plant grows big enough. When the plant attains its full size, its flowers are cut with a sickle. At the time of cutting the flowers the juice that sticks to the instrument or the hand is collected and is called charas. The labourers who cut the flowers usually take away this charas for themselves.

"The seed of bhang is used for the growth of bhang. About two seers of seed are required for one bigha. The land in which the seed is to be sown is ploughed twice and then harrowed. Then a handful of bhang seed is taken and spread in the field. The land in which the seed is sown is harrowed once more. After four or five days the plant springs up. After a month the weeding and thinning of the plant commence. In the field of bhang, if a bhang plant named 'bhangria' grows it spoils the whole bhang field. The cultivators, therefore, root out this 'bhangria' plant from amongst the bhang plants. Within three or four months the bhang plant attains its full size. It is then cut with a sickle and spread in the field."

5. The cultivators of the hemp plant do not appear to form a special class in Central India, except in Rewah, where the cultivation is confined to Kachhis.

6. Opinions differ as to the special conditions necessary for the successful cultivation of the hemp plant. It is believed in Dewas that no soil in the State is suitable for the plant except that of the two villages, in which alone, as already stated, it is cultivated. The soil of those villages is said by the Superintendent to be "dry, stony, elevated, loam." The Political Agent in Bhopawar has seen ganja-producing hemp growing from near sea-level to an elevation of 4,000 feet.

7. It appears that in Central India the preparation or manufacture of the products of the hemp plant is carried on at the place of cultivation, and that the bhang and ganja sold in the bazars are in the state in which they left the cultivator. No charas is prepared in

Central India except a little in the Bhopawar Agency for the personal use of the cultivators, or for presents from them to religious mendicants. What charas is consumed in other parts of Central India is mostly imported from the Punjab. In the State of Indore about 900 maunds of ganja and bhang together are yearly manufactured. In Dewas territory the yearly output is 156 maunds of ganja and 64 maunds of bhang.

8. The Political Agent in Bhopawar thus describes the process of making ganja, bhang, majum, and charas:—

"Ganja is prepared by washing the dried tops well in water and rubbing them between the hands. It is here used only for smoking and is mixed with tobacco.

"Bhang is not here used for smoking. The green bhang is occasionally used as a vegetable, but ordinarily the dry bhang is used for the preparation of a beverage. The leaves are roasted in a copper vessel, spread out on moist ground, well washed till they have lost their colour, strained and finally powdered. The powder is taken in water, sometimes sweetened or with milk added; and it is common to add pepper, anise-seeds, rose flowers, lilac flowers, cucumber-seeds, almonds, or cardamoms.

"A special preparation is sold in the bazars under the name of majum, which is an extract of bhang mixed with sugar and ghee and baked.

"Charas is prepared by rubbing ganja (sometimes mixed with bhang) violently for several hours on rough woollen blankets, which afterwards are scraped with a knife. The substance thus scraped off is first class charas. An inferior kind is then obtained by washing the blanket with the least possible quantity of water and then evaporating the liquid."

The Minister of Indore writes:—

"The crop gathered from the field is brought to the threshing-floor, over which it is evenly spread. Great care is taken to see that no earth or dust is allowed to mix with it. Rows of men consisting of the ryot's family and hired labourers tread the produce under foot so that the tops assume a flattened shape. This process is continued for three whole days. On the fourth day the tops are turned upside down and again trodden under foot for another period of three or four days. This process of turning and treading under foot is repeated three or four times. After the completion of this the tops are made into heaps, a foot and a quarter high. These heaps are then pressed by men under foot for about three or four hours. Next day two or three of these heaps are made into one large heap about breast high, and a regular series of such large heaps is then formed, and very closely covered up with stalks, leaves, etc., and heavy logs of wood or stones on the top. The article thus formed is ganja ready for sale.

"The round ganja is scarcely prepared in the State. This requires rolling under the foot instead of treading.

"Nearly the whole of the plant is cut, and all the plants so cut are stacked in the threshing floor. After allowing them to dry for a day or two, bunches of the plants are rubbed by the hand on the ground. The seed is then separated from the crushed leaves. The crushed leaves with tender twigs are called bhang, which is then ready for use."

The Dewas account is—

"When the ganja flowers are cut they are taken to the threshing floor. There they are trodden under foot until they are dried. While being thus trodden, the flowers are stripped of the leaves. The dried flowers form what is termed ganja.

"Ganja is prepared here simply for smoking purposes.

"When the bhang plant is cut and spread in the field, it is taken to the threshing floor. There it is beaten with a piece of wood. The leaves with seed become separated from the stalks, and they then form what is called bhang. This is the only preparation of bhang which is used for eating and drinking here."

9. All over Central India the cultivators of the hemp plant, where they are found, are also the manufacturers of bhang and ganja. The more luxurious preparations, such as majum, etc., are made by *Blachigars* and confectioners. At Rutlam and elsewhere majum is also known as *ankoli*. Some witnesses think that none of the three products can be made from the wild plant. Others think that inferior bhang and ganja (not charas) can be made from the wild plant. In Jaora ganja made from the wild plant is said to be called *gorakhi* ganja.

10. There is a difference of opinion as to the time the three drugs will keep. Two years is the maximum for ganja and bhang and five years for charas. In Bhopawar bhang is supposed to lose its virtue after one monsoon and ganja and charas after one year; and this is said to be so well understood that the dealers burn or throw away their old stock when the new crop comes in.

11. Only two witnesses (both of Indore) report any other use of ganja than smoking it. One of them says it is used as a medicine both for men and cattle; the other says it is sometimes eaten with spices. Neither gives particulars. Charas is smoked only. The *Takur* of Piplanda (in West Malwa) says that in his territory charas-smoking is punished.

12. Inveterate smokers of charas appear to be found only among the religious mendicants, fakirs, gosains, sadhus, and viragis. Most cultivators in Bhopawar smoke ganja occasionally; but nowhere else in Central India are the cultivators said to be ganja-smokers. The Indore Minister particularly says that the agricultural classes rarely use ganja. In the Baghelkhand, Bhopal, West Malwa, and Guna Agencies, the ganja-smokers (other than fakirs, etc.) are said to be chamars, mehters, and other low caste people. Some witnesses give figures. In Dewas about 1 per cent. of the population are said to be ganja-smokers. In Rutlam (population 89,160) there are said to be 500 ganja-smokers and 300 charas-smokers. In Indore it is supposed that 2 per cent. of the male population smoke ganja and that barely one in a thousand smokes charas. The smoking of both is generally more common in towns than in villages. In Charkhari (Baghelkhand) all soldiers, etc., 80 per cent. of the low caste people, and 5 per cent. of the rest of the population are said to smoke ganja.

13. The *Sat* ("chapti") variety is the only ganja generally used in Central India. In Indore it is called *kari*. The Superintendent of the Sehore Bazaar says that *chur* is cheaper and that poor people sometimes use it for bhang.

14. The little charas that is used in Malwa comes mostly from the Punjab or the North-West Province, being imported by *Vilayatis* or *Afghans*. What is used in Rewah comes mostly from Patna. It is only in Bhopawar that there is any manufacture of charas, and there, as has been already said, it is prepared for personal use only.

15. In no part of Central India is bhang said to be used for smoking. Bhang is to some extent eaten and largely drunk all over the Agency. Some figures are given. In Indore 5 per cent. of the population are said to be drinkers and one in 5,000 eaters of bhang. In Rutlam (population 89,160) 1,500 people are said to drink and 500 to eat bhang. The drinking of bhang is supposed to be common among all the higher castes of Hindus—Brahmans (especially those of Malwa), Bamins and Rajputs—at times of rejoicing, and for a cool drink in the hot weather. *Ujjain* and *Maheerwar* are mentioned by one of the Indore witnesses as places where bhang is largely drunk. In Charkhari bhang is said to be "eaten only by hardened drinkers of the drug." In the Dattin evidence it is said that the same people who would drink bhang in the hot weather would eat it in the cold whether or the rains. In Bhopal about 100,000 are said to use one or other of the hemp drugs; charas being expensive is said to be the least used of the three.

16. Taking Central India as a whole, the use of hemp drugs appears to be either stationary or on the decrease. In Rutlam the decrease is said to be due to the fact that the use of the drugs is disreputable; in Rewah to the fact that the drugs, being imported, are dear; and in Indore the Minister thinks that the clear decrease is due to the increased use of cheap adulterated liquor.

17. Occasional consumers of ganja are very rare and occasional consumers of bhang are very common. It is reckoned both for Indore and Dewas that 90 per cent. of those who use bhang or ganja are habitual moderate consumers, and 10 per cent. habitual excessive consumers. The habitual excessive consumers of ganja are almost all religious mendicants. The use of ganja by such men is said to enable them to endure abstinence from food and water, and also to resist malaria. Apart from its use by religious mendicants, ganja is largely used by labourers and by the lower orders of domestic servants. It is more easily prepared than bhang, and it produces a more immediate intoxication. The habitual use of bhang is said to be common among *Pujaris* and Brahman priests; otherwise bhang is a luxury of the well-to-do Hindu. Sometimes it is taken merely as an appetiser. A dose of it is supposed to enable a man to concentrate his faculties. It is largely used by Hindu jewellers, by whom it is supposed to steady the eye.

18. The average allowance and its cost for bhang and ganja respectively are very variously stated. In Indore the habitual moderate allowance per diem is said to be half a tola, costing one pie; and the habitual excessive allowance one tola and a half, costing three pies. In Dewas the habitual moderate allowance is said to be one tola, costing three pies, and the habitual excessive allowance *twelve* tolas, costing three annas. In Indore the habitual moderate drinker of bhang is said to take three tolas, costing half an anna, every day; in Dewas the dose is said to vary from one tola, costing half a pie, to four tolas, costing two pies. In Bhopawar habitual moderate consumers of bhang are said to take daily a quarter of a tola which, with the various admixtures, costs one anna; while excessive consumers take as much as five tolas, the cost of which, with admixtures, is eight annas. In Charkhari two tolas of bhang are said to cost one anna, the same being the price of one tola of ganja.

19. Ganja is smoked along with tobacco, the object of the mixture being, according to some, to bring out the full effect of the ganja, and, according to others, to mitigate its bad odour. The method of using the drugs in Bhopawar is thus described:—

Ganja is for smoking mixed only with tobacco.

Charas is generally put on the top of the filled hookah (five to twenty grains weight).

Pepper, anise-seed, cucumber seed, almonds, cardamoms, rose leaves, lilac flowers, are all classed as "bhanga musala," but ordinarily only the first two are used. Bhang is also taken with milk and sugar or boiled in milk. An infusion of one to two scruples in two or three

small teacups full of water taken in three doses during the day is an efficient remedy in cases of painful gonorrhoea. Bhang tel, commonly called bhang, is a decoction of bhang in fresh butter or sweet almond-oil. It is a powerful narcotic.

The Indore use of ganja and bhang is thus described by the Minister—

“Ganja is prepared for smoking in the following simple manner:—

“For each smoker about half a tola is taken each time. Any seed or large leaf or coarse fibre is carefully removed. The ganja is then soaked in water and placed on the palm of the hand. Some water is then poured upon it and the ganja frequently rubbed and pressed by means of the thumb of the other hand until the whole water is squeezed out. This process is repeated about a score of times until the water squeezed out is perfectly colourless. Tobacco to the extent of half the quantity of ganja is then added, and the mixture, with the water completely squeezed out, is then put in into a chilum (smoking earthen bowl) and ignited by means of a live ember, generally of cowdung cake, put over it. The bowl is wrapped in a wet piece of cloth and applied to the mouth for the purpose of smoking.

“Bhang is prepared in several ways. The habitual, inveterate bhang-drinkers prepare it in the following way:—

“To a moderate drinker three tolas of bhang is required. It is carefully cleaned, and kept in water for some time, varying from a few minutes to half an hour. It is then washed several times, and with the addition of five or six pepper seeds reduced to the finest pulpy state over a flat stone by means of a muller worked by the hands. The pulp is mixed with about a pound of water and the mixture strained through a piece of cloth. The mixture is then poured from one pot into another many times. The number of times this is done and the height from which the mixture is poured is a very essential feature in the preparation. The drinker believes that the potency of the mixture increases in the direct ratio of the repetitions and the height. The mixture thus obtained is ready for use by the bhang *habitué*, who never takes it without first offering to Shiv and pouring some of it over a lingam where one is at hand. There is no end to the ways in which bhang is drunk as a luxury and as a cooling drink. Sugar and milk are added in most instances. Dry rosebuds, poppy-seeds, almonds, cardamoms, aniseed, saffron, musk, nutmegs, cucumber seeds, pistachios, and a number of other spices, with juice of various kinds of fruit, are added to the preparation to make it palatable.

“Ganja is mostly neither eaten nor drunk, and bhang is never smoked nor eaten by itself. It is, however, the principal ingredient of several intoxicating preparations, such as gulkand, majum, yakuti, manohargutha, churans, bhajiyas, etc., and is eaten in the articles both on ordinary and festive occasions.

“The above answer refers to bhang and ganja obtained by cultivation only.”

The spices usually combined with bhang are called bhang massala. The mixture of that name is sold in the bazar ready to be mixed with the bhang. The object of mixing dhatura with bhang is to increase the intoxication. A highly intoxicating compound known as punch-ratni, into which dhatura enters, is sometimes used in Indore.

20. The consumption of these drugs, so far as appears, is not practised specially in solitude or specially in company. Ganja-smoking in company is not uncommon, the pipe being passed round. The smoking of ganja is practically confined to adult males, and is most common among the middle aged and the old. Except among sadhus and gossains, women never use ganja. Bhang drinking also is very rare among women, though women and even children may take a little on holidays and festive occasions.

21. As to the ease with which the habit of using hemp drugs is formed and the difficulty of breaking it off there is great disagreement among the witnesses. The majority are of opinion that ganja-smoking is not easily learned and that a man can break himself of it without difficulty. It is said to be easier to give up either ganja or bhang than it is to give up opium or liquor. The tendency of the moderate habit to develop into the excessive is said to be more marked in the case of bhang than of ganja.

22. There do not appear to be any particular religious customs connected with the use of ganja. When sadhus meet they pass the pipe round, whatever the occasion of the meeting. The votaries of Mahadev are said to consider the use of hemp drugs a part of their religion. At Dewas Shaivas are said to make oblations of bhang on days sacred to Shiv, especially on Maha Shivratri; and when they have made their oblation they drink what remains. This use of bhang is occasional and temperate, and is not at all likely to lead to the formation of the habit. The same may be said of the social habit of drinking bhang on holidays and at marriages. This custom appears to prevail all over Central India, except perhaps in Baghelkhand. In that part of the Agency the greater part of the population are Vaishnavas, and the Baghelkhand witnesses in general have no good word to say for any of the hemp drugs.

23. No custom of worshiping the hemp plant is known in Central India. The only part of the Agency in which the use of all hemp drugs is said to be approved by public opinion is Bhopawar. In Malwa Rajputs, who are addicted to opium and drink, look down on people

who use ganja and bhang. But it is only the smoking of ganja that is distinctly regarded as disreputable. The social drinking of bhang, referred to in the last paragraph, is of course not regarded as in any way reprehensible.

24. It is generally agreed that for an habitual smoker to forego the use of ganja would be a serious privation. The habitual users of hemp drugs, and particularly ganja, are mostly ignorant and fanatical men. Among religious mendicants the habit of smoking ganja is hereditary and inveterate. Nothing can take the place of ganja to these men, and the deprivation of the drug that their order has used for so many centuries would, there is every reason to suppose, be a serious political danger. The matter of bhang is not so serious, its users belonging, as a rule, to a better class; but in this connexion it has been pointed out by more than one witness that both opium and drink are dearer than bhang; that Kshatriyas are the only twice-born Hindus to whom strong drink is not prohibited; and so that Brahmans, for instance, if they wanted an intoxicant, would take to opium; while Sudra users of hemp drugs, to whom strong drink is not forbidden, would not be able to afford it. On this point the Political Agent in Bhopawar writes:—

“Prohibition would probably be as ineffective as were the numerous attempts formerly made in all countries to prohibit the use of tobacco. The drug would certainly be consumed whether permitted or not. Interference would undoubtedly cause discontent, but any political danger would mainly arise from the opportunity afforded to the authorities for harassing the people. It is also possible that the Bhil tribes might show their resentment by open resistance. Witnesses are unanimously of opinion that prohibition would be an act of arbitrary injustice, and this would probably be the general popular feeling. The prohibition of ganja might lead to increased consumption of alcohol. The bhang-consuming classes generally disapprove of the use of alcohol, and would not be likely to take to it.”

25. Generally speaking, there appears to be no reason to suppose that alcohol is to any extent taking the place at present of any of the hemp drugs. But the Indore Minister is of a different opinion.

26. In none of the States in Central India do there appear to be any restrictions on the manufacture or on the import and export of hemp drugs. Duties are charged on importation as on the other articles of merchandize. In some States the sale of the drugs is to some extent restricted. In Indore, as the Minister states, the wholesale dealer requires no license; there is no maximum limit to the quantity he may sell at a time, but there is a minimum limit, viz., 60 seers. The right to sell the drugs in retail is farmed out by public auction, and the retail sale is confined to the farmer and his agents. At present the retail farmer has one shop of his own in the city, and fifteen tobaccoists in the city and twenty-five more in the mofussil, sell the drugs as his agents, there being as a rule a shop at the head-quarters of every mahal. The only other state in which there appears to be any restriction on the sale of the drugs is Rewah, where the “contractors” (meaning apparently the wholesale importers) are said to pay a fixed duty and license fees to the State. Shops in which there is consumption on the premises are not mentioned as existing anywhere. In the State of Bhopal there is a licensed contractor for each pargana, who makes retail sales in his own shop and authorizes others to do so as his agents.

For Cantonments and Agency head-quarters very little information about the sale of hemp drugs is available. In Mhow there is one “sanctioned” shop, and the Cantonment Magistrate reports that the daily sale is only about four seers. In Nowgong cantonment the Abkari contractor holds a license to sell hemp drugs, for which he pays specially. In Nimach there is one licensed vendor, who is said to sell the drugs at 50 per cent. over the price in adjoining native territory. In Sehore bazaar there is one licensed shop. In the Indore Residency Bazaar the right to sell hemp drugs retail is a part of the abkari contract, supposed to be worth Rs. 20 a month.

INDORE STATE MEMORANDUM.

The cultivation of the hemp plant for the purpose of producing bhang, ganja and charas is so extremely limited in this State that there is no scope whatever for putting it under administrative control. The whole area under narcotic hemp plant cultivation is given in the appendix.* The figures given there show that the maximum area during the last twenty years was 354 bighas, minimum 66 bighas, and the average 181 bighas.

The cultivation is confined to a few mahals in the Nimar district, bordering on the Nerbada, and in Sanwer a few miles to the north of Indore. Thus it will be seen that although the State puts no restriction on the cultivation, or controls it in any way whatever, the ryot has not found it to his advantage to grow it largely, although the plant is capable of thriving almost everywhere in the State.

There is no special rate of assessment charged on land under hemp cultivation; but is determined solely by the quality of the soil, and is usually Rs. 7 to Rs. 8 a bigha.

No wild hemp is found in the State. Here or there a plant may be seen by road or river side or near the huts of fakirs, etc., due to the dropping of the hemp seed by consumers.

Manufacture. The growth being thus limited the manufacture of ganja and bhang is necessarily so.

Under the excise system prevalent in Indore, the import and export of the hemp drugs are not shown under a separate head denoting the hemp drugs, but are included under the general head of 'kirana' (i. e., drugs, spices, etc.), and cannot therefore be accurately given. There is no doubt that the drugs are both imported into the State and exported from it, but not to that extent which would make it desirable to assign special heads in the State accounts to their traffic. As in the case of cultivation, so here there are no restrictions on either the importation or exportation of any of the hemp drugs. They can be imported or exported by any body to any extent without a license on the payment merely of the fixed duty. Practically the trade is so limited as not to require its regulation by the State. The importers of ganja and other drugs are generally the banias and there is no limit fixed to the storing and transport of these drugs, by them.

Sale. The sale is either (1) wholesale or (2) retail.

No license is required for wholesale, and there is no maximum limit to the quantity a wholesale dealer may sell at a time. There is, however, a minimum limit, namely, 60 seers, prescribed by a regulation of the State below which the wholesale dealer may not sell on pain of liability to confiscation of his commodity and a fine up to Rs. 50 by the customs officer and to unlimited amount by the Darbar. The occasions on which the darbar have exercised its powers in this respect are very rare indeed, and have done so extremely moderately. The State prescribes no minimum or maximum price of sale, and the wholesale dealer may dispose of his ware at any price it may fetch.

The right to sell in retail is farmed out by public auction, and none but the leaseholder or his agents can make retail sales. The ijardar or leaseholder is at liberty to open any number of shops at any place which may be convenient to him. In practice, however, it is understood that he follows the advice of the customs officers of the State. As a matter of fact at present the retail farmer has only one shop of his own in the city of Indore, and has commissioned fifteen tobacco-sellers, to whom he sells a quantity not exceeding half a seer at an interval of two or three days, to sell for him. In the mofussil the contractor usually has one shop at the head-quarters of every mahal, making about forty shops in all in the districts. Although it cannot be said that the number of shops is determined deliberately with a view to area and population, it naturally adjusts itself to the demand, and therefore indirectly to area and population.

There is no such thing in the State as "local option," firstly, because the matter is so small as not to require any such measure being adopted by the State; and, secondly, because the people themselves have never asked and have no need for it. The thing does not amount to an evil giving rise to complaints requiring a remedy.

The average amount of the retail contract for the last eleven years is Rs. 5,140 per year. The law prescribes no limit, maximum or minimum, in point of quantity to the retail sales to, or possession by, a consumer. But it has fixed the rates of the retail sale of each of these drugs, which are as follows: ganja, at half a seer a rupee in Indore city and one seer a

* Not printed.

rupee in the mofussil, bhang at four seers a rupee throughout the State, and charas at five tolas a rupee throughout.

The probable yearly consumption of these drugs in the State may be about 200 maunds of ganja and an equal quantity of bhang, leaving charas quite out of account as being inappreciable. These figures are the result of a very rough calculation, and not based upon reliable statistics. Having regard, however, to the probable number of consumers and the quantity consumed by an average consumer, they appear to be approximately correct.

Besides the amount realised from the ijara or monopoly of retail sale, which is Rs. 5,140

Duties. yearly on an average as stated before, there are two duties levied on these drugs known as "katati" or inward, and "bharati" or "nikasu" or outward. These terms include the import and the export duty proper, that is, the duty levied on goods brought into the State from, or sent out of the State to, foreign territory as well as the duty levied on goods transmitted from one mahal to another within the State itself at each mahal.

The "katati" and "bharati" are levied at the same rate at the place itself. But the rate varies in different districts, being maximum Rs. 8-12-0 per rās of 3 maunds or 120 seers and minimum annas 12 for ganja; maximum annas 15 for one rās and minimum annas 8 for bhang; and maximum Rs. 7-11-0 and minimum Rs. 5-8 per rās for charas.

The duties are levied at the Sayar nakas by which every merchandize must pass. Evasion to pay the duty is punishable with confiscation of the goods smuggled and a fine up to Rs. 50 by the customs officer, or to an unlimited amount by the Darbar. The temptation to smuggle is greatly checked by the smallness of the duty and by the comparatively heavy liability to punishment. An enormously excessive tax like that of Rs. 335 per maund levied in Bengal (see page 324, volume V of Dr. Watt's Dictionary) would, in the very nature of things, invite smuggling, whereas the small rates levied by Indore cannot be expected to operate in that direction.

There is still a reason to believe that these drugs are smuggled into the State from Ujjain; and from Sanowad they are possibly smuggled into the adjoining British territory or other Native States. Excepting at these two points, smuggling is seldom heard of.

The central administrative power rests with the Darbar. The executive head of customs and excise for the Indore city and Indore zillah is the Administration. Muntazim Sayar and for the other zillahs the Subha of each zillah. The present excise system in respect to hemp drugs in the State, so far as it may be so called, is based upon a few standing circular orders promulgated by the Darbar in the State Gazette from time to time. Some of these have already been noticed in their proper places in this memorandum. The system is on the whole working fairly relatively to the importance of the interests involved and no modification of it is contemplated.

JEYPORE STATE MEMORANDUM.

(1) The hemp plant is grown here only for use as bhang. Its cultivation is not in any way controlled by the Raj.

(2) Ganja and charas are not manufactured here from the products of the hemp (bhanga) plants. Both these drugs are imported from Hoshiarpur and the Punjab. Bhang of a quality superior to what is locally produced is also imported here to some extent.

The sale of bhang, charas, and ganja is not in any way controlled by the Raj. Anybody can, at any place, open shops for the sale of these drugs.

(3) Customs duty only is levied by the Raj on bhang, charas, and ganja.

The customs duty on the export and import of bhang as well as on its import into the capital city from the districts is Re. 1 per maund.

The "mapa" or inland customs duty on bhang is 4 annas per maund.

The customs duty on the import of charas is at Rs. 20 per maund and on that of ganja is at the rate of Rs. 4 per maund.

(a) No particular system is in existence here regarding the growth of the hemp plant or the sale of its products.

(b) Wild hemp is not found in abundance anywhere in the Jeypore territory. The hemp plant, whether wild or cultivated, is only used as bhang and not made to yield either charas or ganja.

About 10,000 maunds of bhang is produced in the Jeypore territory. No attempt is made here to control the possession or sale of this drug.

(c) The hemp plant is not at all cultivated here for the production of ganja or charas, but only for use as bhang. The cultivation of bhang plants in this part of the country is neither prohibited nor restricted to any particular locality.

(d) Charas is imported here by the Afghans and the Kabulis and ganja and bhang by native traders.

All imports into and exports from the British territory of bhang, charas, and ganja are covered under Government license, and when exported from other Native States, under the customs pass (rawana) of that State.

All goods allowed to pass into the territory after being examined by the customs chaukies, which are located at places where traffic is generally carried on.

Bhang is exported from here to other neighbouring Native States, but before allowing it to pass in any quantity, the Customs Department requires the intending exporter to give security that the drug will not be smuggled into any other place.

(e) The wholesale and retail vendors of bhang, charas, and ganja are not under any control, nor are they required to obtain license from the Raj.

(f) Besides the customs duty as mentioned in paragraph No. 3, no other tax is levied by the Raj on bhang, charas, or ganja.

(g) The number and sites of the retail shops of any of these drugs are neither fixed here by the Raj nor put to auction sale. The vendors are quite free to open shops anywhere they like in the territory.

(h) The Raj does not fix any rate at which the drug must be supplied by wholesale to retail vendors. The average retail price (to consumers) of bhang is Rs. 13 per maund, of ganja Rs. 25 per maund, and of charas of the first quality Rs. 160 per maund and of the second quality Rs. 100 per maund. These prices of the drugs do not differ much in different districts.

(i) Neither any maximum amount is fixed for retail sales to, or possession by, the ordinary consumer, nor any minimum price is fixed for the drugs.

(j) There is no reason to believe that smuggling of bhang, charas or ganja from other provinces or other Native States prevails here to any extent; and to prevent smuggling of all articles on which customs duty is due to the Raj, it is provided in the rules of the Customs Department that the smuggler, when detected, forfeits the goods smuggled.

The cultivation, possession, or sale of these drugs, however, is not in any way restricted by the Raj.

(k) No excise system in respect to hemp drugs exists in the Jeypore territory.

(l) It has been already stated that the hemp plant is grown here only for use as bhang; and as it is not cultivated here as a separate crop, but grown along with other crops, the extent of its cultivation cannot therefore be ascertained.

About 27 maunds of bhang is exported from the Jeypore territory and about 50 maunds of bhang is carried from one district to another within the Jeypore territory, and about 300 maunds are imported into the city from the districts and about 64 maunds are imported from abroad. Thus about 364 maunds of bhang is consumed in the city. The amount of consumption in the districts and the holdings of jagirdars and others cannot be ascertained.

About 54 maunds of ganja and about 129 maunds of charas are imported into this place; but as no further duty is levied on any of these drugs, if they are taken from one district to another, it cannot be said how much of the quantity imported is consumed in the city and how much of it is taken into the districts. Besides the Customs duty, no land revenue is derived by the Raj from the cultivation of the hemp (bhanga) plant.

(m) There are no other points to be added to make the system complete and intelligible.

JODHPUR STATE MEMORANDUM.

The hemp plant does neither spontaneously nor to any great extent grow in Marwar, but in a few villages of the parganas of Jodhpur, Bali, Pali, Bilara, Merta, Sojat, Jaitaram, and Jaswantpura, where both the kharif and rabi crops are produced, the cultivators sow some seeds of bhang round the fields of onion, coriander, mustard, and "rijka" grass as well as round the dhurras (passages) of water in the winter season.

The growth of the plant is not controlled, but when it grows up, the leaves are cut down and dried in the summer season. Some of the seeds, which fall down on the ground at the harvest time, sprout up in the rainy season; in the beginning of winter they are also dried.

If there happens to be any ganja seed among those of the bhang it also germinates. When it is cut down it is kept separate, and the produce thus obtained is termed "makuria ganja," which is chiefly used by Samis and Jogis only, as it is of much inferior quality, and for the same reason it is not offered for sale.

The cultivation of the plant is neither permitted nor prohibited; the cultivators cultivate as they have been doing since long; but there are no separate fields of bhang or ganja, and they do not grow abundantly, and consequently there is neither any system of administration with regard to these drugs nor any system of restriction and control.

Charas is not at all prepared in this country.

As the local produce of bhang is hardly sufficient to meet the wants of the consumers this drug, as well as ganja and charas, are imported from other countries.

For the importation of ganja and charas a license is obtained from the Residency office, but a parwana from the Darbar is sufficient to import bhang.

The Darbar levies custom duties on the import, export, and transit of these drugs, and they are as given below:—

	Import duty per maund.	Export duty per maund.	Transit duty per maund.
Bhang	... 2 annas.	2 annas.	2 annas.
Ganja	... Rs. 4-8-0.	Rs. 4-8-0.	Rs. 3.
Charas			

It may be mentioned that from the customs point of view, both ganja and charas are regarded as one and charged at the same rates.

The Government duty for the importation of ganja is said to be Rs. 2 per maund. The bhang goes duty free and is chiefly imported from Bhurtpur. Charas is brought from the contractors of Ajmere, who probably get it from Yarkand and Afghanistan. Ganja is mostly brought from Indore, and consequently it goes by the name of Indore ganja.

The required figures for the period preceding 1883-84 could not be available, as then there was no Customs Department, and a contract for the whole custom dues was given. A separate statement* gives the statistics for the period intervening between 1883-84 and 1892-93, so far as could be obtained from the Customs Department. The appended memorandum shows the total income derived thereby.

Name of the drug.	IMPORT.		EXPORT.		TRANSIT.		TOTAL.	
	Quantity.	Duty realized.	Quantity.	Duty realized.	Quantity.	Duty realized.	Quantity.	Duty realized.
	Md. S. Ch.	Rs. A. P.	Md. S. Ch.	Rs. A. P.	Md. S. Ch.	Rs. A. P.	Md. S. Ch.	Rs. A. P.
Bhang	492 3 12	61 8 3	83 38 2	10 8 0	.....	.....	576 1 14	72 0 3
Ganja	1,734 37 14	7,364 5 1	11 31 11	52 3 3	122 36 13	368 11 3	1,969 25 94	7,785 3 7
Charas								

The total duty realized from bhang is Rs. 72-0-3 and that from ganja and charas together Rs. 7,785-3-7, thus giving on the aggregate a sum of Rs. 7,857-3-10.

With regard to the sale of these drugs, it is to be noted that in the towns of Jodhpur and Pali, where these drugs are consumed in a comparatively greater degree than in other towns

* Not printed.

of Marwar, probably on account of there being a greater population, a contract for the sale of bhang, ganja, and charas has since 1880 been given, which has brought an income of Rs. 14,047 to the Darbar. A parwana instead of a license is issued by the city Kotwal in Jodhpur and by the Hakim in Pali by auction to the highest bidder. It covers a period of nearly one year. Both the aforesaid authorities supervise and control the sale and punish the infringers of the contract.

In places other than Jodhpur and Pali, where there is a less demand and supply of these drugs, their possession and sale are not controlled, and no necessity has ever been felt for such control.

There are no retail vendors in Pali, but there are fourteen in Jodhpur, all of whom are under the control of the contractor, who himself has two shops within the town. The retail sellers are ordinary shopkeepers vending these drugs along with other articles. With reference to area and population, when and where they see any necessity for the same, they sell these drugs purchasing at a lump sum from the contractor.

The rates at which the drug is supplied by the contractor to the retail vendors and ordinary consumers are the following:—

		Supplied to retail vendors.	Supplied to ordinary consumers.
Marwari—			
Bhang	... ..	4 seers per rupee.	3 seers per rupee.
Ganja	... ..	3½ rupees per seer.	2½ rupees per seer.
Charas	... ..	7 rupees per seer.	8 rupees per seer.

No tax is imposed in this country except the duties alluded to above.

The average retail price to the consumers of bhang varies from two pies to nine pies, to those of ganja from one anna to three annas, and to those of charas from one anna to two annas.

It does not differ much in the different parganas.

There is no maximum amount fixed for retail sales to, or possession by the ordinary consumers; but as the consumers are not, generally speaking, well-to-do persons they do not keep more than two or three doses. There is no minimum price, the current rates having already been quoted.

No complaint of smuggling or of an illicit sale of these drugs has yet been brought to the notice of the Darbar. The kotwal of this city in Jodhpur and the hakim in Pali are, however, empowered to punish the smugglers and unauthorized vendors of the drugs.

Bhang, ganja, and charas are not under the control of the local Excise Department, and there are no modifications under the consideration of the ijlas.

As has already been stated, the appended statement gives the required statistics about these drugs, as far as the figures could be available from the records of the Darbar. The explanation of variations from year to year seems to be that these drugs are generally imported when either the stock is exhausted or when their rates are cheaper in the countries from where the contractors import them.

BIKANIR STATE MEMORANDUM.

Translation of a communication from the Revenue Department, Bikanir, dated the 31st December 1893.

The Council's Order, dated the 27th October 1893, enclosing papers regarding the trade in, and preparations of, hemp drugs were received, and copies were sent to the four nizamat for enquiry and report. The nazims of Bikanir, Sujangarh, and Suratgarh sent copies to their respective tahsildars. The nazim of Reni summoned the tahsildars of Bahaderan, Churu, and Rajgarh, also the excise contractors from the three tahsils, cultivators of bhang, etc., and recorded their depositions, and returned the papers with a brief report. The nazim of Sujangarh did not record any person's statement, but only submitted answers to the questions. His subordinate tahsildars did not give full answers to the questions. The tahsildar of Ratangarh has recorded the statements of four or five persons in connection with the questions. The tahsildar of Sujangarh has also written answers to some questions, but it is not known from whom he made enquiries. The tahsildars of Dungargarh and Sardarshahr wrote that no one could give answers to these questions in their respective tahsils. The nazim of Suratgarh has sent answers to the abbreviated series of twenty-three questions only by enquiring from some people, and has also sent a memorandum of his own. The tahsildar of Anupgarh reported that no one uses ganja, charas, or bhang in his district, and none could answer the questions. As regards the tahsils of Mirazawala and Hanumangarh the nazim states that from enquiries made from the tahsildars of the above tahsils and from the mahajans, etc., of Hanumangarh, it appeared that there are no persons who use bhang, charas, or ganja in either tahsil or who could give answers to the questions. There is no excise contractor in the nizamat except at Hanumangarh. There are no persons at Suratgarh itself who consume ganja and charas, but one or two bhang consumers were found and their replies were recorded. The nazim of Bikanir summoned the contractors and consumers of bhang, charas, and ganja and recorded their statements. From the replies received from the nizamats and from the experience and knowledge of this department the answers to the several questions have been written. It may also be noted that in the nizamat of Suratgarh there are many Rathis who are Mahomedans, and the villages are inhabited by Jats and Sikhs, and all these do not use bhang, charas, or ganja. Only a very few persons use them here and there. There are consumers in the nizamats of Bikanir, Sujangarh, and Reni. Those who are allowed to drink liquor use very little bhang, though ganja and charas are used by some. The drugs are mostly used by Brahmins, Mahajans, Agarwals, Mahesris, and some Oswals, Sewaks, Chelas, and other miscellaneous castes. Sanyasi Jogis and Naths use them much, and their associates also consume them.

As regards paragraph 2 of the letter from the Secretary to the Hemp Drugs Commission regarding excise arrangements, it may be said that no proper excise arrangements existed before. The excise law and rules have only been framed this year and contain full information on the subject. One or more copies of the rules may be sent from the Council for the information of the Commission.

As regards paragraph 3 of the above letter it may be said that the excise arrangements have only been begun this year and have not yet properly come into force, and therefore no such memorandum can be prepared. The information wanted in the note will be given below.

As regards paragraph 4 of the letter which requires information for the past twenty years, it may be said that there were no rules and regulations previously. The duty was taken by the Customs Department, and hence this department can furnish no statistics.

NOTE.

(1) No bhang is grown in this State except at the village of Chani in the Bahaderan tahsil and at the town of Churu because the country is sandy and there are no means of irrigation. Bhang, charas and ganja cannot be grown without water. The cultivation of bhang at Churu was limited to one bigha of land and has ceased, because it did not prove profitable. The wells at Churu are not very deep, and bhang was sown with onions and tobacco. At Chani it is sown with onions and tobacco in three bighas of land and is irrigated by the canal-water. There is no control over its growth. The profit is realized by the cultivators, who are at liberty to sell the produce to the excise contractors, but not to others.

(2) Bhang, charas and ganja are imported from the Punjab, Indore, Jeypore, and other places. Nothing is manufactured from them in this State except majum and powder. This is done by consumers and by the excise contractors for sale. There is no restriction. There are punishments for the breach of excise rules, and the consumers can have in their possession drugs up to the prescribed limit only.

(3) The system of taxation is one throughout the State, viz., bhang Rs 5 a maund and ganja and charas Rs. 20 per maund. Full information is given in the report of the Customs Department, dated the 27th October 1893 :—

- (a) There is one uniform system in the whole State. The duty is levied by the Customs Department. The head of the Customs Department at Bikanir is the central controlling authority. In the mofussil there are thanas and customs officers at which duty is levied. There are Girdawars for inspection and check. The work of levying the duty at the customs offices is performed by daroghas, naib-daroghas, and thanadars, and these are all subordinate to the Customs Department. At the head-quarters of the nizamats the nazims are the officers of excise and issue licenses for wholesale and retail vend. In like manner at the tahsil head-quarters the several tahsildars and their naib do this duty in subordination to the nazims. All these nizamats and tahsils are under the control of the Revenue Department. Everything is done in accordance with the customs and excise regulations.
- (b) Wild hemp does not grow in any part of this State, but, as stated in answer No. I, some bhang is grown in Chani from which no charas or ganja or any other preparation except bhang is made. The cultivators sell it to the contractors only and not to any one else; any infraction of the rule renders the seller liable to punishment.
- (c) The cultivation of the hemp plant is not prohibited by law, but the land of this State is not fit for its cultivation and there are no means of irrigation. It is only grown in Chani. There is no restriction on the cultivation.
- (d) Ganja, bhang, and charas are imported into the State by contractors and other traders from abroad who pay the customs duty and sell the drugs to the wholesale vendors. Section 18 of the Excise Rules permits any one to import for his own use bhang up to five seers, but he has to pay a duty of one anna a seer to the excise contractor and to obtain a permit. If any one brings in majum and gulkand prepared from bhang he has to pay one anna for every rupee's worth of the drug to the contractor and to obtain a permit. No licenses are issued by the raj for the importation of drugs. As regards the exportation of intoxicating drugs from the State, it is mentioned in the report of the Customs Department that, according to article 5 of the Treaty* with Government, the export of intoxicants is prohibited, and the exporters are punished according to law. If a trader wishes to export any portion of the drugs which he has imported, a permit is given to him by the tahsildar according to section 23 of the excise law. The tahsildar supervises the packing of the drugs and puts seals on the package, and after satisfying himself in every way he sends a duplicate copy of the permit to the officer of the place to which the drugs are to go.
- (e) Control is exercised over the wholesale and retail vendors according to regulations, so that they may not sell more than the quantity allowed by the law. Sections 6 and 23 give details about this. Retail vendors cannot sell to one person at a time more than 120 tolas (1½ seers) of bhang or majum and other preparations of bhang and 40 tolas (½ seer) of charas and ganja, but on occasions of marriages, etc., he can sell more with permission. Neither wholesale nor retail vendors can keep and sell more than is permitted by law; licenses are given to them by the raj in the middle of the month of Chait, when the year commences. The wholesale vendors fix the number of shops and get licenses for the retail vendors, and they themselves are permitted to take licenses for retail vend. Supervision over them is exercised by the nazims, tahsildars, and daroghas. The forms of licenses are given in the excise law.
- (f) Mention has been made in paragraph 2 of the levy of the tax on ganja, bhang, and charas. As a precaution against evasion of duty customs chaulies and thanas have been posted on the border, and smugglers are punished by fine and confiscation of the article smuggled. Officers of the Customs Department make tours to inspect the arrangements.
- (g) The contracts for wholesale vend are sold by auction in the tahsils, and licenses are issued with the sanction of the Regency Council. The number and sites of the retail shops are determined by the nazims with reference to population and the amount of consumption. The shops for retail vend are not auctioned. The wishes of the population are also regarded in fixing the sites for shops. The contractor gets licenses for the retail vendors after fixing his prices. The retail vendors cannot sell at higher rates than those fixed by the nazims.
- (h) The rates are entered in the licenses for wholesale and retail vend, and no one can sell cheaper or dearer than those rates which are fixed by the nazims. The retail prices differ a little in the various districts.

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- (i) According to section 23 of the excise law the maximum amount fixed for retail sales to, or possession by, an ordinary consumer is bhang 120 tolas and charas 40 tolas, and the fixing of the minimum prices rests with the nazims.
- (j) Since the introduction of the excise rules this year, no case of smuggling has come to notice. At the time when the excise rules came into force, all the drugs were taken away from those who possessed them and were either confiscated or sold to wholesale vendors. As mentioned in (j) defaulters of customs duty are punished by fine and confiscation of the drug. Illicit sales and possession are punished according to section 34.
- (k) None.
- (l) As no records of past years exist, no explanation can be given of any differences and variations that have taken place in the cultivation, trade, etc., of the drugs. There was neither permission nor prohibition on the part of the raj, and everyone who chose used publicly to sell and buy. The customs duty only was taken in the raj. The present rules have come into force this year only and have not been fully carried out yet, and contracts have not yet been given everywhere, but illicit sales have been stopped. The statement cannot therefore be filled in. Statistics regarding the consumption and revenue cannot be prepared at present. The quantity imported can be ascertained from the Customs Department. Mention of cultivation has been made in (b), and regarding the importation of the drugs information is supplied in 2.
- (m) Full details are contained in the excise law.

Translated.

CHAS. S. BAYLEY,
Political Agent, Bikanir.

Translation of a communication from the head of the Customs Department, Bikanir, dated 27th October 1893.

The Council's Order, dated the 17th October 1893, enclosing papers regarding the hemp drugs was received on the 21st idem. With reference to paragraphs 3 and 4 of the letter from the Secretary to the Indian Hemp Drugs Commission and the note mentioned in paragraph 3, I beg to state that the bhang, charas, and ganja plants do not grow either wild or by cultivation in this State, but the drugs are imported from foreign territory. No other preparations from bhang, ganja, or charas are made in this State for trading purposes, nor are they imported from other territory. On the Holi and other festivals majum is prepared from bhang and is sometimes sold retail. Bhang is pounded, mixed with milk and sugar and drunk. It is also eaten dry, in which case almonds, pistachios, etc., etc., are mixed with it. The charas imported into the State is of two kinds, viz., (1) garwa, which is smoked with tobacco; its effect is immediate and strong; and (2) charas. This latter is also smoked in the same way, but its effect is less strong. The ganja is of one kind only. Prior to Sambat 1942 customs duty was levied at different rates on bhang, charas, and ganja. The system of levying the duty was also different at head-quarters and in the districts, i.e., in the districts duty was realized by the tahsils, and at head-quarters by the Customs Department. The statistics for the past twenty years cannot be supplied in the prescribed form because no records exist from which the different rates of duty prevalent in different places, the amount of revenue, the quantity of the drugs imported, etc., could be ascertained. The Customs Department was reorganized in Sambat 1942, since which time bhang has been taxed at Rs. 5 per maund and ganja and charas at Rs. 20 per maund, and one system of realization of duty has been introduced for the whole State. The customs officials are under the control of the head of the department. The customs rules have been in force. Girdawars and Naib Girdawars have been appointed for inspection work. The rawanas of Sambat 1942 have been destroyed, but those from Sambat 1943 to 1949 are in existence, from which a statement showing the quantity of the drugs imported and the amount of revenue realized during the eight years has been prepared. It is submitted with this report. For Sambat 1942 the quantity imported has been shown in a lump. The tax on charas and ganja is levied at one rate; therefore in some rawanas the words "charas and ganja" have been used together, and hence information regarding the two drugs cannot be supplied separately. There was formerly no prohibition in this State, and no licenses for wholesale or retail vend were given; therefore the drugs were imported and sold without restriction. According to article 5 of the Agreement with the British Government the export from this State into British territory of intoxicating drugs was prohibited. Exporters were punished with confiscation of the drugs and fine and imprisonment according to rules framed in 1873. The punishment for the export of opium was different. But since the beginning of 1893 the excise law of the Darbar has been put in force under the supervision of the nazims and tahsildars, and the whole arrangement has been put under the control of the Revenue Department, from which information regarding the granting of licenses for wholesale and retail vend, the import and export of the drugs, and the opening of the shops, etc., can be obtained. The answers to the Secretary's questions can also be obtained

h the Revenue Department, and the form of statement may be filled up there also. been ascertained that some bhang is grown at the village of Chani in the Bahaderan by canal irrigation, and the Revenue Department can supply information regarding its cultivation and supervision.

Translated.

CHAS. S. BAYLEY,
Political Agent, Bikanir.

ent showing the quantity of charas, ganja, and bhang imported into the State and the amount of duty realized from Sambat 1942 to 1949.

STATEMENT No. 1.						STATEMENT No. 2.		Ranmas.
Sambat.	Charas and Bhang.	Ganja.	Charas and Ganja together.	Total.	Total amount of duty realized.	Bhang.	Total amount of duty realized.	
	M. S. Ch.	M. S. Ch.	M. S. Ch.	M. S. Ch.	Rs. A. P.	M. S. Ch.	Rs. A. P.	
...	...	...	...	43 25 8½	...	52 29 2	...	
...	15 27 0	0 0 3	1 19 7½	17 6 10½	...	185 37 10	...	
...	19 14 0	0 1 10	6 10 0	25 25 10	...	126 8 10	...	
...	6 5 5½	0 7 15	2 33 3	9 6 7½	...	145 5 5	...	
...	24 29 7½	4 28 9	2 30 4	32 8 4½	...	135 27 0	...	
...	5 0 7½	2 0 2	1 0 12½	8 1 6	...	140 14 0	...	
...	13 2 9	11 8 10	0 3 4	24 14 7	...	124 24 14	...	
...	19 24 11	5 5 11	1 0 7	23 30 13	...	116 32 10	...	
TOTAL	103 23 8½	23 12 12	15 17 5½	183 39 2½	3,679 9 3	1,027 19 3	5,137 7 9	

CHAS. S. BAYLEY,

Political Agent, Bikanir.

ALWAR STATE MEMORANDUM.

There is no special arrangement in force in regard to the control of the growth of the hemp plant in this State. Ganja and charas are not produced here. The zemindars in some of the villages grow bhang either close to their wells or on the borders of their fields on a very limited scale. Here and there may be found wild plants of bhang, but it does not grow to any appreciable extent. The system obtaining in this State for the management of the excise administration of the hemp drugs is that the State grants the monopoly of the import and sale of drugs, including poppy and opium, to a contractor for a fixed period under certain stated terms. In September last the contract for drugs, including poppy and opium, was given for three years for Rs. 10,550. This sum has been ascertained from enquiry to include Rs. 9,000 on account of poppy and opium and the balance, Rs. 1,550, represents the income on account of excise duty on bhang, ganja, and charas. In addition to the excise duty, bhang is liable to pay octroi duty at ten annas per maund, while ganja and charas are exempt from octroi taxation. Ganja, it will be observed, is neither produced nor imported here. Charas is imported for consumption into the State to the extent of 6½ maunds annually, while the production of bhang in the State is almost sufficient for the requirements of the people. If at any time any small quantity is required over and above the local produce, it is obtained from elsewhere by the contractor under restrictions imposed on it in British territory or other Native States from which it is imported.

2. With these preliminary remarks, we proceed to discuss *seriatim* the points alluded to in the note which accompanied the letter from the Secretary to the Indian Hemp Drugs Commission on the subject:—

- (a) There is a uniform system for the State. It is this: The contract for all the drugs, including poppy and opium, is given for a fixed sum and for a stated period to a contractor under certain terms agreed upon at the time of the contract. The State merely receives the contract money in fixed instalments, and makes no interference in the management which is left entirely in the hands of the contractor. The principal revenue officer of the State is supposed to be the central controlling authority, but the administration of the system is virtually carried on by the contractor for the time being. There is no Act or Regulation in force in regard to excise administration. The whole system is based on the few conditions agreed to by the contractor at the time of the contract.
- (b) Wild hemp is not produced to an appreciable extent in this State and is not much used. No attempt has been made to control the possession or sale thereof.
- (c) The hemp plant for the production of ganja and charas is not cultivated. Bhang, as already explained, is cultivated close to the wells and on the borders of the fields by a few zemindars, but its cultivation is not prohibited, nor is there any restriction as to the localities of cultivation.
- (d) Ganja is not imported here, but bhang and charas are imported by the contractor according to requirements. He makes his own arrangements for their supervision and for controlling the storing and transport of these drugs.
- (e) The State has granted the monopoly of the import and sale of these drugs to a contractor, who sublets the farm and issues licenses at his pleasure to the different shopkeepers in the several tahsils or other localities for the sale of drugs.
- (f) No answer is needed. This system is explained elsewhere.
- (g) The number and sites of retail shops are fixed by the contractor according to requirements without reference to the authorities. The licenses are granted by him to the retail shopkeepers on payment of a fee to be agreed upon between the parties. The number of shops is not determined with reference to area and population, nor is there anything in the nature of "local option."
- (h) There is no rate fixed at which the drug must be supplied by the wholesale to retail vendors. The rates differ according to the demand and supply at different times. The present rates are given below:—

	Bhang.	Charas.
	Rs.	Rs.
Wholesale prices	5 per maund.	200 per maund.
Retail prices	8 „	280 „

The retail price does not differ much in different districts. It is almost the same everywhere.

ALWAR STATE MEMORANDUM.

- (i) There is no maximum amount fixed for retail sales to, or possession by the ordinary consumer, who can buy and possess drugs sufficient for one month's consumption from a licensed vendor. He cannot, however, import them, nor can he buy them from any other but the licensed vendor. There is no minimum price fixed for the drugs.
- (j) No estimate can be made of the extent smuggling from other provinces or other Native States prevails here. It is the business of the contractor to check smuggling, and when any cases are reported, the smugglers are arrested and, if found guilty, are punished and the illicit drug is confiscated. Bhang cultivated or grown in fields is either sold to the contractor, or the proprietor obtains a license from the former for its sale.
- (k) No modifications of the present excise system in respect to hemp drugs are under consideration.
- (l) The appended statement* will show as far as possible the extent of cultivation and trade, the sources of retail supply, the amount of consumption and the revenue of this State in respect to the hemp drugs.

MANGAL SINGH,
RAO GOPAL SINGH,
M. WAJID ALI,
BALMOKAND DAS,

Members of Council.

* Not printed.

Statistics relating to hemp drugs for the year

[illegible]

1873-74 to 1892-93 in the Bhurtpur State, Rajputana.

[illegible]

KOTAH STATE MEMORANDUM.

Letter No. 3772, dated 25th September 1893, of the Agent to the Governor-General in Rajputana, together with its enclosure, reached me. In reply to paragraph 2 it is stated that very little ganja and bhang are cultivated in this State and their consumption is very little, hence it would not be necessary to send anybody from here to appear before the Commission as witness.

The questions of the Commission are answered as below :—

There is no supervision of the State on the production of ganja and bhang.

No ganja or bhang is made in this State; a very small quantity of bhang grows here, which is consumed locally. It is imported from other parts of the country.

Ganja is imported from Jhallawar, Gwalior, and Tonk.

No duty is levied on bhang which grows in this State; but when it is imported into the Kotah city a duty of Re. 1 per maund is levied like the articles imported from foreign country and the transit duty is charged 8 annas per maund.

A duty of Re. 1 per maund, like bhang, is levied on ganja when imported from other country.

The transit duty is the same as for bhang. If charas is imported the duty is charged at the rate of one anna per rupee on its price. No charas grows here, nor is it made.

Ten years before charas used to be imported here, but since then no import is made.

There are two kinds of bhang, viz., "Deshi" and "Ujjaini." The colour of *deshi* bhang is green and that of Ujjaini yellow and grey. It is more intoxicating than *deshi* bhang.

There are two kinds of ganja, viz., "deshi" and "Baluchar."

As far as it has been ascertained the baluchar ganja is known here only by name. It is neither imported nor consumed here.

These are the following answers to the questions asked for :—

A very small quantity of ganja and bhang is consumed in this State, and on account of their less demand the State has only ordinary supervision in the district by nazims and in the city by the Revenue Superintendent.

There is a ruling of 1881 about buying, selling, and possessing intoxicating drugs, but on account of the above reasons it is not in force. As far as it has been ascertained, no wild bhang grows here, nor is it used in medicines; consequently there is no supervision.

There is no regular cultivation of ganja and bhang in this State on any piece of land. Some seeds only are thrown in the cultivation of poppy, where they grow up. Some "majum" is made out of that bhang, and there is no restriction about keeping this, because people here give preference to opium, which grows so freely and abundantly. Neither is there any permission nor prohibition to the cultivation of ganja and bhang; the cultivation is not made on any special piece of land, nor is there any special body who import these drugs; for this reason there is no rule to grant licenses for the same. Everybody can import and export ganja and bhang, but no one can sell them with the exception of the contractors.

There is no necessity for wholesale seller in this State: the work is carried on by retail seller, who gets contract from the State annually on the highest bid. In the district nazims sanction these contracts on those places which have been authorized by the Revenue Superintendent.

No tax other than the contract money is levied on these articles.

No condition or terms are settled on the sale between the wholesale and retail sellers.

In the district bhang is sold from 2 annas to 3 annas per seer and in the Kotah city at 4 annas per seer.

There is no ruling up to what quantity of bhang the retail seller or consumer can keep with him.

As when there is no ruling for any fixed quantity of bhang, the people do not therefore try to smuggle the drug but openly export and import the same.

Until some new restrictions be put on its cultivation or possession, no amendment in the present state of affairs is necessary.

KOTAH;

CHUBE RAGHUNATH DASS,

The 25th November 1893.

Revenue Superintendent, Kotah State.

JHALLAWAR STATE MEMORANDUM.

JHALLAWAR STATE MEMORANDUM.

(1) There is no control over the growth of the hemp plant, or (2) over the manufacture, importation and sale of any of its products. (3) There is an import duty of 8 annas per maund of 35 seers on all sorts of ganja and bhang and of one anna per ditto on charas. There are also local dues of 2 annas per maund on bhang and ganja, while 1 per cent. is levied on all sales of either drug, weightment dues also being levied when they are sold by weight.

There is no system in this State whatever for the control of hemp drugs. Wild hemp is found in very small quantities; a few stalks here and there probably spring from cultivated seed accidentally deposited. Anybody can import any hemp drug, except into the cantonment, where there is a licensed farmer; once the latter has paid for his license he is free from all control. The extent of cultivation is about 30 acres and the produce about 165 maunds of ganja and 30 of bhang. The trade returns of the last four years do not distinguish between ganja and bhang; they show an average import of 105 maunds of both drugs and an average export of 120 maunds, while 10 maunds 25 seers paid local internal dues. The average receipts have been Rs. 65-8-6 per annum.

G. R. IRWIN,

Political Agent.

JHALRAPATAN;

The 2nd January 1894.

TONK STATE MEMORANDUM.

The hemp plant is not grown anywhere in the State, hence no supervision exists as to its cultivation.

Bhang is manufactured by drying the leaves of the hemp plant. It is imported together with ganja and charas by foreign traders and sold by them to the shopkeepers of the State by whom the drugs are disposed of in small quantities.

The duties imposed on the drugs are as follows:—

	GANJA, CHARAS, BHANG.						Per cent of Value.		Per maund.	
							Rs.		Rs.	
Tonk and Aligarh	...	...	...	...	...	...	20		...	
Nimbahera	...	...	...	...	...	...	...		...	
Pirawa	...	...	...	...	...	...	...		...	
Chabra	...	...	...	...	...	...	...		6	
Sironj	...	...	...	...	...	...	...		5	

As the hemp plant is not largely used in the State, no system of control is in force beyond that necessary for the levying of customs duties.

Wild hemp is not found anywhere in the State. Bhang is cultivated on lands irrigated by wells, and its leaves are used when dry. There is no system for controlling the possession and sale of the drug.

No prohibition exists as to the cultivation of the hemp plants, nor is it regularly grown in the State. A few bhang plants are grown in vegetable fields irrigated by wells. Ganja and charas are not grown in the State.

Ganja and bhang are imported by "mahajans" and "tambolis" and charas by the Villayatis. None of these hold license, nor is there any arrangement for supervising or controlling the transport of the drugs.

Neither the wholesale nor the retail vendors are licensed. They purchase and sell the drugs as they like without restriction of any kind.

Duties are levied from the importers at the time of their entry in towns or villages, and in order to guard against evasion the same precautions are taken as exist for other dutiable articles, viz., the inspection of persons at the customs post.

Regular retail shops do not exist anywhere in the State. The importers sell the drugs wherever they like.

No rate is fixed at which the drugs must be supplied by wholesale to retail vendors. The price to consumers as obtaining in the Tonk city is as follows:—

Charas	...	...	...	...	...	at Rs. 3-12-0 per seer.
Ganja	...	...	...	...	...	" " 0-10-0 "
Bhang	...	...	...	...	...	" " 0-2-0 "

As the system of granting licenses or giving the drugs on contract is not in force, the consumers buy up to any quantity they like, paying as much as the traders demand of them.

There being no prohibition of any kind, smuggling and illicit cultivation are not resorted to.

A proposal to draw up a set of rules is under consideration.

TONK STATE MEMORANDUM.

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The extent of cultivation is already given in replies to questions (1) and (c). The average annual trade is as follows:—

	Ganja.		Charas.		Bhang.	
	M. S. C.		M. S. C.		M. S. C.	
Tonk	...	...	...	...	...	...
Aligarh	...	...	...	...	...	...
Nimbahera	...	...	...	...	...	...
Pirawa	...	...	...	...	...	...
Chabra	...	...	...	...	...	...
Sironj	...	...	...	...	...	...
						5 15 5

Ganja and bhang are imported into Tonk and Aligarh from Jeypur and into the other parganas from important neighbouring villages, whilst charas comes from Kabul. The extent of trade represents the average annual consumption. In Pirawa and Nimbahera the drugs are not taxed, hence the extent of trade in them has not been given.

A. P. THORNTON, *Lieut.-Col.,*
Political Agent.

BUNDI STATE MEMORANDUM.

No control of any kind is exercised on the growth of the plant.

Hemp drugs are not manufactured in the State. They are imported for sale from foreign States both by wholesale dealers and petty shopkeepers.

Land rent is not separately levied and custom duty is charged at 8 annas a maund. There are two kinds of ganja known as "Indori" and "Shahbadi." Besides these the State knows nothing of any other kind.

There is one uniform system throughout the State. No officer is appointed for its administration, nor is it in any way supervised or based on any Act or rules.

Wild hemp is not found in the State. The drug is imported for sale both by foreign and home traders. The quantity grown in the State is disposed of by traders of the State.

Cultivators grow the hemp plant on land irrigated by wells as other crops. No prohibition or restriction exists as to its cultivation, nor is any sort of control exercised.

Ganja and other drugs are imported for sale by traders of foreign States and by mahajans, "pansaris," and "tambolis" of the State. The system of issuing license is not in force, nor is there any arrangement for controlling the transport of the drugs.

The wholesale and retail vendors are not under any control. They are at liberty to dispose of the drugs in any way they like.

Import and transit duties on ganja, bhang, and charas when brought into the State or passing through it are charged at the uniform rate of 8 annas per maund. Persons found evading the raj duty are charged double the amount, viz., Re. 1 per maund.

Regular or special shops for the sale of the drugs do not exist anywhere in the State, nor are the latter given on contract. Traders and shopkeepers are at liberty to sell the same anywhere they choose without let or hindrance.

No rate is fixed at which the drug must be supplied by wholesale to retail vendors. The average price per maund is given below, and varies according to the state of the market :—

	Wholesale per maund.			Retail per maund.		
	Rs.	A.	P.	Rs.	A.	P.
Ganja	25	0	0	32	0	0
Bhang	10	0	0	15	0	0
Charas	200	0	0	240	0	0

No limit is fixed as to the amount, whether maximum or minimum, which should be sold to, or be in the possession of ordinary consumers. The minimum price of the drugs is given in the preceding answer.

There being no prohibition for the importation of the drugs smuggling is not resorted to. Similarly, there being no prevention for their growth, illicit cultivation is not carried on.

Proposals for modifying the present excise system are under consideration.

Bhang only is cultivated on a few pieces of land watered by wells, but the outturn cannot be estimated. The extent of trade for the past eleven years is as follows :—

	Mds.
Bhang	9,385
Ganja	100
Charas	25
TOTAL	9,510

SHAHUPURA STATE MEMORANDUM.

Bhang is the only drug produced in the Phulia pargana of Shahpura. Ganja is not grown, neither is charas manufactured. There is no control on bhang of any kind on the part of the Chiefship, except that the land used for its cultivation is charged rent at the usual rate.

Bhang is manufactured by drying the leaves of the plant, and both ganja and bhang are imported from Bhilwara by the shop keepers of Shahpura and sold both in Shahpura territory and to traders and others of foreign States.

For the cultivation of bhang along with the "ranjka" grass land rent is charged at Rs. 6 per bigah, or Rs. 10-6 per acre. Import and export duties on both bhang and ganja are levied at the same rate, viz., one pice per seer. The ganja imported into the Chiefship is of the kind known as "Indori."

There is no system whatever for the sale, etc., of bhang, nor is it controlled by any officer or Acts or rules of any kind. The drug is imported and sold by the shopkeepers at their will and pleasure.

Wild hemp is not found in the Chiefship.

No prohibition exists for the cultivation of the hemp plant, but, as already stated, ganja is not grown anywhere in the Chiefship. Bhang is invariably cultivated with the "ranjka" grass in localities with plenty of moisture.

Ganja and other hemp drugs are imported by mahajans, "tambolis," and by a few "halvais." The system of granting license is not in force, nor is there any arrangement for controlling the transport of the drugs.

They are not under any control, nor are they licensed.

Shahpura is a fortified town with gates, at each of which customs officials are posted, who register all goods imported into or exported from the town and levy duties thereon. In villages "mapadars" are appointed for the collection of duties on all goods, including drugs, etc. On all bhang taken from Shahpura territory to foreign States transit duty is charged at three pies per seer in addition to the export duty. "Mapa" and weightment duties are not levied on ganja as it is not produced in the Chiefship, but import, export, and transit duties are charged at 3 pies per seer.

There being no prohibition for the sale of ganja and bhang, it is not necessary to fix sites of retail shops or grant licenses for the sale of drugs.

No rate is fixed at which the drug must be sold by wholesale to retail vendors. The average wholesale price of ganja, which is imported from Bhilwara, is Rs. 9 per maund and of bhang Rs. 5 per maund, and the retail price Rs. 25 and Rs. 8 per maund respectively.

No maximum amount is fixed for retail sales to, or possession by the ordinary consumers, whilst the minimum prices fixed for the sale of the drugs are given in the preceding answer.

The duties on the drugs being light, and there being no prohibition for their importation or growth, smuggling and illicit cultivation are not carried on.

For the future it is proposed to issue licenses to a limited number of persons at few selected places.

Bhang is not separately grown anywhere in the Phulia pargana of Shahpura. It is cultivated with the "ranjka" grass. The area under bhang cultivation, if separately calculated is estimated at 25 bigahs, yielding 125 maunds, at 5 maunds per bigah. In addition to this 25 maunds are imported from Bhilwara, making a total of 150 maunds. Of this, about 125 maunds are consumed annually and the rest exported to territories of foreign states. About 4 maunds of ganja are imported annually and consumed in the Chiefship. A statement showing the revenue derived from the hemp drugs for the past twenty years cannot be submitted owing to the customs duties of the Chiefship having been farmed for a considerable number of years to various persons, who kept no regular account of the income realized by them. The average annual income derived from import, export, and transit duties on the hemp plants is, however, roughly estimated at Rs. 200.

Translated.

A. P. THORNTON, *Lieut.-Colonel,*

Political Agent.

DHOLPUR STATE MEMORANDUM.

1. The hemp plant, i.e., ganja, charas, and bhang, are not produced in this State. They are under the control of the Customs Department.

2. Hemp drugs are not manufactured here. Bhang is generally imported from the British districts and the Bhurtpur State, ganja from the Gwalior State, and charas from Patiala.

3. The duties levied upon bhang and ganja are Rs. 4-4-0 per maund and on charas Re. 1-1-0 per seer. The rates of duty imposed on these drugs in the Sir Muthia Estate are given in the statement* attached.

(a) Uniformity of system prevails throughout the State. There is only one contractor for these intoxicating drugs in the State, while in the parganas he has his sub-contractors. This contract is in the charge of the customs officer.

(b) Wild hemp, i.e., ganja, charas, and bhang, is not found in the State, nor is any drug manufactured from it.

(c) The cultivation of intoxicating drugs is prohibited throughout the State without permission of the Darbar. There is no particular locality in which cultivation is restricted. It is generally the custom throughout the whole territory to obtain permission before they are cultivated. The cultivation is under the control of the customs officer. Persons cultivating without permission are punished.

(d) The contractors import these drugs by rail and road from the British districts and Gwalior and Patiala States under passes granted by the Political Agent and the Collectors concerned.

(e) In this State contract is given for the sale of intoxicating drugs for a certain period. It is under control of the Customs Department.

(f) Ganja, charas, and bhang are not produced in the State, and hence the rates of land revenue cannot be given. The rates of duty levied on these drugs, when imported into the State by a trader or contractor, are given in answer (3). The sellers of these drugs, if found to have evaded payment of the duties, are punished.

(g) There is only one contractor for the State. He has his own sub-contractors in the parganas. The number of shops is not determined with reference to area and population. There are in all twelve shops in the parganas besides the general contractor. The retail sale vendors do not purchase these drugs from the wholesale vendors, but import them from outside, i.e., bhang from British districts, ganja from Gwalior territory, and charas from Agra and Patiala. These drugs are sold at one price throughout the State, viz. :—

Ganja, at $\frac{1}{2}$ seer per rupee.

Bhang, at $1\frac{1}{2}$ to 2 seers per rupee.

Charas, at 2 chitaks per rupee.

(h) The retail vendors do not purchase these drugs from the wholesale vendors, but bring them from foreign districts. The price of these drugs does not differ in any place in the State. They are sold at one and the same price throughout the State.

(i) No maximum amount is fixed. These drugs are sold at one price.

(j) As far as possible, smuggling from or to other places does not take place, nor is illicit cultivation carried on, nor is illicit possession allowed. No one except the contractor is allowed to sell these drugs.

(k) None.

(l) Ganja, charas, and bhang are not cultivated in the State. The yearly trade in ganja, charas and bhang is as follows :—

						Mds.	Srs.
Ganja	...	...	...	...	...	38	30 $\frac{1}{2}$
Charas	...	...	...	...	...	0	25 $\frac{1}{4}$
Bhang	...	...	...	...	...	33	36 $\frac{1}{2}$

Ganja is imported from Antri (Gwalior), bhang from Kanauj, Chupra, Mhow, and Kewli state, and charas from Agra and Patiala.

* Not printed.

Statistics relating to hemp drug:

[illegible]

STATE.

the years 1873-74 to 1892-93.

[illegible]

KARALI STATE MEMORANDUM.

Ganja and charas are not produced in the State. Bhang grows spontaneously. Malis generally cultivate it on grounds near the boundary walls of their fields. When leaves come out, they are collected and dried and are then brought into use. Sometimes they are sold also. There is no special control from the side of the State.

Ganja and charas are not produced here. Ganja is generally imported from the Gwalior territory and charas from the town of Bhartpur. Bhang grows spontaneously, sometimes cultivated by the malis and sometimes imported from the territory of Jeypur.

The duties levied upon ganja are Rs. 2-8-0 per maund and on charas Rs. 10 per maund, and on bhang Re. 1 per maund.

Uniformity of system prevails throughout the State. There is one officer at the head of the Department of Customs who resides at the capital. The levying of duties and other matters connected with the Department of Customs are in charge of this officer, and according to the customs tariff drawn up in 1882, the duties on different articles are levied by the Department of Customs.

Hemp is neither cultivated here nor grows in a wild state.

Hemp plant for the production of ganja or charas is neither cultivated nor grows spontaneously. No restriction is put upon bhang, the production of which is very limited.

It is not particularly known who imports these drugs. Bhang is generally imported by the malis and cultivators for sale. An annual fair, called the Sivaratri fair, is held here in the month of February. In this fair local and foreign traders generally bring these drugs for sale. During this fair no customs duties are levied, nor any license issued for their importation. Certainly after the fair is over, duties are levied upon these drugs. Hence there is no necessity for the State to supervise the storing or transport of these drugs. Of course, strict supervision should be maintained for the levying of duties. As for the sale of these drugs, contract is given to the vendors in three places, *viz.*, Kerowli town, Maudrel and Machilpur. The contractors have the right to sell these drugs in retail. Excepting the contractors others are not allowed to sell it in retail. Everybody has the right to sell these drugs to the contractors. There is no restriction on this. But if these drugs are imported either by the contractors or somebody else, they are not exempted from paying duties.

The vendors of these drugs are not under control here. But they are licensed vendors. These licenses are given to them after they had paid fees for the licenses. No rent is collected if any of these drugs are cultivated.

Customs duties are surely taken. The following is the scale of duties levied upon these drugs if they are exported or imported:—

					Rs.	A.	P.	
Ganja	...	...	...	...	...	2	8	0 per maund.
Charas	...	...	...	...	...	10	0	0 "
Bhang	...	...	...	...	...	1	0	0 "

The officers of the Customs Department supervise over the collection of customs duties. Smugglers, etc., are punished according to the customs regulations.

The sites of retail shops are not fixed by the State. The contract for the sale of these drugs is given by auction. The contractor opens his own shop for the sale of these drugs. The number of shops is not fixed with reference to area, or population, and the setting up of a new shop depends upon the sale of these drugs. In the town of Kerowli the total number of shops is six, and there is one at Maudrel and one at Machilpur.

The sales of these drugs are given on contract. The contractors are called both wholesale and retail vendors. No rate is fixed for retail vendors from the state, so no average price could be recorded, nor could the contractors of this place say this, for no record is kept of these things.

No modification regarding the existing excise system is under consideration.

Ganja and charas are not produced here. Bhang grows spontaneously to some extent. Malis cultivate it to some extent. Hence no trade is here regularly carried on, since the production is very limited. On the other hand, these are imported from the neighbouring States. No rent is collected from those lands in which bhang is cultivated.

KISHENGARH STATE MEMORANDUM.

(1) The hemp plant is cultivated in irrigated lands along with green vegetables by cultivators of the mali or gardener class exclusively. These cultivators are professional green-grocers and, as such, live in larger villages or towns only, where there can possibly be room for a market for green vegetable; and consequently the cultivation of the hemp plant is generally met with in towns and larger villages.

The hemp plant is never cultivated as a principal crop, and is, as a rule, locally sold and consumed.

There is practically no control of the growth of this plant.

(2) The plant is cut and dried in the sun or shade and then beaten with sticks, and the leaves are then collected and sold as bhang.

The flowering-tops of female plants are plucked and pressed under slabs of stones and taken out in a compressed state, which is called ganja. This is used for smoking.

Bhang is imported from Shekhawati in Jeypur.

Ganja is imported from Malwa.

Charas is not made in Kishengarh. It is brought from Afghanistan by the Vilayatis (Kabulis) and by them sold to the local vendors.

(3) The duties imposed on these drugs are as follows:—

Bhang, four annas per maund.

Ganja, one rupee and eight annas per maund.

Charas, do. do. do.

(a) A uniform rate of duty is charged all over the State, and anybody can sell any of these drugs

The administration of the system is carried on by the "Mapa" (Customs) Department.

(b) Wild hemp is not found to any considerable extent in this State. It is regarded as an inferior kind of drug compared to cultivated hemp, and is consumed as bhang.

Wild hemp is found in such small quantities that it has not been considered worth the while of the "Mapa" Department to control the possession and sale of such drug.

(c) The cultivation of the hemp plant for the production of ganja or other drugs is not prohibited. The cultivation is found scattered all over the State in small patches or mixed with vegetable crops in the lands of larger villages and towns.

(d) The banias and specially the Tambolis (betel-leaf sellers) are the importers of bhang and ganja. They are not licensed. No special arrangements are in force for their supervision and for controlling the storing and transport of these drugs.

In larger towns, the duty is collected by the "Mapa" officers on the drugs entering the gateways. In the mofussil towns and in villages the "Mapa" officers go round in their circles every two months or so, and make collections of the duty on the imports of these drugs that may have been made during the interval.

(e) There has been no system of licensing vendors in force for the last twelve years, or thereabouts.

Formerly the sale of the hemp drugs used to be annually farmed out to the highest bidders for the larger towns only.

(f) The only tax at present levied is the customs import duty mentioned above in (3) and the "Mapa" officers take precautions against evasion; there is, however, no special precaution considered necessary.

(g) There is no restriction as to the number and site of shops for the vend of these drugs.

(h) No rate is fixed at which the drug must be supplied by wholesale to retail vendors.

The average retail price is as follows:—

	AT THE CAPITAL.	IN THE MOFUSSIL.
Bhang	Rs. 6 per maund.	Rs. 4-8-0 per maund.
Ganja	Two seers per rupee.	Two seers per rupee.
Charas	Not available.	Not available.

(i) None.

(j) Hardly any smuggling from other provinces or States. No special preventive measures are taken or are considered necessary.

(k) It is under contemplation to institute a system of excise for decreasing the consumption and controlling the sale of the hemp drugs, by restricting the privilege of the selling of the drugs to licensed vendors alone, without any limit being placed on the number of licenses for some time, and by increasing the duty chargeable on these drugs.

It is not contemplated to fix any maximum or minimum retail prices, as in the absence of any limit to the number of licenses, the competition between the various licensed vendors and the increased duty would conduce to bring about a fair regulation of the prices.

JAISALMERE STATE MEMORANDUM.

In the Jaisalmer State the hemp plant does not grow spontaneously. There are only three parganas where it is cultivated. In about 3 hals (6½ acres) in Jaisalmer itself and about ½ of a hal each in Deva and Fatehgarh the cultivation is carried on every year. Thus, in the whole State, only about 8 acres of land is being cultivated; the average production is estimated to be 33 maunds of "bhang" and "ganja." The cause of its not being cultivated in other parganas is the want of water required for its irrigation. In some parganas there being salt water, its cultivation cannot be carried on at all. The cultivation not being prohibited by the Darbar, the plant is left altogether uncontrolled. It is generally cultivated with vegetables and irrigated with well water. It is never cultivated in a separate area preserved for its own cultivation, as in other provinces.

2. The hemp plant is called by two names, male and female (cultivated). "Bhang" is the name applied to the dry leaves of the hemp plant, whether male or female. But the female plant, having little intoxication as well as not giving flowers (used as ganja) is not cultivated in the country. "Ganja" is the name applied to the dry flowering-tops of cultivated male plant (not female as explained by Dr. Prain) which have become coated with resin in consequence of their inability to set seeds freely.

"Charas" is not produced in this country, nor does any one consume it.

The varieties of "ganja" explained by Dr. Prain in the introductory of the Commission's questions regarding hemp drugs are neither known nor sold in this country. It is never trodden nor rolled under foot here. The leaves and the seeds having been separated, the dried flowers are selected and sprinkled over with water. They are then broken by hands and smoked. But as the flower-tops of "ganja" are detached from the twigs, whether the detachment has been accidental or deliberate, it may not be improper to call it "chur" or "broken ganja."

3. The hemp drugs are not manufactured and sold in the State. The plants are purchased by the consumers from the malis who cultivate them, and the preparations are made by them in their own houses. Sometimes the shop-keepers purchase these plants, and prepare and sell them to the consumers.

4. Owing to the want of good administration of the Customs Department, no statistics are available from year 1872-73, but as the new reforms were introduced in 1884 in this department, the customs statistics have been obtained from that year. From the statistics, however, it appears that these drugs were never imported or exported ever in a small quantity during the past ten years (from 1884 to 1893). This shows that only the amount produced in this country was consumed by the people, and they had no need of either importing or exporting the drug, either for personal consumption or for trade.

5. There are no special acts or rules in respect to the control of these drugs, nor is there any controlling officer. They are, however, controlled by the customs officer as far as import and export is concerned.

6. The Customs Department levies an import duty of Rs. 3 per maund and a transit duty of Rs. 1-8-0 per maund on these drugs; the export duty being exempted by the Darbar.

7. Besides the customs duty there is no direct or indirect tax imposed on the preparation or cultivation of ganja and bhang. The malis pay the usual tax for the land they cultivate, but no special tax for the cultivation of hemp plant is levied.

8. No case of smuggling "bhang" and "ganja" has come to notice up to this time, but the customs officer is authorised to fine the persons smuggling drugs.

9. As a very small quantity of these drugs is produced, no modifications of the present system are under consideration.

REPORT BY BRIGADE-SURGEON-LIEUTENANT-COLONEL D. D. CUNNINGHAM, F.R.S., C.I.E., ON THE NATURE OF THE EFFECTS ACCOMPANYING THE CONTINUED TREATMENT OF ANIMALS WITH HEMP DRUGS AND WITH DHATURA.

Three distinct experiments were conducted in the Biological Laboratory attached to the Zoological Garden in Calcutta on the effects following the continued administration of hemp drugs and of dhatura to monkeys.

In the first of them a monkey (*Macacus rhesus*) was subjected to frequent inhalations of the smoke of ganja during a period of many months; in the second, two monkeys (*M. cynomolgus*) were treated with almost daily doses of charas for more than two months; and in the third a second specimen of *M. rhesus* was caused to inhale the smoke of the seeds and leaves of dhatura periodically during a period of about six weeks.

I regret that no experiment on the effects following inhalation of smoke derived from a mixture of ganja and dhatura was carried out. On learning that the Hemp Drugs Commission were desirous that such an experiment should be tried, I gave instructions for its immediate initiation, but as I was obliged to leave Calcutta almost immediately after doing so, my orders were apparently forgotten, and, on my return to Calcutta in July, I ascertained that no continuous administration of dhatura had been begun until the receipt of reiterated instructions from Europe reached the laboratory in the end of May, and that then dhatura alone and not a mixture of dhatura and ganja was made use of.

Whilst regretting that the wishes of the Commission have not been fully complied with in this respect, I do not feel sure that the results of the experiments, conducted as they have been, are not really more instructive than they would have been had the mixed drugs been made use of in the third, seeing that, in so far as isolated instances are capable of furnishing grounds for inference, a comparison of the phenomena present in the first and third experiments appears to indicate that, whilst prolonged, habitual inhalation of the smoke of ganja alone fails to give rise to any appreciable morbid effects on the cerebral nervous centres, a comparatively brief exposure to the influence of habitual inhalation of the smoke of dhatura alone is accompanied by conspicuous injury to them.

In carrying out the experiments there was no difficulty in securing the administration of charas so long, at all events, as the animals did not dislike the drug, as it can be mixed with milk, and the mixture was for some time freely partaken of. In order, however, to secure efficient inhalation of smoke of ganja or dhatura, it was necessary to provide a special apparatus, the nature of which is illustrated in the accompanying photograph.*

It consisted of a chamber which could be hermetically closed at all points, save where a supply and a discharge tube were connected with its opposite extremities. The walls of the chamber were composed of wood covered externally by a coating of zinc, and contained two windows closed with plate glass, one in either of the lateral walls. At one end there was a sliding door fitting accurately into a brass lined groove. The supply-tube entered near the bottom of one of the terminal walls and the discharge one emerged towards the top of the opposite one so as to secure an even diffusion of the smoke throughout the interior of the chamber as far as possible. The supply-tube was connected distally with a large wash-bottle, through which the smoke from a chillum of ignited ganja or dhatura passed, and the discharge one with two large water-aspirators, which served to draw the smoke through the entire apparatus.

The great difficulty was to secure that no leakage should take place at any of the numerous joints which were present throughout the apparatus, but this was overcome by the liberal application of cerate and clay, and it then worked most satisfactorily; the only trouble which was encountered lying in the tendency which the portion of the supply-tube nearest the wash-bottle had to become choked by resinous matter which had not been completely removed from the smoke during its passage through the water.

The following notes indicate the details of procedure and results in the individual experiments.

EXPERIMENT I.

On the effects of the systematic inhalation of the smoke of ganja.

Nature of the animal employed: *Macacus rhesus* ♂ weighing 16 lbs.

The first inhalation was administered on the 7th of November 1893 and the last on the 12th of July 1894, so that the experiment extended over more than eight months. During this

period one hundred and eighty one inhalations were administered. During the greater part of the period the administrations were repeated almost daily save on Sundays, but during March they were repeated only on alternate days, and during April and May only at irregular intervals owing to the fact that at that time the animal was suffering from a mild but prolonged attack of dysentery.

During the earlier part of the course of the experiment the animal apparently disliked the treatment as he violently resisted introduction into the inhalation-chamber, was restless when the smoke began to enter it, and not unfrequently attempted to prevent its entrance by plugging the orifice of the supply-tube. As time went on, however, and the experience lost its strangeness, his objections gradually diminished and were ultimately replaced by a positive desire for the treatment. He then readily entered the chamber, resisted any attempts to remove him from it before he had had a full dose, was restless and uneasy on days on which the treatment was omitted, and on two occasions on which he managed to make his escape from his cage, showed an evident desire to enter the chamber on his own account.

The symptoms attending the process of inhalation were not invariably of precisely uniform character. As a rule they came on quietly and insensibly and consisted in steadily increasing drowsiness, leading on to quiet sleep. During the course of exposure the conjunctiva and eyelids frequently became considerably congested, but this may, of course, have been merely dependent on direct irritation incident on their contact with the smoke. When removed from the chamber ere profound sleep had supervened the animal was evidently intoxicated. In many cases he was incapable of sitting up without supporting himself by means of grasping the bars of his cage, and, when less profoundly affected, being very unsteady on his legs. On being introduced into his cage, he not unfrequently either at once or after a short delay lay down and slept quietly for some time. On awaking from such sleep, as well as in those cases where sleep did not intervene, he almost invariably showed symptoms which appeared to indicate that he was for some time the subject of optical delusions. He gazed about attentively in directions in which nothing which seemed likely to excite his curiosity was present, and carefully scrutinised the floor of his cage for objects which did not exist. Such symptoms continued to persist for a considerable time after all other indications of intoxication had disappeared, continuing to manifest themselves in greater or less degree during the entire course of the latter portion of any day on which the treatment had been administered in the morning.

On a certain number of occasions, however, the symptoms did not follow this normal course. On these the onset of signs of drowsiness was greatly delayed and had hardly begun to show itself ere the animal was suddenly seized with violent general convulsions and immediately thereafter became profoundly unconscious. The symptoms on the recovery of consciousness in no way differed from those in cases where the earlier ones had followed the normal course. No satisfactory explanation of the occurrence of such exceptional phenomena could be arrived at, and it must remain uncertain whether they are to be regarded as the consequence of certain temporary subjective peculiarities on the part of the animal or of variations in the quality of the drug.

In no instance was there any appreciable indication of the development of any cerebral excitement either during the administration of the drug or after intoxication had been fully established.

The normal symptoms were those of simple drowsiness and loss of will-power accompanied by optical delusions—those characterising the exceptional cases of temporary abnormal activity of the spinal cord and basal ganglia which may very probably have been dependent on diminution in the inhibitory power of the higher cerebral centres.

The general health of the animal remained excellent during the entire course of the experiment save for a period during the months of April and May, in which he suffered from dysenteric symptoms. The occurrence of these, however, cannot be in any way definitely ascribed to the use of the drug as they are of frequent occurrence among monkeys in confinement apart from any special treatment. The only permanent appreciable effect resulting from the treatment manifested itself in the form of a very considerable diminution in appetite for food, which set in shortly after the initiation of the experiment and thereafter remained persistent throughout its entire course.

At the desire of the Hemp Drugs Commission the experiment was brought to a close on the day following my return to Calcutta on the 12th of July 1894. Death was induced by means of prolonged administration of chloroform, and a *post-mortem* examination was conducted immediately it had occurred. The results of this were as follow in so far as mere casual naked-eye-inspection goes, for, as I have already pointed out, the detailed histological examination of the condition of the various organs and tissues is a matter not of a few hours' but of many weeks' work, so that it has been impossible for me to carry it out and at the same time to meet the wish of the Commission for the immediate submission of a report. Specimens of all the more important organs have, however, been carefully preserved and will form the subject of detailed histological examination hereafter.

Results of *post-mortem* examination of the animal.—The body weighed 13 lb. 7 oz., indicating a loss in weight of 2 lb. 9 oz. during the eight months of treatment. This, or at all events, the whole of this loss, is certainly not fairly creditable to the treatment, seeing that for a

considerable period not long before the close of the experiment the animal had been subject to an attack of dysentery, which would alone have been sufficient to occasion considerable loss of weight.

On laying the body open the phenomenon which at once attracted attention as unlike any ordinarily present in caged monkeys, was the great amount of fat accumulated in the omentum, the mesentery and the visceral and parietal pericardium. This was specially noteworthy in connection with the markedly diminished ingestion of food which had characterised the subject of the experiment during the greater part of its course, and with the coincident considerable reduction in body-weight which had occurred.

The body generally appeared to be fairly well-nourished and a considerable amount of subcutaneous fat was present.

The lungs were quite exceptionally healthy for a caged monkey; neither of them being in the least degree adherent to the thoracic walls, the left one being apparently perfectly healthy, and the right merely showing a few patches of deep congestion towards the base.

Under the influence of the osmic acid contained in the fixing solution in which specimens of it were immersed, the muscular tissue of the heart showed unequivocal signs of the presence of a certain amount of interstitial fat. Whether, however, these were due to true fatty degeneration of the muscular elements proper, or, as is more probably the case, to mere fatty accumulation in the connective tissue, must remain an open question until the detailed histological examination of the tissues has been carried out.

The liver, spleen and pancreas appeared to be perfectly normal, save that, as in the case of the cardiac muscle, a slight excess of interstitial fat made its appearance under the influence of osmic acid.

The kidneys, the stomach, the large and small intestines and the cerebro-spinal nervous centres were all apparently perfectly healthy.

The only peculiar features in the body, then, which could in any way be rationally regarded as connected with the treatment to which the animal had been exposed, were the excessive accumulation of fat in the tissues of the omentum, peritonum, and pericardium, and the tendency to the establishment of a similar accumulation in the cardiac muscle, the liver, the pancreas and the spleen.

But the only persistent symptom attending the treatment during life was a considerable diminution in appetite for food, so that, in so far as the results of a single experiment afford any ground for inference, it would appear that the most important effect of the habitual employment of inhalations of the smoke of ganja is to give rise to diminution in the normal processes of tissue-waste to such a degree that local accumulations of fat are liable to occur even in spite of the coincident and similarly originating diminution in the ingestion of food. The diminution in activity of the normal processes of tissue-waste tends, on the one hand, to give rise to decreased ingestion of food and on the other to local accumulations of fat in spite of this. But, if the habitual practice of inhalations of the drug really do produce such effects, it is clear that, in place of being hurtful, it may be positively beneficial to people who are obliged to undergo exertions without having the means of procuring a diet fully adapted to make good the amount of tissue-waste normally associated with these. As has been already pointed out, it is necessary to exercise extreme caution in coming to any definite conclusions from the experiment, first, because it is an isolated one, and, second, because the *post-mortem* examination has not yet been histologically completed, but the evidence which it has afforded, is, in so far as it goes, rather in favour of the use of the drug under certain conditions than adverse to it.

EXPERIMENT II.

On the effects of habitual ingestion of charas.

In this experiment two small monkeys (*M. cynomolgus*) were employed. One of them, A, weighed 5 lb 7 oz., and the other, B, 4 lb 1 oz.

A standard globule of the drug, representing the amount of his ordinary dose, was obtained from a habitual charas-eater. It weighed 1.05 grain and at the outset of the experiment one-twentieth part of that amount was daily administered to A, and one-twenty-fourth part to B, as approximately proportionate doses weight for weight, as compared with those of the man and his ordinary doses.

The drug was rubbed up with a little milk and the animals readily partook of the mixture. Doses of the above amount were daily administered for some time, but, as they failed to produce any appreciable symptoms, the quantity was then gradually increased, until towards the close of the experiment as much as 3 grains, was given daily to each of the animals.

The experiment was begun on the 31st October 1893 and continued until the 6th January 1894, and during this period doses were administered on 62 days. The original small doses were employed until the 12th November when the amount was somewhat increased. On the 25th November the dose was raised to 0.52 grain, on the 28th December to 2 grains and on the 30th December to 3 grains.

No conspicuous effects manifested themselves during the entire course of the experiment. At the outset the animals appeared for a time to be somewhat quieter than they had been previous to the administration of the drug, but, if this were in any way a consequence of the treatment, it was one of very transitory nature as it soon wore off, and during the whole of the latter part of the course of the experiment they appeared to be entirely unaffected in any way, and were quite lively. Their appetite for food underwent no appreciable alteration throughout.

The rapid and considerable increases in the amount of doses of the drug which were latterly made unfortunately had the effect of bringing the experiment to an abrupt and untimely termination, for after they had for a few days partaken of doses of 3 grains both animals simultaneously absolutely declined to touch the milk containing the drug, and, in spite of repeatedly renewed attempts to induce them to resume the habit, they have persistently refused to do so up to the present time. They were therefore only under treatment from the 31st October until the 6th of January, which was the last day on which they could be induced to partake of the milk, and the only noteworthy phenomenon which presented itself during the entire course of the experiment was the abruptness with which an extreme distaste for the drug set in. This is the more remarkable when compared with the phenomena which presented themselves in connection with continued treatment by inhalations of ganja. In the case of the ingestion of charas continued treatment was accompanied with the development of a distaste for the treatment, whilst in the case of ganja-inhalation it led to the acquisition of an abnormal craving for it.

EXPERIMENT III.

On the effects of habitual inhalations of the smoke of the seeds and leaves of dhatura.

The subject of experiment, as in the case of that on the effects of the inhalation of the smoke of ganja, was a fair-sized specimen of *Macacus rhesus*. The treatment was initiated on the 1st June and continued until the 11th July, so that the experiment lasted for a period of about six weeks. In its conduct the same inhalation-apparatus was employed as in the first experiment. At the outset the seeds of dhatura were made use of as the source of smoke, but as the latter appeared to be undesirably potent, leaves were presently substituted for them and were persistently employed throughout the rest of the experiment.

The symptoms attending the treatment were not invariably quite uniform in character. On some occasions indications of a certain amount of cerebral excitement were present for some time, but as a rule drowsiness and gradually increasing intoxication manifested themselves from the outset, either alone or associated with symptoms of irritation of the respiratory apparatus as indicated by coughing.

The animal was killed by means of prolonged administration of chloroform on the morning of the 14th July and a *post-mortem* examination conducted at once with the following results:

The lungs were not adherent to the thoracic walls, but were both deeply congested almost everywhere, and specially towards their apices in which numerous tubercular nodules and small cavities were present. Such phenomena are, of course, very frequent in the lungs of monkeys in confinement, but it remains possible that the general pulmonary congestion may have been partially due to irritation incident on the inhalation of the smoke. The visceral pericardium was almost devoid of fat and was somewhat thickened and opaque, especially over the region of the right auricle. The omentum and mesentery were also very free from fat. The spleen appeared to be rather anemic and was somewhat fibroid in texture. The liver, pancreas, stomach, large and small intestines, and kidneys presented no abnormal appearances.

On opening the cranium the dura-mater was found to be somewhat thickened and, especially in the neighbourhood of the superior longitudinal sinus, very conspicuously congested. In this region, too, the membrane in the occipital region was fixed to the cranial walls by soft, very vascular adhesions. The pia-mater was thickened and so highly injected throughout that the cerebral surface had a generally diffused pink tint. The cerebral substance was everywhere abnormally soft and so friable as to render any immediate removal of the membranes impossible without the occurrence of much destruction of the nervous tissue. Like the surface, although in minor degree, it was of a pinkish tinge owing to abnormal accumulation of blood. Conditions of this kind appeared to be universally diffused throughout the whole of the cerebral centres, the texture of the hemispheres, of the cerebellum and of the basal ganglia being alike soft, and the evidences of abnormal congestion universally distributed. In spite of this, however, the spinal cord and its membranes were to all appearance perfectly healthy.

In so far as a single experiment goes the results in this case would, then, seem to show that the habitual inhalation of the smoke of dhatura, even when only practised for a relatively brief period, is sufficient to establish serious morbid changes in the cerebral nervous centres, and that it therein differs from the habitual inhalation of the smoke of ganja extending over a much more prolonged period. This clearly indicates the necessity of distinguishing between cases in which ganja alone is employed from those in which a mixture of ganja and dhatura is substituted for it, as otherwise certain prejudicial effects which are really due to the use of the latter drug may be erroneously credited to the former one.

The 21st July 1894.

D. D. CUNNINGHAM.

REPORT BY MR. DAVID HOOPER, GOVERNMENT QUINOLOGIST, MADRAS,
ON THE RESULTS OF ANALYSIS OF HEMP DRUGS.

I have the honor to forward the results of the analyses of samples of hemp drugs submitted for chemical examination by your Commission, together with those collected by myself and others in this presidency.

This is the first time that a systematic examination of hemp drugs from different parts of India has been conducted. Previous investigators have contented themselves with searching in commercial samples for the active principle, without first satisfying themselves as to the variation in the composition of the plants grown in different districts and under different circumstances.

The active principle of hemp is contained in, and intimately associated with, the resinous secretion which is found in the leaves of the plant, and which is formed in abundance in the flowering tops when the cultivated female plants are grown by themselves. The resins in this secretion are associated with one or more alkaloids, existing in small quantities and not possessing the peculiar physiological action of the drug. The chief object of the analysis was not to determine the alkaloid, as in examining tobacco for nicotine, but to separate the resinous matter in as pure a condition as possible, taking the precaution of free the sample from excess of seeds yielding fixed oil.

Other objects sought for in the examination of Indian hemp were the following: determinations of extractives directly soluble in spirit and in water; determination of nitrogen; search for sugar, and estimation of that body when present; a proximate analysis showing the amounts dissolved by ether, and subsequently by rectified spirit and water, and the crude fibre and ash contents; nature of the ash, solubility of ash in water with estimation of alkalinity, solubility in acid, amount of insoluble or sandy matter, analysis of ash of ganja and bhang; proportion of seeds in ganja and bhang; composition of the seeds; nature of the resinous extractive.

The literature on the subject of the chemistry of ganja has been referred to and digested, and Dr. Prain's "Report on the cultivation and use of ganja" has been read with interest; but before offering any remarks I will first enumerate the samples of drugs received, describe the methods of their analysis and give the tables of results.

The samples of ganja.—In order to compare the composition of all the samples with those of acknowledged superiority, such as Bengal ganja, specimens were obtained through the Commissioner of Excise from Naogaon in Rajshahi district. The four kinds—large flat twig, small twig round and chur were typical specimens and were received in good condition. Surat, No. 1, was in matted heads with a fair amount of seeds. Surat ganja, No. 2, was in a loose dusty condition with many seeds and some stones. Besides these impurities, it gave a grass green coloured tincture, characteristic of bhang, and as leaves predominated it was placed among the bhang. The two kinds of Sind ganja came from Karachi; they were labelled "first kind known as Panvel ganja," "second kind or Sholapur ganja." The first specimen had a good odour and was broken up into smaller pieces than the second, which was in clean matted heads. The Commissioner of Excise, North-Western Provinces, sent some pieces of Baluchar and Pathar ganja used in Allahabad, but not grown in the provinces. These fragmentary samples did not admit of a full analysis being made. The North-Western Provinces supplied two illicit ganjas—one from Ghazipur, and the other from Basti. The latter was a small sample "obtained by a fakir from the border of the district or from the adjacent Nepal terai." It was rather seedy and dirty in appearance. The Ghazipur specimen was of a good green colour, but the leafy bracts were thin, and the tops were not agglutinated as in other samples. The Khandesh ganja had the Dhulia post mark on the parcel, and was representative. The Satara drug was labelled "ganja flower tops"; it was seedy, it contained a few insects and had only a poor odour. The Ahmednagar specimens were interesting in having a different commercial value attached to each. One was sold for Rs. 55, the second for Rs. 50, and the third for Rs. 48 for three Bengal maunds. The retail price of each was 12 annas per pound. There was not much difference in their appearance, except that perhaps there was more stalk in the third kind. The Nasik ganja was in matted heads with fair odour, and almost entirely free from seeds. The Solapur sample was clean and had few seeds; its composition was different to the Solapur ganja imported in Sind. The Bijapur ganja had a few seeds, a slight musty odour and a brownish-green colour. Of the two specimens from Nimar district, one was marked "cleaned ganja raised from local seed," and the other "cleaned ganja raised from Dhakargan seed." The Hyderabad drug was of a good colour and fresh. With reference to the Madras samples, the two kinds purchased in the Ootacamund bazar were called "Java" or "Javathu" and "country ganja." The first is considered the best kind, and from its name very probably came from the Javadi hills; the second kind came from Coimbatore. An

authentic sample of ganja from Coimbatore was obtained with the view of comparing it with the "country ganja." The Tanjore sample was sent by Dr. Mooteosawmy of that city, who stated that all the ganja was "imported from Chittore, Vellore and a mountainous village in the latter district called Kaleyimboddy." Bangalore also appears to be supplied with ganja from Vellore. The sample from Madras city purchased by the Commission was said to have been imported from the Jawadis. It had a cummin-like odour. Mr. Benson, Deputy Director of Agriculture, obtained several specimens of Ganjam ganja which varied very much in colour, odour, and proportion of seeds. My analysis was made on a mixture of the better kinds containing few seeds. I am also indebted to Mr. Benson for procuring for me sample of the ganja prepared in Daggupad in the Kistna district. The small leaves alone with the flowering tops were very numerous, linear, with revolute margins, and very brittle. The fruit was set, and the bracts were covered with brownish glandular hairs, and the whole was very fragrant of southernwood. This sample is remarkable in yielding the largest amount of resin of all the others, including the Naogaon ganjas.

The samples of bhang.—With the exception of the samples from Bhagalpur and Monghyr which were sent by the Collectors of those stations, all the others were forwarded by the Commission. They varied in colour and in amount of seeds and impurities. Some had entire leaves, in others they were broken up to a coarse powder. The bhangs from Bhagalpur and Monghyr had a marked peppermint odour, those from Bijapur and Sholapur had only a slight fragrance. The Khandesh sample was very much broken up and contained some seeds, while that from Amballa had its leaves twisted up like green-tea, and was remarkably free from seeds and foreign bodies. The samples from Surat and Hyderabad were much contaminated. In these cases the Surat bhang was powdered up and analysed just as it was received, and the Hyderabad mixture was sifted and the cleaned leaves only were used for analysis. The wild bhang from Assam had broad thin leaves, and a mousey odour. The leaves from the cultivated Rajshahi plants were lighter in colour, thicker, linear, with revolute margins, and a "herby" smell.

The samples of wild hemp plants were allied to those of bhang, but being in smaller quantities they were analysed by a different process. From Basti, North-Western Provinces, three interesting specimens were submitted—a sample of bhang with staminate flowers, female hemp called the "ganja plant", and male hemp called the "bhangi plant." From Gonda two plants representative of the sexes were sent. One was said to be obtained from Ammarpur, 21 miles east of Gonda, and was bearing staminate flowers; the other was a female plant from the same village in which the young fruits were developing. The specimen of wild hemp plant from Jaunpur, North-Western Provinces, consisted of leaves without any flowers or seeds and was stated to be used as ganja for smoking; but nothing definitely was known about this. Bhang does not seem to be sold in South India as a commercial article, but the leaves of the wild plants grown near houses are used by the natives for smoking. A specimen of such a plant was obtained from Pykara, on these hills, and its analysis resembles very strongly that of the wild bhang from Assam.

The samples of charas.—In Amballa district, charas "mashak" sells for Re. 1-8-0 per seer. It has a dark olive-green colour, tough consistence and a peculiar fragrant aroma. The Amritsar, Delhi and Bombay drugs are very much like the above, although called by different names, such as "mashak", "bhara" and "dust", and sold at prices ranging from 12 annas to Re. 1-9-0 per seer. Gwalior charas occurred in black balls from the size of a pea to that of a nutmeg. The sample from the wild plants in the Kumaon terai were spindle-shaped and about 1½ inch long. They contained seeds and much vegetable matter, and were very probably obtained by rolling ganja in the hand. The Himalayan charas from Kumaon cultivated plants was in the form of large balls made by massing about a dozen small balls together. The Himalayan charas made from cultivated plants in Gurhwal was in two forms—flat, square-shaped pieces about ¾ inch across, and round disc-shaped flattened pieces about 1 inch in diameter, with a hole in the middle by which they were strung together on a string. These had a heavy tobacco-like odour, and were black in colour. The Yarkand charas was a small hard cake weighing a few grains, sent in the samples of ganja and bhang from Allahabad. The Almora charas was a portion of a hard ball in which seeds and other vegetable debris were present. The two specimens from Nepal had the odour of musk. "A" was a sample of 1892 manufacture of good quality, and occurred in small rounded discs like Pontefract cakes. Sample "B" was two years old, and in cylindrical pieces, black and hard; it was called Shah-jahani charas.

The methods of analysis.—The samples of ganja were broken up by hand, the stalks removed, and the loose seeds rejected, and the matted heads at the extremities of the smaller twigs were only taken. This "chur" was then powdered and made to pass through a sieve with 36 meshes to the linear inch, and the resulting powder was kept for use in a stoppered bottle. A tincture was made by macerating a weighed quantity of the powder for 48 hours with rectified spirit, percolating to exhaustion, and evaporating to dryness in a water-oven. The result would represent the amount of extract, the chief preparation of Indian hemp adopted by the pharmacopoeias. The infusion was prepared by allowing five grammes of the powder to

stand in warm water for a few hours. If cold water is used for the extraction, it requires more than 24 hours for complete saturation, and before that time the extract shows signs of fermentation. One portion of the watery extract was evaporated to complete dryness, another portion was precipitated with solution of acetate of lead to separate the organic acid, and the third portion, if sugar was present, was used to titrate a measured volume of Fehling's copper test. The nitrogen was determined by combustion with soda-lime, and existed in the plant mostly as albuminoids, although some was yielded by the alkaloids, and in some cases by a soluble salt of ammonium. The proximate analysis of ganja and bhang was commenced with ether, which is the best solvent for the active resins, and dissolves very little extraneous matter. The subsequent action of rectified spirit (sp. gr. 0.85) removed a resin acid, alkaloids, and in some cases a saccharine body reducing Fehling's solution. By adding together the ether extract and the resin acid, the result equals the amount of washed resin obtained by the direct spirit extract. If the spirit extract in the proximate analysis is much over 2 per cent., it points to the presence of sugar; absolute alcohol, on the other hand, does not dissolve this sugar so easily. Dr. Prain used petroleum ether for the first solvent to act upon the drug, and the dried extract obtained by this liquid was returned as "fixed oil, etc." If this were the case, then all the extracts of Indian hemp would consist mostly of fixed oil, whereas the extracts from all ganjas consist, as I shall show presently, of resins with a small proportion of fixed oil. Petroleum ether is a good solvent of the resins, and is of no use in effecting a separation between them and the oil. The best method is to separate the seeds from the sample before the analysis, and so exclude the source of the oil. A misconception seems to have arisen from a statement made by Roux, a French Chemist, in 1887, that the ethereal extract is inert. If the ethereal extraction follows that of petroleum ether, then, perhaps, the product is inert, but direct exhaustion of the drug with ether certainly does not yield inert resins. Dr. Prain estimated, by an indirect method, the essential oil in some samples of ganja, and obtained some high results, over 6 per cent. in most cases. Indirect methods of estimating volatile oils give higher figures than by direct distillation, and are not to be depended upon. I have recently distilled one of the most fragrant ganjas, that from the Kistna district, and it yielded less than one per cent. of colourless essential oil, having the peculiar odour of the drug. The essential oil in the other samples has not been determined. The remaining analytical methods do not require any further explanation.

* Kaniyambadi, North Arcot, a village not far from Vellore, where some of the dealers in Jawadi ganja live.—(C. Benson)

Analyses of samples of Ganyja (free from moisture).

	Direct spirit extract.	Direct water extract.	Organic acid.	Nitrogen.	Sugar.	Ether extract.	Spirit extract.	Water extract.	Crude fibre.	Total ash.	Ash soluble in water.	Ash soluble in acid.	Ash insoluble.	Alkalinity of ash as KNO.	(Moisture.)
1.-Naggaon "chur" "	25.90	19.80	4.72	3.23	traces.	23.37	2.63	9.53	47.03	19.19	2.81	9.34	7.02	1.01	6.0
" " "flat small twig" "	23.84	14.53	5.39	3.30	traces.	20.90	2.32	12.62	50.93	16.20	1.94	9.31	4.95	.90	7.1
" " "flat large twig" "	22.66	13.18	5.20	3.48	traces.	19.84	1.89	11.44	50.15	17.57	3.43	8.63	5.45	.83	6.7
" " "round" "	21.80	14.42	5.61	3.40	traces.	19.62	1.82	10.99	52.02	18.72	3.91	9.08	5.73	1.08	9.2
Western Provinces.—Ghazipur "Hilait" "	19.00	18.10	4.15	"	2.66	14.80	4.43	14.24	47.00	19.44	2.72	18.00	3.72	.77	10.0
" " "Basti" "	19.16	"	"	"	"	17.61	1.22	11.31	50.81	19.77	"	"	"	"	10.3
Karachi (from Sholapur) End	22.51	10.83	3.82	2.33	"	21.14	1.45	9.55	48.24	21.53	1.67	11.79	8.40	.61	7.1
" (from Panvel) 1st	17.79	13.01	4.20	3.05	"	15.28	1.33	10.37	51.06	19.50	2.92	12.90	4.83	.92	8.4
P.—Khandesh "	19.43	14.26	4.48	2.42	"	17.90	1.88	12.52	49.90	19.89	2.80	11.61	4.48	.91	7.4
Satara "	19.60	13.53	5.32	2.68	"	17.67	1.63	11.75	54.88	17.07	2.19	10.10	5.38	1.07	8.9
Ahmednagar, Rs. 55	19.06	14.15	4.93	2.80	"	17.22	1.37	11.82	54.99	20.94	2.45	11.81	6.83	.80	12.4
" " "Rs. 50	13.39	12.22	3.90	2.93	"	16.84	1.33	10.43	55.23	20.09	1.87	11.54	6.68	.84	11.6
" " "Rs. 43	16.19	12.89	4.62	3.13	"	14.39	2.20	10.21	55.39	21.79	2.68	12.42	6.99	1.08	9.8
Nasik "	13.30	17.21	4.31	3.23	traces.	15.11	2.31	13.33	55.00	15.55	1.79	10.94	4.68	.61	8.2
Surat "	17.38	12.88	4.05	2.81	"	15.04	3.33	9.42	58.80	19.38	2.44	12.22	4.72	1.21	10.0
Sholapur "	13.14	13.31	4.30	3.05	"	14.46	1.89	11.20	57.00	19.65	2.83	11.55	4.81	1.23	8.4
Bijapur "	17.19	15.08	5.45	2.93	traces.	14.83	2.20	12.64	54.46	17.19	2.26	11.02	3.91	.91	9.2
Provinces.—Nimar from Dhaknagon seed	16.50	13.89	5.14	2.68	traces.	15.47	2.09	12.17	52.28	20.63	1.66	13.37	5.20	1.22	8.6
" " "from local seed	19.15	12.33	3.90	3.13	traces.	16.30	2.09	12.19	52.17	17.85	2.40	11.79	2.66	1.07	8.4
" " "Dagruvad, Kistna District "	31.00	24.17	4.97	3.67	"	17.30	2.24	10.47	58.07	17.31	3.08	9.74	4.40	1.21	7.6
" " " " " "	28.53	20.71	5.35	2.26	"	22.22	5.23	13.13	38.86	14.97	1.75	11.04	2.78	1.07	8.5
Coimbatund "javahru" "	26.15	21.42	4.77	2.72	5.42	21.68	9.73	14.49	41.24	16.82	2.20	11.93	2.03	.98	7.30
" " "country ganyja" "	29.30	23.70	4.96	1.36	6.24	14.64	9.32	10.88	47.45	14.33	2.41	9.16	2.72	1.14	9.3
Ganjam "	26.42	22.62	4.63	2.60	6.12	18.27	8.66	14.03	49.13	17.78	2.06	10.81	4.91	.94	9.7
Bangalore "	23.54	13.82	4.85	2.51	5.92	18.50	4.76	13.25	59.67	15.91	1.85	10.37	3.43	.93	10.3
Tanjore "	24.10	18.83	4.82	2.69	6.88	17.27	8.90	11.39	44.93	20.63	1.77	10.69	5.32	1.07	8.2
Madras City "	27.00	20.56	4.60	2.27	6.15	13.82	6.60	16.28	47.00	19.58	1.62	12.17	5.79	.92	9.7
Coimbatore "	22.52	19.15	3.95	2.13	4.84	18.44	6.20	12.11	42.66	20.46	3.39	11.28	5.95	1.31	7.6
Chia "	15.84	14.69	4.42	2.80	"	"	"	"	"	17.45	2.62	11.37	3.49	.93	10.0
ganja "	23.8	17.50	5.50	"	"	"	"	"	"	15.83	2.72	9.91	3.69	.80	8.2

Analyses of samples of Bharg (free from moisture).

	Direct spirit extract.	Direct water extract.	Organic acid.	Nitrogen.	Ether extract.	Spirit extract.	Water extract.	Crude fibre.	Total ash.	Ash soluble in water.	Ash soluble in acid.	Ash insoluble.	Alkalinity of ash as KNO.	(Moisture.)
Khandesh "	19.80	16.35	5.94	2.23	12.63	1.76	12.73	43.14	27.32	2.12	15.60	9.30	.36	5.7
Hyderabad (cleaned) "	13.36	10.48	3.61	2.80	12.22	1.51	8.32	53.00	23.40	3.20	16.00	8.30	1.12	12.8
Amballa "	12.54	10.48	7.97	3.12	10.37	2.64	15.25	46.10	27.84	2.53	15.41	9.90	1.23	9.1
Sholapur "	11.33	15.37	5.63	2.93	10.22	1.63	13.47	51.24	27.17	1.89	13.80	9.48	.60	7.6
Bhargpur "	13.70	15.80	5.40	2.86	10.04	2.03	16.59	50.97	24.74	2.19	15.06	7.49	.94	8.6
Bijapur "	11.20	15.32	4.62	3.13	9.45	2.03	11.13	55.25	25.65	1.63	16.30	7.72	.76	8.0
Monghyr "	12.38	16.47	4.75	2.89	9.17	2.21	13.85	52.32	26.09	2.82	15.97	7.29	1.22	9.5
Rajshahi (leaves from cultivated plants) "	47.83	50.31	4.36	1.61	9.49	8.20	11.63	42.38	29.95	2.10	12.27	15.58	.89	7.2
Assam (from wild plants) "	16.73	22.09	5.72	3.17	8.34	6.55	14.33	50.67	20.10	2.83	13.15	4.12	1.34	6.5
Surat (with impurities) "	11.58	16.66	6.65	2.13	15.55	2.56	11.66	39.77	33.70	3.92	15.18	14.00	1.06	10.6
Allahabad, North-Western Provinces "	16.52	16.82	4.63	"	12.41	1.57	15.00	49.60	23.66	2.56	13.39	7.30	1.04	6.2

Analyses of wild hemp plants (free from moisture).

	Spirit extract.	Washed residue.	Water extract.	Crude fibre.	Total ash.	Ash soluble in water.	Ash soluble in acid.	Insoluble ash.	(Moisture.)
Basti, North-Western Provinces, Bharg with male flowers	9.80	5.00	13.10	54.06	23.94	"	"	"	11.4
" " "female hemp, called the "ganja plant" "	13.20	11.54	11.11	50.49	20.86	2.59	13.38	4.35	9.9
" " "male hemp, called the "bharg plant" "	15.00	4.15	13.24	58.07	14.54	2.50	9.92	2.12	16.3
Gonda " "female plant	16.51	14.86	13.42	51.96	19.77	3.32	11.09	5.87	12.5
" " "male plant, with male flowers	13.37	10.25	16.45	55.67	17.83	2.22	11.52	3.79	10.3
Janapur " "wild plant, leaves only	13.98	10.93	15.35	49.38	23.89	2.70	13.93	7.36	9.2
P. Kara, Nilgiris, 6,000 feet, wild plant with leaves only	17.00	8.50	29.00	50.60	21.50	"	"	"	"

Analysis of Charas.

		Resins.	Vegetable matter.	Soluble ash.	Sand, etc.	Water.
Mashak, Amballa	...	42.7	12.9	12.4	26.2	5.8
Bhara, Amritsar	...	38.1	14.9	10.8	29.8	6.4
Mashak, "	...	46.5	12.6	10.0	27.3	3.6
Dust, Delhi, 12 annas	...	42.4	17.9	9.8	25.9	4.0
" " " Re. 1-1-0	...	42.6	18.8	11.1	23.2	4.3
Mashak, Delhi, Re. 1-3-0 per seer	...	41.1	11.3	10.7	29.5	7.4
Bombay	...	36.1	20.2	11.8	27.3	4.6
Gwalior	...	43.3	27.7	8.2	17.7	3.1
Kumaon (wild)	...	22.3	52.0	9.3	7.4	9.1
" (cultivated)	...	34.2	46.4	9.0	3.0	7.5
Garhwal	...	41.9	37.0	7.9	5.5	7.7
Yarkand	...	40.0	18.2	23.9	11.4	6.5
Almora	...	36.9	40.5	10.5	4.6	7.5
Nipal	...	44.6	35.1	8.2	6.5	5.6
" "Shahjahan"	...	44.4	37.8	9.6	4.1	4.2

Seeds in ganja.—Samples of ganja contain variable amounts of seeds, or, properly speaking, fruits. A fresh sample of "sada" ganja from Coimbatore contained a large number of ripe fruits, and as it was said to afford commercial ganja, I carefully dried some of it in the sun, and separated the seeds from the other vegetable structures. The seeds weighed 56.5 per cent. of the dried sample, but if such a sample had been manufactured by being rolled or flattened out before it was dry, many of the seeds would have been lost. Some of the commercial samples of bhang contained much seed, notwithstanding the opinion that bhang is the produce of the male plant. The specimen of Hyderabad bhang, when cleaned, yielded 44 per cent. of seeds, with some stones and other impurities. In the case of a similarly impure specimen from Surat, the drug, after the larger stones had been removed, was powdered up with the seeds and other impurities. The analysis of such a sample shows an increase in the ether extract due to the oil, and an increase in the mineral matter due to the sand, and is far from uniform with the other specimens. Twelve commercial samples of Ganjam ganja, very different in appearance, were found to contain from 5.1 to 38.7 per cent. of seeds, or an average of 20 per cent. As the seeds contain 25 per cent. of fixed oil, five parts of the ether extract obtained from an average sample of such ganja, without removing the seeds, would consist of oil. In preparing samples of ganja and bhang for analysis the seeds that fell out in breaking up the drug were rejected altogether, and I do not think that, in the foregoing tables of analysis, more than a very small proportion of the resinous extract consisted of oil from the seeds.

Composition of the seeds.—The cleaned seeds, separated from the Hyderabad bhang, were reduced to fine powder, and analysed with the following results:

Fixed oil	...	...	...	...	25.00
Spirit extract (sugar, etc.)	...	...	...	...	2.95
Gum, etc.	...	...	...	...	4.05
Albuminoids	...	...	...	...	22.50
Crude fibre	...	...	...	...	29.45
Ash	...	...	...	...	9.25
Moisture	...	...	...	...	6.20
					100.00

The most recent and complete analysis of hemp seeds has been published by S. Frankfurt (*Landw. Versuchs. Stat.* 43:143-182 *Journ. Chem. Soc.*, March 1894, p. 113). This examination, it must be pointed out, was made upon European seeds:—

Proteids	...	...	...	...	...	18.63
Nuclein, &c.	...	...	...	...	...	3.36
Lecithin	...	...	...	...	...	0.88
Cholesterol	...	...	...	...	...	3.07
Glycerides and free fatty acids	...	...	...	...	...	30.92
Cane sugar and other soluble carbohydrates	...	...	...	...	...	2.50
Crude fibre	...	...	...	...	...	26.73
Soluble organic acids	...	...	...	...	...	0.68
Ash	...	...	...	...	...	5.55
Not determined	...	...	...	...	...	11.03

The extracts of the seeds do not reduce Fehling's solution without previous boiling with an acid; the sugars found in the hemp drugs were therefore not derived from the seeds. The percentage of nitrogen (3.57) in the seeds is higher than that obtained in the ganjas and bhangs, a result which would be expected by any one having an acquaintance with vegetable physiology.

Sugar in hemp drugs.—The occurrence of sugar does not seem to have been noticed by other investigators. It was detected first in the samples sold in the local bazar at Ootacamund, and as it was absent from some Bombay samples, and appearing in traces in Bengal ganjas, adulteration was suspected. But as sugar occurred in all the Madras samples, and in pretty uniform quantity, and in the cultivated leaves from Rajshahi and the wild plants from Assam and the Nilgiris, it could not be considered anything else than a natural constituent. The nature of the sugar, besides being amorphous and allied to glucose in reducing potassio-cupric tartrate, was not investigated. An extract of ganja containing sugar, if prepared with rectified spirit, would after a time separate into two portions, a greenish-black resinous mass, and a brownish soft substance of a liquorice-like odour and sweetish taste. The presence of saccharine matter would not be desirable in a medicinal extract of Indian hemp, as it would dilute the active resinous matter; on the other hand, if present, it could easily be removed by washing with water.

Organic acids in hemp.—There is no tannic acid in any of the hemp drugs. The acid removed from the aqueous solutions by means of lead acetate resembled citric acid more than anything else, but as a loss was experienced in separating this in a state of purity, other acids might have been removed in the mother-liquors. Oxalate of calcium was present in all the samples and accounted for the large quantity of calcium carbonate present in the ashes. The larger the amount of solid aqueous extract in the drug, the higher was the proportion of the organic acid; but this rule is interfered with when sugar occurs in the extract. The percentage of oxide of lead in the lead compound of the organic acid ranged from 55 to 61 per cent. The colouring matter of the extract was also removed by lead acetate, but another substance giving a transient purplish colour with ferric chloride was left in solution.

Nitrogen.—The percentage of nitrogen ranged from 1.96 to 3.48 in the ganjas, and from 1.91 to 3.17 in the samples of bhang. In the case of ganjas the high percentage of nitrogen is generally accompanied with a large percentage of resins, but there are some remarkable exceptions to this rule. The best of the Madras samples, judging from the yield of resins, do not contain so much nitrogen as some Bombay samples inferior in resin contents. The Ahmednagar sample of the best quality and richest in resin contains the lowest amount of nitrogen and *vice versa*. The two samples of Sind and those of Nimar have the higher proportion of nitrogen associated with the lower proportion of resin. The Naogaon ganjas contained alkaloids and ammonia in the aqueous solution of their spirit extracts. Ammonia was not detected in many of the other samples, and was absent altogether where the nitrogen was low. Ganja requires high cultivation, and no doubt in Naogaon and Daggupad, where the growth is well superintended, manure is largely used. Both the ganjas and bhangs contain more nitrogen than the average green fodder so extensively used. The crude fibre contained a considerable amount of nitrogen existing as insoluble albuminoid matter, as ammoniacal fumes were given off each time it was ignited.

The resins.—The best gauge of the resinous contents of the samples is to observe the percentage of "ether extracts" in the foregoing tables; the direct spirit extracts contain, as I have pointed out, variable amounts of water-soluble matters in addition to the resins. The Kistna ganja is the best in Madras, and the Madras city sample from Javadi hills is the worst.

The Naogaon ganjas, as a whole, are superior to the other supplies, with the exception of the Kistna sample, giving over 25 per cent. of resins. It is strange that in appearance as well as in composition the "first kind" of Sind ganja imported from Panvel should be inferior to the "second kind" imported from Sholapur. Another aspect of the ganja trade is the difference in the composition of samples said to come from the same place. The Sholapur ganja sold in Sind contains 21.14 per cent. of resins, while that from

the district or town itself yields 14.46 per cent. The ganjas from Ootacamund, Bangalore, Tanjore, and Madras city come from the Javadi hill, yet they yield 21.68, 18.5, 17.37, and 18.92 per cent. of resins respectively. The "country ganja" imported from Coimbatore and used on these hills contains 11.64 per cent. of resins, but a sample obtained from near the town of Coimbatore gave 18.44 per cent. We may learn from the analyses of the samples from Nimar in the Central Provinces that, whether from local or imported seed, the ganjas grown in the same district and under the same circumstances yield similar products. With regard to the nature of the resinous extract of ganja, it is insoluble in water, but soluble in alcohol with a neutral reaction. A small amount of resin acid, about half per cent., was present in all the samples of ganja and bhang. A certain amount of the resin dissolves in warm potash solution (one per cent.); a still further quantity is dissolved by treatment with alcoholic potash, evaporating to dryness, and washing the insoluble resin. Ganjas treated in this manner give from 50 to 60 per cent. of purified resin, and bhangs from 40 to 50 per cent. It is thus shown that the resinous extract of the bhangs is not equal, weight for weight, to that of the ganjas, as it contains a smaller proportion of purified resin which has been proved to be active. The bhangs contain from 8.34 to 12.63 per cent. of resins, or an average of about 10 per cent. which is one-half the amount yielded by average samples of ganja. Charas, it will be seen, contains, on an average of fifteen samples, about 40 per cent. resinous extract, which is double the quantity afforded by ganja.

The ash of ganja and bhang.—The amount and composition of the ash of hemp drugs is more uniform than those of tobacco. The proportion of total ash of ganja is generally under 20 per cent. If it is over this proportion, a glance at the figures under "insoluble ash" will show that it is due to an excess of sandy residue. The soluble ash (alkaline salts) does not exceed 3.43, nor fall below 1.67 per cent. The ash soluble in dilute hydrochloric acid (lime salts, etc.) falls between 13.57 and 8.68 per cent. The sand (insoluble ash) is the most variable constituent, as it ranges from 8.53 per cent. in the Tanjore sample to 2.18 per cent. in the Kistna drug. The alkalinity of the ash shows much attachment for the figure 1. The proportion of total ash in the samples of bhang in every case exceeds 20 per cent., a result which is due to the larger amounts of lime salts, as well as sand, than are found in the specimen of ganja. In the analyses of wild hemp plants, the male plants appear to yield more ash than the female plants, but the latter more resin. The composition of the Basti "bhanga plant" is not in keeping with the above statement, and is abnormal in yielding so much extract to spirit and so small a quantity of ash.

Following is an analysis of the ash of bhang from Bhagalpur:—

K ₂ O	CaO	MgO	Fe ₂ O ₃	P ₂ O ₅	SO ₃	Cl.	SiO ₂	CO ₂
8.98	22.27	6.31	2.17	7.77	3.08	1.55	32.36	11.46

traces of manganese, undetermined, 4.06=100.

The analysis of the ash of "chur" ganja from Naogaon gave the following figures:—

K ₂ O	CaO	MgO	Fe ₂ O ₃	P ₂ O ₅	SO ₃	Cl.	SiO ₂	CO ₂
10.42	21.66	6.46	3.21	7.07	2.31	0.96	26.00	7.33

traces of manganese, undetermined, 4.98=100.

There is a great similarity in the composition of the ash of ganja and bhang. They are both fairly rich in calcium phosphate, and the ash from ganja contains more potash than that of the bhang.

Remarks on charas.—Charas has very seldom been examined chemically. Flückiger and Hanbury, in "Pharmacographia," second edition, page 550, report that charas yields from one-quarter to one-third of its weight of an amorphous resin, and Dr. Prain in his report refers to samples yielding 75 and 78 per cent. of resin. It will be seen from the results of my analyses of North Indian samples that the average yield of resin is 40 per cent. The highest is 46.5 per cent. in "mashak" charas from Amritsar, and the lowest is 22.3 per cent. in a sample of charas made from wild plant grown in Kumaon. The latter sample has the composition of a good sample of ganja. The samples from Amballa, Amritsar, Delhi and Bombay are remarkably uniform in their composition and physical characters. They had a similar odour, consistence and colour, and all contained a large amount of sand. The Gwalior and Himalayan samples had portions of leaves and sometimes seeds mixed with them, and left a quantity of vegetable residue after extraction with spirit, but there was not so much sand present. The Yarkand charas had some carbonate of calcium present, and the ash soluble in hydrochloric acid was consequently high. There was very little in the resin contents and appearance of the Delhi samples to determine their money value. The best quality had less resin and more sand than the other two kinds; it was more plastic and contained more water than they did. If alkaloids were the active principle of charas, then one would expect to find them in great abundance in this drug. But this is not so; some of the samples gave no indication of the presence of alkaloids, and the others only afforded traces. The amount of nitrogen is lower in charas than any other hemp drug. The Gwalior sample yielded 1.75 per cent. of nitrogen which apparently was derived from the vegetable matter, as the "mashak" of Amballa, which contained half the amount of insoluble vegetable matter, gave half the percentage of nitrogen (0.84 per cent.).

Remarks on majum.—The confection of hemp known as majum is differently made in various parts of India. In the north it is made with white sugar, in the south it is made with brown sugar and mixed with so many spices and other ingredients that it is quite black.

Allahabad majum was a whitish soft mass of peculiar ghee-like odour, and containing vegetable debris similar to that from ganja. It contained 4 per cent. of ghee and 1.3 per cent. of vegetable matter insoluble in water. There was no trace of alkaloid present.

Benares majum was in cakes of the same colour and odour, and was nearly pure sugar. It contained 1.4 per cent. of fat, and 1 per cent. of leafy portions; no foreign seeds were discovered and no alkaloid could be detected.

Bombay majum was in the form of yellow-coloured cakes flavoured with spice, and with very little ganja. It contained 4.9 per cent. of ghee soluble in ether, and 2.7 per cent. of brown vegetable matter referable to cloves, cassia and saffron. No alkaloid was present.

Amballa majum was in opaque white masses with a slight greenish tinge and odour of ghee. It contained 7.3 per cent. of ghee soluble in ether, and no vegetable structures of a green colour as in other samples. No alkaloid was found.

Hyderabad majum was in the form of square cakes covered on one side with silvered paper. One kind was white and contained 2.3 per cent. of ghee, the other was coloured yellow with saffron and contained only 1.2 per cent. No seeds or vegetable structures were observed. This had been doubtless strained through a cloth before being boiled down. With these samples came a mixture, wrapped up in a leaf, of powdered raisins and white sugar. When this was examined, several other substances were found, such as pieces of almonds, seeds of various kinds, stamens of some plant, some cereal grains and spice. The little black seeds were further examined microscopically and were found to consist of two kinds, one with three angles, probably from a polygonaceous plant, and the others were, in very small quantity, the seeds of dhatūra. This is the only sample in which I have found dhatūra seed present.

Coimbatore, Ootacamund and Tanjore majums were black soft masses of a liquorice-like odour and sweet taste. An analysis was not attempted of either sample, but they were each broken down with water, and among the insoluble portion a search was made for dhatūra seeds, nux vomica, etc., but without success. The amount of leafy organs, such as would come from the ganja, was in a very small proportion. In Ootacamund there is a black majum used for adults, and a white kind given to children, but as sold in the ganja-shop they are not very powerful preparations.

REPORT BY SURGEON-CAPTAIN J. F. EVANS, CHEMICAL EXAMINER TO
THE GOVERNMENT OF BENGAL, REGARDING PHYSIOLOGICAL IN-
VESTIGATIONS CONCERNING HEMP DRUGS.

I have the honour to submit herewith the report asked for in your letter No. 48, dated 18th August 1893, as amended by demi-official letter dated 1st November 1893, from Surgeon-Major Warden, to the Officiating Chemical Examiner to Government, Bengal, directing that the chemical analysis should be carried out by Mr. Hooper, Quinologist to the Government of Madras, and the physiological investigation in this laboratory.

A.—SPECIMENS OF HEMP DRUGS SENT FOR EXAMINATION CLASSIFIED ACCORDING TO
THE LOCALITY WHENCE DERIVED.

The following samples of hemp drugs were received from you from time to time:—

Samples of ganja.

Ghazipur illicit ganja.
Sholapur ganja.
Khandesh " "
Satara " No. 1.
" " No. 2.
Ahmednagar ganja, No. 1.
" " No. 2.
" " No. 3.
Bijapur " "
Nimar District " Dhakalgaon seed.
" " " local seed.
Kistna " "
Bangalore " "
Madras local market ganja.

Samples of bhang.

Khandesh bhang.
Amballa " "
Sholapur " "
Rajshahi " (cultivated).
Assam " (wild).
Satara " "

Samples of charas.

Amballa charas, mashak No. 1.
" " " No. 2.
Amritsar " bhara.
" " (mashak).
Delhi District charas, dust 2nd class.
" " " dust.
" " " mashak.
Bombay charas.
Gwalior " (made during process of ganja manufacture).
Kumaon " (wild).
" " (cultivated).
Gurhwal " No. 1.
" " No. 2 (cultivated).
Nepal " A.
" " B.
" " (Shahjahan).

B.—SPECIMENS SELECTED AS STANDARD HEMP DRUGS.

Bengal round ganja of the season 1892-93, which had been carefully packed in a perforated deal-box and brought down to Calcutta from Nowgaon by Surgeon-Captain Prain in May 1893, was selected as the "standard ganja" with which the samples received from you were to be compared.

Bhagalpur imported siddhi of the season 1893, which was received from the Board of Revenue, Lower Provinces, Bengal, in April 1894, was utilised as the standard bhang with which the samples received from the Commission were to be compared.

C.—PREPARATION AND PERCENTAGE YIELD OF ALCOHOLIC EXTRACT.

1. Alcoholic extracts of the eighteen specimens of hemp drugs were prepared as follows:

The coarser stalks were removed, and the leaves, flowering stalks and finer stalks reduced in a mortar to a powder, which was passed through a sieve having fifty meshes to the inch. Twenty grammes of the fine powder thus prepared were macerated during a period exceeding one week in rectified spirit to form a tincture. One hundred cubic centimetres of the tincture evaporated over a water-bath to syrupy consistence, and subsequently dried in a hot oven till the weight became constant, gave the alcoholic extract.

2. The percentage yield of alcoholic extract obtained in the above manner was as follows:—

TABLE No. I.

		Percentage yield of alcoholic extract.	Dose of the alcoholic extract required to produce effects equal to those induced by the minimum dose of the extract of the standard ganja.	
	<i>Samples of ganja.</i>		<i>Part of the body weight.</i>	
1	Bengal-Nowgaon round ganja, season 1892-93 (standard).	21.675	$\frac{1}{120,000}$	
2	Ghazipur illicit ganja ...	14.60	$\frac{1}{70,000}$	Ditto.
3	Sholapur ganja ...	14.625	$\frac{1}{120,000}$	Ditto.
4	Khandesh ganja ...	13.675	$\frac{1}{120,000}$	Ditto.
5	Satara ganja, No. 1 ...	15.150	$\frac{1}{110,000}$	Ditto.
6	Satara ganja, No. 2 ...	14.40	$\frac{1}{110,000}$	Ditto.
7	Ahmednagar ganja, No. 1 ...	17.380	$\frac{1}{120,000}$	Ditto.
8	Ahmednagar ganja, No. 2 ...	16.35	$\frac{1}{110,000}$	Ditto.
9	Ahmednagar ganja, No. 3 ...	14.775	$\frac{1}{120,000}$	Ditto.
10	Bijapur ganja ...	15.075	$\frac{1}{120,000}$	Ditto.
11	Nimar District ganja, Dhakalgaon seed	16.725	$\frac{1}{120,000}$	Ditto.
12	Nimar District ganja, local seed	16.875	$\frac{1}{120,000}$	Ditto.
13	Kistna ganja ...	29.47	$\frac{1}{100,000}$	Ditto.
14	Bangalore ganja ...	22.3125	$\frac{1}{110,000}$	Ditto.
15	Madras local market ganja	20.10	$\frac{1}{130,000}$	Ditto.
	<i>Samples of bhang.</i>			
16	Khandesh bhang ...	13.35	$\frac{1}{60,000}$	Ditto.
17	Amballa bhang ...	11.40	$\frac{1}{100,000}$	Ditto.
18	Sholapur bhang ...	9.25	$\frac{1}{60,000}$	Ditto.
19	Bhagalpur bhang of 1893 (standard)	7.87	$\frac{1}{5,000}$	Ditto.
20	Rajshahi bhang (cultivated)	.....	$\frac{1}{20,000}$	Ditto.
21	Assam bhang (wild)	.....	$\frac{1}{5,000}$	Ditto.
22	Satara bhang ...	10.6125	$\frac{1}{20,000}$	Ditto.
	<i>Samples of charas.</i>			
23	Amballa charas, mashak No. 1	31.675	$\frac{1}{100,000}$	Ditto.
24	Amballa charas, mashak No. 2	38.85	$\frac{1}{10,000}$	Ditto.
25	Amritsar charas, bhara	35.6	$\frac{1}{90,000}$	Ditto.
26	Amritsar charas, mashak	41.55	$\frac{1}{120,000}$	Ditto.
27	Delhi District charas, dust, 2nd class	28.92	$\frac{1}{90,000}$	Ditto.
28	Delhi District charas, dust	29.00	$\frac{1}{10,000}$	Ditto.
29	Delhi District charas, mashak	41.62	$\frac{1}{100,000}$	Ditto.
30	Bombay charas	33.37	$\frac{1}{20,000}$	Ditto.
31	Gwalior charas (made during process of ganja manufacture).	35.3	$\frac{1}{5,000}$	Ditto.
32	Kumaon charas (wild)	18.45	$\frac{1}{10,000}$	Ditto.
33	Kumaon charas (cultivated)	33.75	$\frac{1}{5,000}$	Ditto.
34	Gurhwal charas, No. 1	32.10	$\frac{1}{100,000}$	Ditto.
35	Gurhwal charas, No. 2 (cultivated)	36.20	$\frac{1}{100,000}$	Ditto.
36	Nipal charas, A.	42.80	No effect produced by doses equal to $\frac{1}{2,000}$ Part of the body weight of the animal.	
	Nipal charas, B.	32.00		
	Nipal charas (Shahjahan)	36.30		

Percentage yield not known, these extracts having been prepared by Mr. Hooper.

Samples Nos. 24, 25, 26, 27, 28, 29, and 31 were of very soft consistence, and could not be reduced to a powder even after drying at 100° C. for some hours.

D.—PHYSIOLOGICAL INVESTIGATION.

As directed in your letter above quoted, the first object of the physiological investigation was to ascertain the smallest dose of the alcoholic extract of the standard ganja which could be relied on to produce definite physiological effects. This having been learnt, the next part of the enquiry was to test the other samples by means of the knowledge thus acquired. Definite physiological action is understood to mean the production of such effects as are capable of clear recognition and definite description. In an investigation of this kind the drug must necessarily be administered to many animals of different weights; consequently if the results produced are to be of any comparative value, the doses given must always bear a proportion to the animal's weight.

It became evident, as the enquiry proceeded, that the same proportional dose could not be relied on to produce absolutely similar symptoms in different animals even of the same species. In different animals, even of the same species, the symptoms varied, not only in character, but also in degree. Further, the occurrence of symptoms of one kind either masked the occurrence or prevented the development of those of another.

Accordingly, the object aimed at was the discovery of the smallest proportional dose constantly attended by some definite physiological effect as opposed to marked physiological effect, and without desiring to produce effects of a constant type in every instance. The first duty was evidently to obtain by experiment some definite conception of the physiological action of the drug in small doses that may be termed minimal, and the need for this will become more apparent when the somewhat varying character of its action is described. The account of the physiological investigation is therefore naturally divided into—

1. The description of the physiological action of the drug as tested by means of the alcoholic extract of the standard ganja in minimal doses.
2. Adoption of a certain quantity of this substance proportional to the body weight as a standard minimum dose.
3. The physiological testing of the other samples of ganja as compared with the standard ganja.

Twenty-three administrations of the standard alcoholic extract were made before satisfactory minimum dose could be arrived at. One hundred and sixty-one administrations of the extract of the other hemp drugs were required in the work of testing their relative physiological properties. The animals utilised throughout were cats.

The weights of the cats and of the required doses of the extracts were taken according to the Avoirdupois scale. The method of administration was as follows:—

The animal was first carefully weighed in a bag of known weight, and then the required dose calculated from its body weight. The dose of the alcoholic extract was weighed out in a tared capsule, dissolved in a little alcohol and made into an emulsion with starch, the spirit being subsequently driven off by heating the emulsion thus formed on the water-bath. The emulsion was introduced into the stomach by means of a syringe and a small oesophageal tube.

Control experiments were made to test whether any portion of the effect produced might be due to alcohol retained in the emulsion. It will be seen from the record of the experiments that the amount of alcohol used produced no result when administered to cats.

A limited number only of cats was obtainable, that is, of cats suitable for experiments of the kind required; for it was important that they should be fairly tame and docile, well nourished and, if females, not pregnant: pregnancy would interfere with the correct body weight. The same animals were in consequence repeatedly utilised, a sufficient interval being allowed to elapse between consecutive doses.

1. PHYSIOLOGICAL ACTION OF THE DRUG AS TESTED BY MEANS OF THE ALCOHOLIC EXTRACT OF THE STANDARD GANJA IN MINIMAL* DOSES.

It will be better to describe, first, the nature of the effects produced by the drug, and then give in detail the experiments upon which this account is based. The symptoms observed roughly resolve themselves into three types, and subject to variation induced by idiosyncrasy, it may be said that the smallest dose of the drug capable of producing any appreciable effect will produce symptoms belonging to the first two types, or the dose being increased will induce symptoms of the first and third type, with a passing manifestation of those of the second. I have given the three types the following definition:—

- (a) Symptoms of distress.
- (b) Phenomena indicating disturbance of the sensory-motor mechanism.
- (c) Soporific or narcotic effects.

* Note.—The term minimal doses as opposed to the minimum dose is adopted in order to indicate that all the doses given were small, the largest being $\frac{1}{65,000}$ of the body weight. The investigation is consequently restricted to the observation of the phenomena induced by such doses, and not by larger doses.

(a) *Symptoms of distress.*—Symptoms of distress or discomfort, as evinced by constant or peculiar cries usually preceded the development of the symptoms of the other types, the animal later on either displaying disturbance of the sensory-motor mechanism or falling gradually asleep. Symptoms of distress were in some instances the only effect induced. But such conditions are obviously so liable to misinterpretation, that to class them as definite physiological effects would be hardly admissible. Accordingly, where a condition to be described as one of distress was the sole effect, the dose administered is recorded as having failed to produce definite symptoms. As already stated, however, such symptoms, varying in the degree of their manifestation, almost invariably preceded those of the other types. It is difficult to describe the vocal sounds that may be emitted by a distressed cat, but one cry was occasionally heard from animals in this condition, which deserves a passing notice. It may be described as a high-pitched, prolonged wailing cry, and was particularly objected to by the laboratory staff, who informed me that the cry was unusual—and considered a sign of ill-luck in Bengali households.

(b) *Disturbance of the sensory-motor apparatus.*—Disturbance of the sensory-motor apparatus was manifested by the occurrence of unusual movements on the part of the animal, or by some apparent difficulty in maintaining its equilibrium on standing, or by the partial loss of motor power. The reference of all these manifestations to some effect produced by the drug on the sensory-motor apparatus may be objected to as arbitrary, especially as in the case of animals it is not possible to put the matter to the test in the same way as in man. But as the most important of the symptoms to be described under the above heading indicate interference with those muscular actions which go on for the most part independently of the will or reflexly, and as the other symptoms may be explained on the same hypothesis, though possibly incorrectly, it seems permissible to class these manifestations altogether.

Rocking movements.—It will be seen that the drug in minimum or larger doses constantly induced at some period of its action a peculiar and unusual rocking movement of the body upon its supports. These movements were very constant, not only in their character, but also in their occurrence. Their occurrence to a marked extent came to be regarded as the least admissible evidence of definite physiological effect. Coming on at a period subsequent to the administration of the drug, which varied with the amount of the dose and lasting a variable period, they were usually followed by either more marked sensory-motor disturbance or by sleep. Occasionally, though not usually, the production of these movements was almost the only effect induced by certain doses of the drug. The movements were apparently quite involuntary, and were best displayed when the animal was in the sitting or standing posture, disappearing when it lay down. They consist in a rhythmical side-to-side or backward and forward movement of the head, fore-quarters, and those portions of the body not in contact with the ground. In character they are regular, somewhat pendulum-like, the body moving as a whole; they last for a quarter to half a minute to intermit and be repeated again at irregular intervals, until the animal either recovers or passes into a condition of more marked sensory-motor disturbance or of sleep. They were observed to cease on voluntary movement or when the animal's attention was attracted, to begin again when the disturbance was withdrawn. The retention of the body in the semi-erect position assumed in the sitting posture is maintained by muscular action, which when once initiated by an effort of the will is continued unconsciously until the sensation of fatigue is experienced. Such actions require not only sufficient power in the muscular apparatus concerned, but depend also for their proper maintenance upon the stimulus derived from the muscular sense.

I would endeavour to explain the production of the peculiar movements already described on the hypothesis that some disturbance takes place in the motor mechanism referred to. Any cause producing inordinate action in one group of muscles or deficient action in another would upset the state of rest maintained by the balanced action of the different groups, and lead to the peculiar rocking movements described. There is no reason to suppose that inordinate action of one group of muscles is due to weakness of an opposing group, for the voluntary movements at this period show unimpaired power. Muscular mechanisms correlated in their action so as to produce a state of balance from their combined efforts, are understood to have the amount of their force largely controlled by impulses received from the muscular sense. Any interference with the muscular sense would account then for undue action on the part of one or other group of muscles, and the production of the rocking movements described. The movements are not of the kind that would suggest their causation by irritation of the cerebro-spinal centres, and their production on the hypothesis given is, I submit, supported by other manifestations which may reasonably be ascribed to sensory-motor disturbance. Doses of the drug in quantity equal to, or exceeding that amount adopted as the minimum dose, have been observed to almost invariably produce such movements as have been described. They succeed a period during which the animal usually evinces a degree of distress or uneasiness, and as a rule are followed by more marked sensory-motor disturbance, or by sleep when they cease. Though constant in occurrence and in character, they vary in the degree of their manifestation. The scope, duration and recurrence of the movements being more marked under certain conditions which, though not entirely independent of the quantity of the dose, seem largely associated with the idiosyncrasy of the individual.

It appeared if the dose relative to the body weight was such as would produce marked physiological effect short of pronounced sleep or narcotism, and if the individual idiosyncrasy

encouraged the development of the sensory-motor disturbance rather than of sleep, that then the involuntary rocking movements became most marked.

Besides the involuntary rocking movements described, other involuntary movements were occasionally observed, which are hardly to be explained on the same hypothesis. These other movements were of two kinds—fine tremor and spasmodic muscular actions. The tremor involved the whole body and was of intermittent character, an attack of tremor lasting three or four minutes with an indefinite period of complete freedom. Spasmodic muscular action was very rarely observed, and usually occurred in the muscles of the head and fore part of the body, the head being sometimes suddenly and forcibly moved to one or other side.

Difficulty in maintaining the body equilibrium on standing.—When the rocking movements had lasted a short time, the animals generally lay down in their habitual posture with their legs under them. This position apparently enabled them to obtain some respite from the involuntary movements; and in this position a considerable number fell asleep, the head gradually falling forwards till the nose and the face came in contact with the ground. In those cats not asleep a roll of the body from side to side was sometimes observed. Within a variable period of time, half an hour to an hour or even more, from the development of this condition, those cats which evinced no tendency to sleep, or were only drowsy, were frequently found, on being disturbed and made to stand up, to have apparently some difficulty in maintaining the equilibrium of the body in this position. The body swayed from side to side and backwards and forwards upon the legs, as though too heavy for its supports and likely to fall over. It was frequently difficult to induce animals in this condition to remain standing, but they were never observed to fall. On being induced to walk, it was found that this movement was either perfectly performed, the swaying of the body disappearing entirely, or that the action of the drug had produced an apparent partial loss of motor power.

Apparent loss of motor power.—In this condition the animal walked with a slow, tottering and uncertain gait, displaying shakiness and apparent weakness in its movements. It could not be induced to run; nor yet, on the other hand, was the loss of motor power ever complete.

The weakness was generally most evident in the hind limbs, though it never amounted to dragging of the limbs. The animal on walking would sway to one or other side, apparently tending to fall over, and occasionally, on attempting to turn, come down on its hind quarters and side. The fact that the hind limbs were more affected than the fore served sometimes to produce a very curious gait; for on walking the hind quarters fell out of line with the rest of the body, being as it were slued to one side. The peculiar appearance forcibly reminded me of the characteristic gait of horses suffering from *lunari*, many cases of which I saw in Upper Burma during 1887.

In a few instances the apparent loss of power was represented by a peculiar slow, crawling gait; the animal moving slowly along with its legs doubled up underneath the body and its belly close to the ground, as though to keep its centre of gravity low down. The loss of motor power has been described as apparent, and it is submitted that this is the correct description in the absence of more definite signs of loss of motor power. The phenomena described may, in the absence of definite signs of muscular paralysis, be accounted for by an interference with muscular movement, due to error of co-ordination induced by loss of muscular sense. It frequently happened that in the condition described as one of "difficulty in maintaining the body equilibrium on standing" no loss of motor power occurred. Further, that an effort of the will, as evinced in voluntary movement, was sufficient to restore the mechanism to its normal state, the difficulty, however, appearing again when the temporary excitement was withdrawn. The same observation was made with regard to the rocking movements which were found to cease on excitement or voluntary movement. It is natural, then, to endeavour to explain all these phenomena on the same hypothesis. The same observations as were advanced in explanation of the "rocking movements" apply with even more force to the state described as a "difficulty in maintaining the body equilibrium;" for somewhat similar conditions occur in disease affecting the muscular sense in man. I would suggest that the rocking movements and altered body equilibrium may be ascribed to the action of the drug upon the spinal cord, but that when apparent loss of motor power occurs, then the ganglionic centres at the base of the brain are also affected. The appearances appear to encourage the conception that the drug acts upon the central nervous structures and not upon the peripheral nerve endings. Those animals which displayed the maximum amount of sensory-motor disturbance evinced no tendency to sleep or loss of their usual instincts.

It has been already stated that the same cats were repeatedly utilised, and it thus came to be observed that, as regards the action of the drug, certain cats had a constant idiosyncrasy; that some cats under the influence of the drug were prone to sleep and others to the development of the phenomena ascribed to the disturbance of the sensory-motor apparatus; that the same dose relative to the body weight would in some animals induce disturbance of the sensory-motor mechanism and in others a varying degree of narcotism. Apart, however, from individual idiosyncrasy the quantity of the dose was found to play an important part also in determining the character of the effects produced by the drug. For in certain animals who after certain doses had been recognised as prone to develop sensory-motor disturbance, without marked sleep or narcotism, an increased dose, if sufficiently large, could be relied on to produce sleep deep

enough to mask or prevent the development of sensory-motor disturbance, with exception of the rocking movements.

It was to this action of the drug that reference was made in the statement that the occurrence of symptoms of one kind either masked the occurrence or prevented the development of those of another.

(c) *Soporific or narcotic effects.*—As already said, sleep production depends on the quantity of the dose being influenced also by the individual idiosyncrasy: in some animals sleep was easily and early induced as the result of the minimum dose; in others not so readily. The duration and nature of the sleep depend on the quantity of the dose: it ranged from drowsiness to slight narcotism. At the onset of sleep the cat often strived to maintain the sitting posture, the head falling forwards now and again and the animal awaking with a start. As the tendency deepened it usually lay down and went to sleep, the head gradually falling forwards till the nose and front of the face rested on the ground.

Time of onset of symptoms.—Whatever their character might be, symptoms of the action of the drug could generally be recognised within one hour or one hour and a half after its administration. This statement applies only to the quantities given in this investigation, and naturally will not bear too general application. In my experiments the doses were always small, and hence the use of the term minimal.

RECORD OF THE FIRST SERIES OF EXPERIMENTS WITH THE ALCOHOLIC EXTRACT OF THE STANDARD GANJA.

The quantity of the dose of the alcoholic extract usually given to small animals in physiological investigations seems to have been about one or two grains. The first two doses administered in this series of experiments were given without reference so much to the animal's body weight as to serve as a guide by which subsequent experiments might be regulated.

Experiment No. 1.—Well-nourished male cat, weight 4 lb 13½ oz.; a dose of the alcoholic extract, weighing .25 grain, or about $\frac{1}{135,000}$ part of the body weight, given at 12.22 P.M. Effect nil.

Experiment No. 2.—Male, weight of cat 4 lb 12 oz.; a dose of the extract weighing .5 grain, or $\frac{1}{27,000}$ part of the body weight, given at 11.15 A.M. 12.45 P.M. Rocking movements with slight weakness of the limbs, chiefly of the hind legs, on walking; condition lasted about one hour.

As a dose equivalent to $\frac{1}{60,000}$ of the body weight had induced definite symptoms, a similar quantity was next administered to two other cats to test whether the experiment was reliable:—

Experiment No. 3.—Yellow and white female cat, weight 7 lb 1 oz. .75 grain of the extract, or a quantity equal to $\frac{1}{36,000}$ of the body weight, administered at 11.45 P.M. 12.40 P.M. Nodding of head, drowsiness. 1 P.M., rocking movements, with occasional slight tremor. 1.15 P.M., tendency to sleep more marked. Animal lying down asleep with the nose and face resting on the ground. 2 P.M., effects of the drug beginning to pass off.

Experiment No. 4.—Black and white cat, weight 3 lb 10½ oz. .38 grain of extract, or a quantity equivalent to $\frac{1}{60,000}$ of the body weight, administered at 12.10 P.M. 1.15 P.M., rocking movements; cat is sitting up and displays occasional attacks of tottering or irregular movements of the fore quarters and fore limbs, as though endeavouring to save itself from falling forwards; is slightly drowsy. 2 P.M., cat appears considerably distressed, is constantly mowing and suffering also from slight salivation. 3 P.M., beginning to recover, though still dull.

A dose equivalent to $\frac{1}{60,000}$ of the body weight being able to cause easily recognisable effects, the next step was to find out how far this dose could be diminished and yet definite symptoms induced. In the four following experiments the quantity of the extract given to each cat was equal to $\frac{1}{70,000}$ part of its body weight:—

Experiment No. 5.—Weight of cat 6 lb 11½ oz. Dose of extract .63 grain at 1 P.M. 2.45 P.M., cat asleep with its nose on the ground, and though able to be disturbed by any noise in its neighbourhood, yet it soon went to sleep again. It remained in this sleepy state till 4 P.M. No rocking movements or tremor observed.

Experiment No. 6.—Weight of cat 3 lb 7¼ oz. Dose of extract .32 grain at 1.25 P.M. 2.50 P.M., displays symptoms of distress and discomfort with slight drowsiness; is suffering also from slight salivation. 3 P.M., rocking movements. 4 P.M., the rocking movements have lasted with intermission since 3 P.M., being interrupted by occasional periods of sleep. 4.30 P.M., cat is still under the influence of the drug.

Experiment No. 7.—Weight of cat 3 lb 9¼ oz. Dose of extract .31 grain at 1.45 P.M. 3 P.M., sleepy; displays rocking movements of the body from time to time. Effects lasted for upwards of an hour.

Experiment No. 8.—Weight of cat 5 lb. 5½ oz. Dose of extract .5 grain at 2 P.M. The action of the drug began to manifest itself about 3-30 P.M., when the cat became sleepy, but was disturbed by occasional spasmodic movements of the fore quarters. Very definitely affected, but less so than the other cats.

The dose was now reduced to $\frac{1}{90,000}$ of the body weight and that quantity of the extract administered to three cats.

Experiment No. 9.—Weight of cat 4 lb 12½ oz. Dose .37 grain at 11-30 A.M. 12-10 P.M., distress and discomfort, pupils slightly dilated and the cat's appearance wild and suspicious; on being let loose the cat tries to hide itself. 12-30 P.M., displays weakness of the limbs, and can only be induced to walk with great difficulty; the weakness is more marked in the hind limbs; on walking the cat falls over occasionally its hind quarters, apparently due to the greater weakness of the hind limbs; there on is some tremor also of the whole body. 1-30 P.M., drowsy, but on being disturbed still showed the weakness of the limbs. 4-30 P.M., cat went to sleep about 2 P.M. with its nose resting on the ground and has continued to sleep with intermission during the last one and a half hours.

Experiment No. 10.—Weight of cat 2 lb 12½ oz. Dose .2 grain at 11-50 A.M. 12-30 P.M., excitement and distress with some slight occasional tremor of the whole body; slight dilatation of the pupils. 1 P.M., asleep. 3-30 P.M., is still under influence of the drug, and has been asleep with its nose resting on the ground during the past one and a half hours with occasional interruptions.

Experiment No. 11.—Weight of cat 3 lb 12½ oz. Dose .3 grain at 12-10 P.M. 12-50 P.M., rocking movements and drowsiness; 2 P.M., condition torpid; has broken periods of sleep. Effect less marked than in experiments Nos. 9 and 10.

Administration of three doses equivalent to $\frac{1}{100,000}$ part of the body weight.

Experiment No. 12.—Weight of cat 4 lb 7½ oz. Dose of extract .3 grain at 11-35 A.M. 12-55 P.M., rocking movements of the body; appearance of the animal altered by the drug; as it sits up it preserves a fixed look in the same direction as though somewhat dazed or stupefied. 1 P.M., asleep. 3-30 P.M., still asleep, but not deeply so, the appearance being that presented by natural sleep. This animal displayed no weakness of the limbs.

Experiment No. 13.—Weight of cat 5 lb 7½ oz. Dose .36 grain at 11-55 A.M. 1-30 P.M., animal very torpid and can be induced to move only with difficulty; when disturbed, it crawls about in a peculiar manner and seeks to hide itself; it walks in a very peculiar manner, shuffling along with the legs doubled up underneath the body and the belly close to the ground. 3 P.M., still under influence of the drug; some drowsiness and slight dilatation of the pupils.

Experiment No. 14.—Weight of cat 2 lb 11½ oz. Dose .18 grain at 12-15 P.M. 1-30 P.M., drowsiness; riddling of the head: the cat, which is a lively, very tame animal is now quite dull and torpid. 3 P.M. cat asleep with its nose on the ground and fully under the influence of the drug.

Three experiments with a dose the quantity of which was equal to $\frac{1}{100,000}$ of the body weight.

Experiment No. 15.—Weight of cat 4 lb ½ oz. Dose .25 grain at 11-15 A.M. 1 P.M., asleep with its nose on the ground; on being disturbed walks with great difficulty, all the limbs being weak, but the hind limbs so weak that the animal tends to fall upon its hind quarters and side. 2-30 P.M., drowsy. 4 P.M., still under the influence of the drug, and has slept lightly off and on since 2-30 P.M.

Experiment No. 16.—Weight of cat 4 lb 5½ oz. Dose .27 grain at 11-30 A.M. 1-15 P.M., expression altered, the eye being glassy and the look fixed in one direction; rocking movements. 4 P.M., has been asleep with intermission for about two hours. While apparently asleep with its eyes closed occasionally emitted a peculiar and unpleasant cry.

Experiment No. 17.—Weight of cat 5 lb 6½ oz. Dose .34 grain at 11-50 A.M. 1-15 P.M., no effect apparent. 2-30 P.M. cat sleeping lightly and occasionally starting in its sleep in a peculiar manner. It is apparently only slightly affected by the drug, but on unfastening the string round its neck and inducing it to walk, it shows great weakness of the limbs, specially the hind limbs. It is unwilling to move, and when induced to do so, moves apparently with considerable difficulty. The gait is tottering and unsteady, the hind quarters falling occasionally upon the ground. 4-30 P.M., the weakness of the limbs is still very marked.

In the next two experiments the dose was reduced to $\frac{1}{100,000}$ part of the body weight.

Experiment No. 18.—Weight of cat 3 lb 11 oz.; Dose .17 grain at 1-5 P.M. 2-30 P.M., on being let loose is very unwilling to move, and when induced to walk moves in a crawling, shuffling manner with its belly close to the ground. There appears to be slight weakness of the limbs.

Experiment No. 19.—Weight of cat 5 lb 5 oz. Dose .25 grain at 1-25 P.M. 2-30 P.M., is very slightly affected, the hind limbs being apparently somewhat weak. It walks also in the peculiar crawling manner. But the effects must be described as very slight.

On the same day, at 1-15 P.M., a third cat received a dose of alcohol in quantity equal to that used to dissolve the alcoholic extract. The alcohol was mixed with a little water and administered in the usual manner. No apparent effect was produced. In preparing the emulsion as much alcohol as possible is driven off by heat after adding the starch solution. In this case the experiment being for purposes of control, no attempt was made to reduce the quantity of alcohol by heating.

The effects produced by a dose equal to $\frac{1}{100,000}$ part of the body weight appeared too pronounced, if other samples of hemp drugs were to be physiologically tested by this standard. And on the other hand the effects produced by a dose equal to $\frac{1}{100,000}$ part of the body weight appeared too indefinite and slight. It was accordingly determined to try the results produced by a dose equal to $\frac{1}{125,000}$ part of the body weight; and this quantity was given in the four next experiments.

Experiment No. 20.—Weight of cat 3 lb 3½ oz. Dose .18 grain at 11-45 A.M. 1 P.M., cat is evidently affected by the drug, rocking movements; 2-45 P.M., asleep, and on being disturbed displays weakness of the limbs. The sleep is somewhat deep and the cat evidently considerably affected by the dose of the drug.

Experiment No. 21.—Weight of cat 3 lb 15½ oz. Dose .22 grain at 12-15 P.M. 2-45 P.M., rocking movements of the body and weakness of the limbs; 3 P.M., asleep with its nose on the ground, and while asleep is apparently unable to maintain the recumbent posture, for it is occasionally woke up by a roll of the body to one or other side.

Experiment No. 22.—Weight 4 lb 2½ oz. Dose .23 grain at 12-15 P.M. 2-45 P.M., marked rocking movements of the body. 3 P.M., asleep. This animal definitely but not deeply affected by the drug.

Experiment No. 23.—Weight of cat 4 lb 14½ oz. Dose .27 grain at 1-15 P.M. A portion of the dose was vomited immediately after administration. Notwithstanding rocking movements of the body, weakness of gait, and some torpor were observed as the result of the action of the drug.

2. THE STANDARD MINIMUM DOSE.

The effects produced in cats by a quantity of the alcoholic extract of the standard ganja, equivalent to $\frac{1}{125,000}$ part of the body weight of each animal were considered sufficiently definite to warrant the adoption of this quantity as the minimum dose. For convenience of calculation, however, it was determined to take $\frac{1}{100,000}$ part of the body weight as the minimum dose, the difference between the two fractions being only $\frac{1}{250,000}$. Sufficient has been already said in the remarks preliminary to the record of the experiments regarding the characters of the effects which the minimum dose might be expected to produce. It was then premised that definite effects of some kind or another should be sought, rather than marked effects constant in character in every experiment. The subsequent experiments were conducted on the understanding that if the sample of hemp drugs under examination contained active constituents in quantity equal to that of the standard ganja that then the minimum dose of its alcoholic extract should induce somewhat the following symptoms, i.e., a period of distress or discomfort, followed by the rocking movements of the body, and then either some of the other phenomena indicating sensory-motor disturbance or sleep.

3. PHYSIOLOGICAL EXAMINATION OF THE SAMPLES OF HEMP DRUGS RECEIVED FROM THE HEMP DRUGS COMMISSION.

An epitome of the results will be given first, and then the record of experiments given in detail.

Hemp drugs possessing physiological properties equal to those of the standard ganja—

Sholapur ganja.
Khandesh ganja.
Ahmednagar ganja, No. 1.
" " No. 3.
Bijapur ganja.
Nimar District ganja, Dhakalgaon seed.
" " local seed.
Amritsar charas, mashak.

Hemp drugs, the dose of which was increased to $\frac{1}{100,000}$ of the body weight of the animal, in order to produce effects equal to those of the minimum dose of the standard ganja—

Satara ganja, No. 1.
" " No. 2.
Ahmednagar ganja, No. 2.
Bangalore ganja.

Kistna ganja.
Madras local market ganja.
Amballa bhang.
Amballa charas, maskak, No. 1.
Delhi District charas, mashak.
Gurhwal charas, No. 1.

Amritsar charas, bhara.
Delhi District charas, dust, 2nd class.

lose equal to $\frac{1}{80,000}$

Khandesh blang.

close equal to $\frac{1}{70,000}$
 the minimum of
 Ghazipur illicit g

Sholapur bhang.

dose equal to $\frac{20}{20}$
Rajshahi bhang (Safara bhang.

close equal to, $\frac{1}{10,000}$ part of the

Amballa charas, mashak, No. 2.
Delhi District charas, dust.
Kumaon charas (wild):

lose equal to $\frac{1}{5,000}$ part of

Bhagalpur bhang.
Assam bhang (wild).
Gwalior charas.
Kumaon charas (cultivated).

Nepal charas A.
 " " B.
 " " (Shatjahani).

TABLE No. II.

TABLE NO. 11.
TABLE SHOWING THE RELATIVE PHYSIOLOGICAL VALUE OF THE VARIOUS SAMPLES OF HEMP DRUGS ACCORDING TO THE DOSE OF THE EXTRACT REQUIRED TO PRODUCE DEFINITE PHYSIOLOGICAL EFFECTS

[illegible]

TABLE No. III.

Table showing the relative physiological value of the various samples of hemp drugs, calculated from the quantity of the alcoholic extract which is physiologically active.

Samples of ganja.			Samples of bhang.			Samples of charas.		
Kistna ganja ...	...	2.6	Amballa bhang ...	31	Amritsar charas, mashak ...	32		
Standard ganja ...	...	2.5	Khandesh bhang ...	29	Delhi District charas, mashak ...	24		
Bangalore ganja ...	...	2.4	Sholapur ...	15	Amballa charas, mashak, No. 1 ...	23		
Khandesh ganja ...	...	2.2	Satara ...	5	Gurhwal charas, No. 2 ...	21		
Ahmednagar ganja, No. 1 ...	}	2	Bhagalpur ...	1	Delhi District charas, dust, 2nd class ...	29		
Madras local market ganja ...					Gurhwal charas, No. 1 ...	}	19	
Nimar District ganja, Dhakulgaon seed ...	}	1.9			Amritsar charas, bhara ...			
Nimar District ganja local seed ...					Bombay charas ...	4		
Bijapur ganja ...	...	1.8			Delhi District charas, dust ...	}	2	
Ahmednagar ganja, No. 2 ...	}	1.7			Amballa charas, mashak, No. 2 ...			
Sholapur ganja ...					Kumaon charas (wild) ...	}	1	
Ahmednagar ganja, No. 3 ...	}	1.6			Gwalior charas ...			
Satara ganja, No. 1 ...					Kumaon charas (cultivated) ...			
" " " 2 ...								
Ghazipur illicit ganja ...	...	1						

The numbers indicate the relation which the samples of ganja, bhang, or charas respectively bear to each other in each group separately. They do not indicate any relation between ganja and bhang or between either of these two and charas—thus Kistna ganja is 2.6 times as potent as Ghazipur illicit ganja and Amritsar charas, mashak, 32 times as potent as Gwalior charas. Amballa bhang is 31 times more powerful than Bhagalpur bhang.

Vide concluding remarks.

RECORD OF THE SECOND SERIES OF EXPERIMENTS.

(a) A dose of the alcoholic extract equal to $\frac{1}{120,000}$ part of the body weight was first tried in the case of every sample of the hemp drugs.

Experiment No. 1, Ghazipur illicit ganja.

Female cat, weight 5 lb 13½ oz. Dose .34 grains at 1-30 P.M. Effect nil.

Experiment No. 2, Sholapur ganja.

Weight of cat 3 lb 1½ oz. Dose .18 grain at 12-15 P.M., 1-15 P.M., slight tremor of body and appears uncomfortable. 2 P.M., dull and torpid; appears to have some difficulty in walking, though no weakness of the limbs to be made out; the appearance suggests the idea that the initiation of the act of walking is difficult and that sufficient voluntary impulse is not forthcoming. 3 P.M., asleep with its nose resting on the ground. 3-30 P.M., still asleep in the same position.

Experiment No. 3, Khandesh ganja.

Weight of cat 4 lb 12½ oz. Dose .28 grain at 12 noon. 1-30 P.M., rocking movements. 2 P.M., difficulty in walking with uncertainty of action most marked in the hind limbs. 3 P.M., drowsy; on walking displays staggering uncertain gait. 4 P.M., walks fairly well now, and is apparently recovering.

Experiment No. 4, Satara ganja, No. 1.

Weight of cat 4 lb 3 oz. Dose .24 grain at 12-30 P.M. Slight rocking movements were observed, but the effects did not appear equal to those of the minimum dose of the standard extract. It was consequently determined to give a slightly larger quantity.

Experiment No. 5, Satara ganja, No. 2.

Weight of cat 2 lb 13½ oz. Dose .16 grain at 1-15 P.M. Effects produced very slight. A larger dose considered necessary.

Experiment No. 6, Ahmednagar ganja, No. 1.

Weight of cat 4 lb 13½ oz. Dose .28 grain at 12-15 P.M. 1-30 P.M., cat is torpid and dull. 3 P.M., on being made to walk is found to have the characteristic staggering gait, the effect of the drug being more marked, as usual, in the hind limbs: it is distinctly drowsy. 3-30 P.M., the cat, on being disturbed and made to walk, takes a few steps and then passes into a sort of cataleptic condition, maintaining the posture in which it may have happened to be when it stopped moving. The position is not one in which its limbs are all at rest, and is sometimes slightly grotesque. 4 P.M., is still very evidently under the influence of the drug: on standing the rocking movements of the body are well displayed. The minimum dose of this extract produced very well marked effects.

Experiment No. 7, Ahmednagar ganja, No. 2.

Weight of cat 2 lb 11 oz. Dose .15 grain at 1 P.M. Action not sufficiently marked. A larger dose necessary.

Experiment No. 8, Ahmednagar ganja, No. 3.

Weight of cat 3 lb 2½ oz. Dose .18 grain at 12-15 P.M. 2-30 P.M., sleepy; cries when disturbed, and walks in an awkward manner. 3 P.M., asleep with its nose on the ground, and on being disturbed walks unsteadily. 4-30 P.M., asleep.

Experiment No. 9, Bijapur ganja.

Weight of cat 3 lb 3½ oz. Dose .18 grain at 1-30 P.M. 2-10 P.M., very marked tremor of the body. 3-30 P.M., the tremor of the body is the most marked symptom in this case: it has lasted for more than one hour, subject to intermission, and is still present. Rocking movements have also been observed with occasional spasm of the body. The cat, on moving, walks with the peculiar crawling gait already described.

Experiment No. 10, Nimar ganja, Dhakulgaon seed.

Weight of cat 4 lb 13½ oz. Dose .28 grain at 12-30 P.M. 1-30 P.M., rocking movements. 3 P.M., cat less lively than usual; has a fixed look and is evidently not comfortable; no weakness of the limbs; drowsy but not markedly so.

Experiment No. 11, Nimar ganja, local seed.

Weight of cat 5 lb 1 oz. Dose .29 grain at 12-15 P.M. 1-30 P.M., cat sleepy, torpid and cannot be induced to move. 3 P.M., unwillingness to move continues; when compelled to walk, moves with apparent difficulty, though no weakness of the limbs can be made out: some tremor of the body.

Experiment No. 12, Kistna ganja.

Grey cat male, weight 3 lb 3½ oz. Dose .18 grains at 1-15 P.M. Slight effects produced.

Experiment No. 13, Bangalore ganja.

Weight of cat 4 lb 1½ oz. Dose .23 grain at 12-30 P.M. Insufficient action manifested.

Experiment No. 14, Madras local market ganja.

Weight of cat 2 lb 13½ oz. Dose .16 grain at 1-15 P.M. Effect produced very slight.

Experiment No. 15, Khandesh bhang.

Weight of cat 3 lb 5½ oz. Dose .19 grain at 12-30 P.M. No appreciable effect.

Experiment No. 16, Amballa bhang.

Weight of cat 3 lb 13½ oz. Dose .22 grain at 1 P.M. No appreciable effect.

Experiment No. 17, Sholapur bhang.

Weight of cat 3 lb 4½ oz. Dose .19 grain at 1-10 P.M. No appreciable effect produced.

Experiment No. 18, Bhagalpur bhang.

Yellow and white male cat, weight 3 lbs 14½ oz. Dose .22 grain at 12-55 P.M. Effect nil.

Experiment No. 19, Rajshahi bhang (cultivated plant).

Yellow male cat, weight 5 lb 4½ oz. Dose .3 grain at 12-30 P.M. Effect nil.

Experiment No. 20, Assam bhang (wild).

Black and white male cat, weight 4 lb 8½ oz. Dose .26 grain at 12-25 P.M. Effect nil.

Experiment No. 21, Satara bhang.

Weight of cat 3 lb 15½ oz. Dose .23 grain at 12-50 P.M. 3 P.M., nil. 4 P.M., nil.

Experiment No. 22, Amballa charas, mashak, No. 1.

Weight of cat 6 lb 4½ oz. Dose .36 grain at 1-30 P.M. Effect produced slight and insufficient.

Experiment No. 23, Amballa charas, mashak, No. 2.

Female cat, weight 6 lb 0½ oz. Dose .35 grain at 11-30 A.M. Effect nil.

Experiment No. 24, Amritsar charas, bhara.

Male cat, black and white, weight 4 lb 9½ oz. Dose .26 grain at 11-40 A.M. Very slight effect produced.

Experiment No. 25, Amritsar charas, mashak.

Male cat, weight 4 lb 1½ oz. Dose .23 grain at 11-50 A.M. 12-30 P.M., rocking movements of body. 1 P.M., asleep with its nose on the ground. 2-30 P.M., still asleep; when disturbed displays marked rocking movements; its gait is not affected. 3-30 P.M., still under influence of the drug. The effect is considered equal to that produced by the minimum dose of the extract of the standard ganja.

Experiment No. 26, Delhi District charas, dust (2nd class).

Female cat, weight 3 lb 0½ oz. Dose .17 grain at 1-40 P.M. Effect nil.

Experiment No. 27, Delhi District charas, dust.

Male cat, weight 3 lb 3½ oz. Dose .18 grain at 1-25 P.M. Effect nil.

Experiment No. 28, Delhi District charas, mashak.

Male cat, weight 6 lb 1½ oz. Dose .35 grain at 12-45 P.M. Effect nil.

Experiment No. 29, Bombay charas.

Male cat, weight 5 lb 6½ oz. Dose .31 grain at 12-10 P.M. Effect nil.

Experiment No. 30, Gwalior charas.

Male cat, weight 6 lb 5 oz. Dose .37 grain at 12-40 P.M. Effect nil.

Experiment No. 31, Kumaon charas (wild).

Male cat, weight 5 lb 7 oz. Dose .31 grain at 12-25 P.M. Effect nil.

Experiment No. 32, Kumaon charas (cultivated).

Female cat, weight 3 lb 9½ oz. Dose .2 grain at 12 noon. Effect nil.

Experiment No. 33, Gurkwal charas (No. 1).

White cat, female, weight 3 lb 7½ oz. Dose .2 grain at 1-40 P.M. 3 P.M., rocking movements of body fairly well marked. 4 P.M., sleepy; when disturbed displays rocking movements. Effect of the drug, though evident, not equal to that produced by minimum dose of the extract of the standard ganja.

Experiment No. 34, Gurkwal charas, No. 2 (cultivated).

Female cat, weight 6 lb 2½ oz. Dose .36 grain at 12-10 P.M. Effect nil.

Experiment No. 35, Nepal charas, A.

Female cat, weight 3 lb 6½ oz. Dose .19 grain at 12-20 P.M. Effect nil.

Experiment No. 36, Nepal charas, B.

Female cat, weight 2 lb 12½ oz. Dose .16 grain at 12-40 P.M. Effect nil.

Experiment No. 37, Nepal charas, Shahjahan.

Yellow and white female cat, weight 4 lb 6½ oz. Dose .25 grain at 2 P.M. Effect nil.

Satisfactory results having been obtained from the standard minimum dose in the case of eight samples of hemp drugs, the next step was to test what quantity of the other samples was required to produce effects equal to those produced by the minimum dose of the standard ganja.

(b) In the following experiments the dose was increased to $\frac{1}{100,000}$ of the body weight:—

Experiment No. 38, Satara ganja, No. 1.

Weight of cat 2 lb 11½ oz. Dose .17 grain at 12 noon. 1 P.M., rocking movements; on standing up swaying of body from side to side; is somewhat drowsy. 1-15 P.M., spasmodic attacks of tremor of the head observed; the difficulty in maintaining the body equilibrium on standing is very marked. 1-30 P.M., asleep; 2-30 P.M., still much affected. 3-30 P.M., sleepy and torpid. 4 P.M., still under influence of the drug.

Experiment No. 39, Satara ganja, No. 2.

Weight of cat 2 lb 12 oz. Dose .17 grain at 12-40 P.M. 2-30 P.M., rocking movements. 3-40 P.M., drops off to sleep now and again while in the sitting posture; has a "drugged" appearance; is evidently uncomfortable and in distress; body sways from side to side, displaying the condition termed a difficulty in maintaining the body equilibrium.

Experiment No. 40, Ahmednagar ganja, No. 2.

Weight of cat 3 lb 2½ oz. Dose .2 grain at 11-40 A.M. 2 P.M., torpid and sleepy; gait weak. 2-10 P.M., asleep. 2-30 P.M., asleep and when disturbed found to be very unsteady on its legs. 3-30 P.M., asleep with its nose on the ground.

Experiment No. 41, Bangalore ganja.

Weight of cat 3 lb 12½ oz. Dose .24 grain at 12 noon. 1-10 P.M., vomited a small portion of the dose. 2 P.M., asleep with its nose on the ground. 3-30 P.M., on standing up displays great apparent difficulty in maintaining its equilibrium, the body swaying from side to side; is very definitely under the influence of the drug.

Experiment No. 42, Madras local market ganja.

Weight of cat 4 lb 11 oz. Dose .29 grain at 12-45 P.M. The effect produced, though recognizable, not equal to that of the minimum dose of the standard.

Experiment No. 43, Khandesh bhang.

Weight of cat 3 lb 3½ oz. Dose .2 grain at 12-55 P.M. No appreciable effect.

Experiment No. 44, Amballa bhang.

Weight of cat 4 lb 2½ oz. Dose .26 grain at 12-10 P.M. No appreciable effect.

Experiment No. 45, Sholapur bhang.

Weight of cat 3 lb 11½ oz. Dose .23 grain at 11-15 A.M. No appreciable effect.

Experiment No. 46, Satara bhang.

Weight of cat 4 lb 11½ oz. Dose .29 grain at 12-25 P.M. Effects not appreciable.

Experiment No. 47, Amballa charas, No. 1.

Weight of cat 4 lb 10½ oz. Dose .29 grain at 1-5 P.M. In this case insufficient effects were produced.

(c) The twenty-five following experiments were conducted with a dose equivalent to $\frac{1}{100,000}$ of the body weight:—

Experiment No. 48, Ghazipur illicit ganja.

Female cat, weight 2 lb 14 oz. Dose .2 grain at 1-45 P.M. Effect nil.

Experiment No. 49, Kistna ganja.

Female white cat, weight 3 lb 7½ oz. Dose .24 grain at 1-15 P.M. Slight vomiting occurred after the dose. 3 P.M., asleep with its nose resting on the ground, and on being disturbed is found to be considerably affected; the rocking movements of the body are well marked, and on walking the animal staggers from side to side, the hind limbs being most affected. 4 P.M., is still under the influence of the drug.

Experiment No. 50, Madras local market ganja.

Weight of cat 2 lb 11½ oz. Dose .19 grain at 1-15 P.M. 3-30 P.M., sleepy; but on being disturbed displays rocking movements and very marked swaying of body from side to side.

Experiment No. 51, Khandesh bhang.

Weight of cat 4 lb 1 oz. Dose .28 grain at 1-10 P.M. Effect almost nil.

Experiment No. 52, Amballa bhang.

Weight of cat 3 lb 1 oz. Dose .21 grain at 1-30 P.M. 2-45 P.M., distinctly sleepy and evinces great unwillingness to move on being disturbed; when compelled to move, walks in a shuffling, crawling manner. 4 P.M., still sleepy and torpid, but will come when called, though it moves as though with effort in a slow, crawling manner. The effect therefore appears to be passing off.

Experiment No. 53, Sholapur bhang.

Weight of cat 6 lb 2½ oz. Dose .13 grain at 12-25 P.M. Effect almost nil.

Experiment No. 54, Bhagalpur bhang.

Male cat, weight 4 lb 11½ oz. Dose .53 grain at 1-10 P.M. Effect nil.

Experiment No. 55, Rajshahi bhang (cultivated).

Male cat, weight 4 lb 2 oz. Dose .28 grain at 12-45 P.M. Effect nil.

Experiment No. 56, Assam bhang (wild).

Female cat, weight 4 lb 12 oz. Dose .33 grain at 1 P.M. Effect nil.

Experiment No. 57, Satara bhang.

Weight of cat 3 lb 3½ oz. Dose .22 grain at 12-35 P.M. Effect nil.

Experiment No. 58, Amballa charas, mashak, No. 1.

Weight of cat 2 lb 9 oz. Dose .17 grain at 2 P.M. 3 P.M., rocking movements of the body. 3-30 P.M., animal is distinctly under the influence of the drug, manifested by the swaying of the body from side to side. 4 P.M., the cat comes when called and walks well and strongly without tottering, but when allowed to stand or sit undisturbed displays marked swaying of the body from side to side and backwards and forwards upon its supports.

Experiment No. 59, Amballa charas, mashak, No. 2.

Female cat, weight 6 lb 5½ oz. Dose .44 grain at 11-45 A.M. Effect nil.

Experiment No. 60, Amritsar charas, bhara.

Male cat, weight 4 lb 11½ oz. Dose .34 grain at 11-55 A.M. Effect nil.

Experiment No. 61, Delhi District charas, dust (2nd class).

Tortoise-shell female cat, weight 5 lb 13½ oz. Dose .4 grain at 1-15 P.M. Effect nil.

Experiment No. 62, Delhi District charas, dust.

Yellow and white male cat, weight 4 lb 2½ oz. Dose .29 grain at 12-45 P.M. Effect nil.

Experiment No. 63, Delhi District charas, mashak.

Grey and white female cat, weight 4 lb. 10 oz. Dose .32 grain at 12-35 P.M. 1-30 P.M., much rocking of the body, but can walk well. 2 P.M., swaying of body from side to side on standing, so long as its attention is not attracted; the hind quarters chiefly affected. 3 P.M., rocking and swaying of body continues, the animal walks stiffly but fairly well; 4 P.M., still under the influence of the drug.

Experiment No. 64, Bombay charas.

Female cat, weight 3 lb ½ oz. Dose .21 grain at 12-20 P.M. Effect nil.

Experiment No. 65, Gwalior charas.

Female cat, weight 2 lb 12½ oz. Dose .19 grain at 1-40 P.M. Effect nil.

Experiment No. 66, Kumaon charas (wild).

Female cat, weight 3 lb 7½ oz. Dose .24 grain at 1-5 P.M. Effect nil.

Experiment No. 67, Kumaon charas (cultivated).

Male cat, weight 3 lb 5½ oz. Dose .23 grain at 12-15 P.M. Effect nil.

Experiment No. 68, Gurkwal charas, No. 1.

Male cat, weight 3 lb 2½ oz. Dose .22 grain at 2 P.M. 3 P.M., cat is very evidently affected, displaying the rocking movements of the body and the staggering gait on walking. 4 P.M., still under the influence of the drug.

Experiment No. 69, Gurkwal charas, No. 2 (cultivated).

Male cat, weight 3 lb 2½ oz. Dose .22 grain at 1-30 P.M. 3 P.M., animal very much affected, is very unwilling to walk, and on being induced to move after a few steps falls over on its side, the hind quarters, as usual, being most affected; rocking and swaying of the body from side to side on standing; is apparently unable to stand long; torpid, but not sleepy. 3-30 P.M., asleep with its nose on the ground. 4 P.M., still under the influence of the drug.

Experiment No. 70, Nepal charas, A.

Female cat, weight 3 lb 10½ oz. Dose .25 grain at 12-22 P.M. Effect nil.

Experiment No. 71, Nepal charas, B.

Yellow male cat, weight 5 lb 2½ oz. Dose .36 grain at 12-20 P.M. Effect nil.

Experiment No. 72, Nepal charas, Shahjahan.

Female cat, weight 3 lb 5½ oz. Dose .23 grain at 1-10 P.M. Effect nil.

(d) The following experiments were conducted with a dose equivalent to $\frac{1}{10,000}$ part of the body weight.

Experiment No. 73, Ghazipur illicit ganja.

White female cat, weight 3 lb 8½ oz. Dose .27 grain at 1-45 P.M. Effect nil.

Experiment No. 74, Khandesh bhang.

Weight of cat, 7 lb 8½ oz. Dose .58 grain at 12 noon. Effects not sufficiently definite.

Experiment No. 75, Sholapur bhang.

Weight of cat 6 lb 3½ oz. Dose .48 grain at 11-30 A.M. Effect practically nil.

Experiment No. 76, Bhagalpur bhang.

Male cat, weight 4 lb 13½ oz. Dose .37 grain at 1-55 P.M. Effect nil.

Experiment No. 77, Rajshahi bhang.

Male cat, weight 4 lb 4½ oz. Dose .32 grain at 2 P.M. Effect nil.

Experiment No. 78, Assam bhang.

Male cat, weight 5 lb 8½ oz. Dose .43 grain at 2-15 P.M. Effect nil.

Experiment No. 79, Satara bhang.

Weight of cat 4 lb 13½ oz. Dose .32 grain at 11-45 A.M. Effect practically nil.

Experiment No. 80, Amballa charas, mashak, No. 2.

Female cat, weight 5 lb 15½ oz. Dose .46 grain at 2-30 P.M. Effect nil.

Experiment No. 81, Amritsar charas, bhara.

Female cat, weight 4 lb 11½ oz. Dose .36 grain at 2-30 P.M. 4 P.M., very marked rocking of the body and swaying from side to side on standing; walks very fairly well. 4-30 P.M., still much under the influence of the drug; walk slightly affected.

Experiment No. 82, Delhi District charas, dust (2nd class).

Female cat, weight 2 lb 3½ oz. Dose .17 grain at 2-35 P.M. 4 P.M., displays rocking and swaying of the body; on walking tends to fall upon its side; 4-30 P.M., walks with difficulty.

Experiment No. 83, Delhi District charas, dust.

Male cat, weight 5 lb 10 oz. Dose .43 grain at 11-45 A.M. Effect nil.

Experiment No. 84, Bombay charas.

Female cat, weight 5 lb 15½ oz. Dose .46 grain at 11-50 A.M. Effect nil.

Experiment No. 85, Gwalior charas.

Male cat, weight 5 lb. $\frac{1}{2}$ oz. Dose '39 grain at 11-55 A.M. Effect nil.

Experiment No. 86, Kumaon charas (wild).

Female cat, weight 3 lb 6 $\frac{1}{4}$ oz. Dose '26 grain at 12-15 P.M. Effect nil.

Experiment No. 87, Kumaon charas (cultivated).

Female cat, weight 3 lb 1 $\frac{1}{2}$ oz. Dose '23 grain at 12-25 P.M. Effect nil.

Experiment No. 88, Nepal charas, A.

Female cat, weight 3 lb 10 $\frac{1}{4}$ oz. Dose '28 grain at 12-30 P.M. Effect nil.

Experiment No. 89, Nepal charas, B.

Male cat, weight 4 lb 8 $\frac{1}{2}$ oz. Dose '35 grain at 12-55 P.M. Effect nil.

Experiment No. 90, Nepal charas, Shahjehani.

Female cat, weight 4 lb 12 $\frac{1}{2}$ oz. Dose '37 grain at 1 P.M. Effect nil.

(e) Four experiments in which the dose was increased to $\frac{1}{50,000}$ of the body weight.

Experiment No. 91, Khandesh bhang.

Weight of cat 3 lb. 1 oz. Dose '26 grain at 1-15 P.M. 1-40 P.M., nil. 3 P.M., asleep with its nose on the ground; on being disturbed displays swaying of body from side to side on standing. 3-30 P.M., asleep with its head on the ground; is, however, easily disturbed. 4 P.M., asleep; when disturbed and induced to walk its gait is tottering and unsteady.

Experiment No. 92, Sholapur bhang.

Weight of cat 3 lb 4 $\frac{1}{2}$ oz. Dose '28 grain at 12-40 P.M. Effect nil.

Experiment No. 93, Satara bhang.

Weight of cat 6 lb 5 $\frac{1}{4}$ oz. Dose '55 grain at 1 P.M. Effect nil.

Experiment No. 94, Kumaon charas (cultivated).

Female cat, weight 3 lb 8 $\frac{1}{2}$ oz. Dose '31 grain at 12 noon. Effect nil.

(f) The following experiments were conducted with a dose equivalent to $\frac{1}{70,000}$ of the body weight.

Experiment No. 95, Ghazipur ulfit ganja.

Male cat, weight 5 lb 14 oz. Dose '58 grain at 11-13 A.M. 2-30 P.M., animal distinctly affected, pupils somewhat dilated, rocking of body on sitting up; walks slowly and with apparent difficulty, but without staggering; on standing body sways from side to side. 3 P.M., effect persists. 4 P.M., animal almost recovered.

Experiment No. 96, Sholapur bhang.

Weight of cat 6 lb 3 $\frac{1}{4}$ oz. Dose '62 grain at 11 A.M. 12-30 P.M., nil. 1-45 P.M., slight rocking movements. 2-30 P.M., slight rocking movements of body. Effect not sufficiently marked.

Experiment No. 97, Bhagalpur bhang.

Female cat, weight 6 lb. Dose '6 grain at 11-30 A.M. Effect nil.

Experiment No. 98, Rajshahi bhang.

Female cat, weight 4 lb 14 oz. Dose '48 grain at 11-5 $\frac{1}{2}$ A.M. Effect nil.

Experiment No. 99, Assam bhang.

Male cat, weight 3 lb 5 $\frac{1}{2}$ oz. Dose '33 grain at 11-40 A.M. Effect nil.

Experiment No. 100, Satara bhang.

Weight of cat 3 lb 5 $\frac{1}{4}$ oz. Dose '33 grain at 11-35 A.M. Effect nil.

Experiment No. 101, Amballa charas, mashak, No. 2.

Female cat, weight 3 lb 2 oz. Dose '31 grain at 12-5 P.M. Effect nil.

Experiment No. 102, Delhi District charas, dust.

Female cat, weight 3 lb 8 $\frac{1}{2}$ oz. Dose '35 grain at 12-10 P.M. Effect nil.

Experiment No. 103, Bombay charas.

Male cat, weight 4 lb 8 oz. Dose '45 grain at 12-45 P.M. Effect nil.

Experiment No. 104, Gwalior charas.

Male cat, weight 5 lb 2 oz. Dose '51 grain at 12-50 P.M. Effect nil.

Experiment No. 105, Kumaon charas (wild).

Female cat, weight 3 lb 11 oz. Dose '37 grain at 1 P.M. Effect nil.

Experiment No. 106, Nepal charas, A.

Male cat, weight 5 lb 8 $\frac{1}{4}$ oz. Dose '52 grain at 12-10 P.M. Effect nil.

Experiment No. 107, Nepal charas, B.

Female cat, weight 5 lb 15 $\frac{1}{4}$ oz. Dose '6 grain at 12-20 P.M. Effect nil.

Experiment No. 108, Nepal charas, Shahjehani.

Male cat, weight 5 lb 7 $\frac{1}{2}$ oz. Dose '54 grain at 12-45 P.M. Effect nil.

(g) Six experiments with a dose equivalent to $\frac{1}{50,000}$ part of the body weight —

Experiment No. 109, Sholapur bhang.

Weight of cat 3 lb 13 $\frac{1}{4}$ oz. Dose '44 grain at 11-15 A.M. 12-30 P.M., sleepy, and on being disturbed and made to stand, manifests swaying of the body from side to side. 1-15 P.M., asleep with its face resting on the ground; when disturbed walks well, but cannot maintain a steady equilibrium on standing; the weakness is more marked in the hind limbs, the fore limbs appearing to be steady; the body sways from side to side on the hind supports rather than on the fore. 2-30 P.M., still under influence of drug, but can walk well.

Experiment No. 110, Rajshahi bhang.

Male cat, weight 3 lb 9 $\frac{1}{4}$ oz. Dose '4 grain at 1-15 P.M. Effect nil.

Experiment No. 111, Assam bhang.

Female cat, weight 2 lb 5 $\frac{1}{4}$ oz. Dose '27 grain at 1-20 P.M. Effect nil.

Experiment No. 112, Satara bhang.

Weight of cat 4 lb 3 $\frac{1}{2}$ oz. Dose '49 grain at 11-55 A.M. Effect nil.

Experiment No. 113, Amballa charas, mashak, No. 2.

Female cat, weight 3 lb 0 $\frac{1}{4}$ oz. Dose '35 grain at 1-35 P.M. Effect nil.

Experiment No. 114, Kumaon charas (cultivated).

Female cat, weight 3 lb 10 oz. Dose '42 grain at 12-10 P.M. Effect nil.

(h) Thirteen experiments with a dose equivalent to $\frac{1}{50,000}$ part of the body weight —

Experiment No. 115, Bhagalpur bhang.

Female cat, weight 3 lb 3 $\frac{1}{4}$ oz. Dose '45 grain at 12-55 P.M. Effect nil.

Experiment No. 116, Rajshahi bhang.

Male cat, weight 4 lb 9 $\frac{1}{4}$ oz. Dose '65 grain at 12-20 P.M. Effect nil.

Experiment No. 117, Assam bhang.

Male cat, weight 5 lb 2 oz. Dose '71 grain at 1-25 P.M. Effect nil.

Experiment No. 118, Satara bhang.

Weight of the cat, 4 lb 2 $\frac{1}{4}$ oz. Dose '58 grain at 11-50 A.M. Effect nil.

Experiment No. 119, Amballa charas, mashak, No. 2.

Female cat, weight 6 lb 2 $\frac{1}{4}$ oz. Dose '86 grain at 1-39 P.M. Effect nil.

Experiment No. 120, Delhi District charas, dust.

Female cat, weight 4 lb 10 oz. Dose '64 grain at 1-40 P.M. Effect nil.

Experiment No. 121, Bombay charas.

Male cat, weight 4 lb 7 $\frac{1}{2}$ oz. Dose '62 grain at 1-45 P.M. Effect nil.

Experiment No. 122, Gwalior charas.

Male cat, weight 5 lb 14 oz. Dose .82 grain at 1-33 P.M. Effect nil.

Experiment No. 123, Kumaon charas (wild).

Female cat, weight 4 lb 13½ oz. Dose .67 grain at 1-55 P.M. Effect nil.

Experiment No. 124, Kumaon charas (cultivated).

Male cat, weight 3 lb 10½ oz. Dose .51 grain at 12-15 P.M. Effect nil.

Experiment No. 125, Nepal charas, A.

Male cat, weight 5 lb 7 oz. Dose .76 grain at 11-30 A.M. Effect nil.

Experiment No. 126, Nepal charas, B.

Male cat, weight 3 lb 8 oz. Dose .49 grain at 12 noon. Effect nil.

Experiment No. 127, Nepal charas, Shahjahani.

Male cat, weight 4 lb 8½ oz. Dose .63 grain at 12-5 P.M. Effect nil.

(i) One experiment with a dose equivalent to $\frac{1}{40,000}$ part of the body weight.

Experiment No. 128, Satara bhang.

Weight of the cat, 4 lb 11½ oz. Dose .82 grain at 12-5 P.M. Effect very slight.

(j) One experiment with a dose equivalent to $\frac{1}{30,000}$ part of the body weight.

Experiment No. 129, Satara bhang.

Weight 3 lb 1½ oz. Dose .72 grain at 12-15 P.M. 2 P.M., dull and torpid; walks slowly and with apparent effort. Effect soon passed off and was not sufficient.

(k) Twelve experiments with a dose equivalent to $\frac{1}{20,000}$ part of the body weight.

Experiment No. 130, Bhagalpur bhang.

Female cat, weight 5 lb 12 oz. Dose 2 grains at 12-10 P.M. Effect nil.

Experiment No. 131, Rajshahi bhang.

Female cat, weight 3 lb 7½ oz. Dose 1-2 grains at 12-45 P.M. 1-20 P.M., asleep with nose on the ground; when disturbed displays marked rocking and swaying of the body. 3 P.M., asleep and on being aroused shows evidence of effect of the drug in the swaying and rocking of the body; it walks also with some little difficulty. 4 P.M., still under the influence of the drug.

Experiment No. 132, Assam bhang.

Male cat, weight 4 lb 10 oz. Dose 1-6 grains at 1 P.M. Effect nil.

Experiment No. 133, Satara bhang.

Weight of cat 3 lb 12½ oz. Dose 1-33 grains at 12-50 P.M. 2 P.M., tremor of body; on standing up sways from side to side; gait somewhat unsteady. 3 P.M., staggering, unsteady gait; tends to fall on turning round. 4 P.M., still under the influence of the drug; can walk steadily and well, but on standing, if undisturbed, rocks from side to side in the manner so often described.

Experiment No. 134, Amballa charas, maskak, No. 2.

Female cat, weight 4 lb 8 oz. Dose 1-5 grains at 1-10 P.M. Effect nil.

Experiment No. 135, Delhi district charas, dust.

Female cat, weight 3 lb 4½ oz. Dose 1-1 grains at 1-30 P.M. Slight effect produced.

Experiment No. 136, Bombay charas.

Female cat, weight 3 lb 3½ oz. Dose 1-13 grains at 1-10 P.M. 2-30 P.M., rocking and swaying of body. 3 P.M., asleep with its nose on the ground; on being disturbed displays rocking and swaying of the body from side to side with the characteristic gait. Soon went to sleep when allowed 4 P.M., still under the influence of the drug.

Experiment No. 137, Gwalior charas.

Female cat, weight 3 lb 7½ oz. Dose 1-2 grains at 1-10 P.M. Effect nil.

Experiment No. 138, Kumaon charas (cultivated).

Female cat, weight 4 lb 8 oz. Dose 1-57 grains at 1-40 P.M. Effect nil.

Experiment No. 139, Nepal charas, A.

Male cat, weight 5 lb 7 oz. Dose 1-9 grains at 11-55 A.M. Effect nil.

Experiment No. 140, Nepal charas, B.

Male cat, weight 3 lb 8 oz. Dose 1-22 grains at 12 noon. Effect nil.

Experiment No. 141, Nepal charas, Shahjahani.

Male cat, weight 4 lb 8½ oz. Dose 1-58 grains at 1 P.M. Effect nil.

(l) Ten experiments with a dose equivalent to $\frac{1}{10,000}$ part of the body weight.

Experiment No. 142, Bhagalpur bhang.

Female cat, weight 5 lb 12 oz. Dose 4 grains at 11-50 A.M. Effect nil.

Experiment No. 143, Assam bhang.

Male cat, weight 4 lb 10 oz. Dose 3-23 grains at 1-30 P.M. Effect nil.

Experiment No. 144, Amballa charas, maskak, No. 2.

Male cat, weight 5 lb 5½ oz. Dose 3-74 grains at 11-40 A.M. 1-10 P.M., rocking of body; on walking characteristic gait. 2 P.M., is very considerably affected; on walking tends to fall upon in side. 4 P.M., still under the influence of the drug.

Experiment No. 145, Delhi District charas, dust.

Male cat, weight 3 lb 8 oz. Dose 2-45 grains at 11-50 A.M. 2-30 P.M., asleep; when disturbed displays rocking of the body and the characteristic gait. 4 P.M., still under the influence of the drug, remaining asleep unless disturbed.

Experiment No. 146, Gwalior charas.

Male cat, weight 4 lb 8½ oz. Dose 3-17 grains at 12-30 P.M. Effect nil.

Experiment No. 147, Kumaon charas (wild).

Female cat, weight 3 lb 5 oz. Dose 2-31 grains at 12-25 P.M. 1-35 P.M., animal is sleepy; from time to time suffers from rocking of the body. 2 P.M., rocking of the body continues. 4 P.M., still slightly affected by the drug.

Experiment No. 148, Kumaon charas (cultivated).

Male cat, weight 4 lb 9½ oz. Dose 3-21 grains at 1-5 P.M. Effect nil.

Experiment No. 149, Nepal charas, A.

Female cat, weight 3 lb 3 oz. Dose 2-33 grains at 1-10 P.M. Effect nil.

Experiment No. 150, Nepal charas, B.

Female cat, weight 4 lb 9½ oz. Dose 3-21 grains at 1-35 P.M. Effect nil.

Experiment No. 151, Nepal charas, Shahjahani.

Female cat, weight 2 lb 15 oz. Dose 2-05 grains at 1-55 P.M. Very slight effect indeed produced.

(m) Seven experiments with a dose equivalent to $\frac{1}{5,000}$ part of the body weight.

Experiment No. 152, Bhagalpur bhang.

Female cat, weight 3 lb 2½ oz. Dose 4-4 grains at 12-45 P.M. 2-40 P.M., rocking of body and some tendency to sleep; walks well. 4 P.M., still displays effect of drug.

Experiment No. 153, Assam bhang.

Male cat, weight 3 lb 5 oz. Dose 4-63 grains at 1-20 P.M. 2-30 P.M., great difficulty in walking; staggering, unsteady gait; marked rocking of body. 3 P.M., asleep with its nose on the ground. 4 P.M., torpid and very definitely under the influence of the drug; characteristic gait.

Experiment No. 154, Gwalior charas.

Male cat, weight 4 lb 2½ oz.; Dose 5.81 grains at 1.40 p.m. 2.15 p.m., reeking of body and staggering, unsteady gait. 3 p.m., very definite symptoms displayed. 4 p.m., still under the influence of the drug.

Experiment No. 155, Kumaon charas (cultivated).

Male cat, weight 4 lb 7½ oz. Dose 6.25 grains at 2.15 p.m. 3 p.m., no apparent effect. 4 p.m., animal is excited and constantly on the move; no tendency to sleep; on running or walking it frequently falls on its side especially on turning round.

Experiment No. 156, Nepal charas, A.

Female cat, weight 3 lb 6 oz. Dose 4.72 grains at 2.20 p.m. Effect nil.

Experiment No. 157, Nepal charas, E.

Female cat, weight 4 lb 6½ oz. Dose 6.16 grains at 2.40 p.m. Effect nil.

Experiment No. 158, Nepal charas, Shahjahani.

Male cat, weight 5 lb 2½ oz. Dose 7.21 grains at 12 noon. Effect nil.

(n) Three experiments with a dose equivalent to $\frac{1}{2,500}$ part of the body weight.

Experiment No. 159, Nepal charas, A.

Female cat, weight 3 lb 2 oz. Dose 8.75 grains at 12.45 p.m. Effect nil.

Experiment No. 160, Nepal charas, B.

Male cat, weight 3 lb 3¼ oz. Dose 8.96 grains at 1.35 p.m. Effect nil.

Experiment No. 161, Nepal charas, Shahjahani.

Male cat, weight 4 lb 4½ oz. Dose 10.76 grains at 1.30 p.m. Effect nil.

CONCLUDING REMARKS.

The method of testing samples of hemp drugs by ascertaining their physiological value may be regarded as much more satisfactory in the case of ganja and bhang than in the case of charas. For it is submitted that ganja and bhang do not lend themselves so readily to successful adulteration as charas. Consequently, while the results of the physiological tests may be assumed to have a definite comparative value in the case of the various samples of ganja and bhang, no such reliable result can be claimed from the experiments with the samples of charas.

There are three samples of charas of which the physiological value has not been determined, i.e., the three samples of Nepal charas. For when a dose of more than ten grains administered to a cat weighing less than 4½ lb produced no effects, it did not appear worth while to pursue the investigation further. Whether, however, these three samples are without physiological value due to successful adulteration, or to the absence of active principle in the ganja from which they were prepared, I am not in a position to say. To a varying degree the same remark applies to all those samples of charas in which the physiological value of the extract is much below that of the extract of the standard ganja. Alcohol is able to extract all the active principles present in any sample of hemp drugs. It will be seen on reference to table No. 1 that the quantity of the alcoholic extract varies greatly, and that it bears no relation to the physiological activity of the sample. As already stated this may be due in the case of charas to successful adulteration, but this is by no means to the same extent true in the case of ganja and bhang.

In order, therefore, to obtain a true conception of the comparative value of any number of samples of ganja and bhang, they should be grouped; not according to the quantity of the alcoholic extract, nor yet according to the dose required to produce minimal effects, but according to the quantity of their alcoholic extracts which may be regarded as physiologically active. This has been roughly calculated and the results are given in table No. III. The samples of bhang yield a smaller percentage quantity of alcoholic extract than the samples of ganja. Their alcoholic extract is, in the majority of instances, much less active physiologically than the extracts of the samples of ganja. A point of considerable importance appears to be the great difference in physiological activity presented by the different samples of bhang. The doses of the bhang extracts range from $\frac{1}{5,000}$ to $\frac{1}{100,000}$ part of the body weight, a very much wider range than is presented by the ganja extracts.

The bhang obtained from cultivated plants is at least four times as active as that obtained from wild plants.

The Assam bhang from wild plants possesses equal activity with the sample of Bhagalpur bhang obtained from the Board of Revenue and utilised as a standard.

I would suggest that the other samples of bhang examined, i.e., Khandesh, Amballa, Sholapur, and Satara bhang were obtained either from cultivated plants or contained an accidental admixture of ganja. This would serve to account for their possessing greater physiological activity than the standard bhang.

In conclusion, I have nothing to add to the foregoing remarks except that the experiments recorded, together with the necessary observations, occupied the greater part of each day during two months, apart altogether from the preparation of the alcoholic extracts half of which were prepared by Babu Ram Chandra Datta, 1st Assistant to the Chemical Examiner to Government.

I have the honour to acknowledge the receipt of a copy of Mr. Hooper's report giving the results of his chemical analysis.

I have, &c.,

J. F. EVANS, M.B., Surgeon-Captain,
Chemical Examiner to Government of Bengal.

REPORT BY DR. GEORGE WATT, M.B., C.M., C.I.E., &c., REPORTER ON ECONOMIC PRODUCTS TO THE GOVERNMENT OF INDIA.

In reply to your letter No. 1242, dated 23rd April, and your unofficial reminder to hand, I have the honour to say that I had not intended to contribute anything towards the present enquiry into the subject of Indian hemp, because I have little to add that would likely be of any great value further than what is contained in my previous publications on that subject. Indeed, what I might be induced to say as to the botany of *Cannabis sativa* might fairly well be characterised as pure speculation, since I have had no opportunity of personally confirming the impressions obtained from casual observation. Since, however, it seems to be the wish of the Government that I should offer some remarks, I may point out that while the forms of the plant met with in India are botanically only states of *Cannabis sativa*, I believe that, as with all other cultivated plants, there are recognisable races of that species. It would indeed be contrary to experience in other fields of study were it otherwise. The external differences between these forms are however very slight and such as the botanist is by universal usage permitted to disregard. In the herbarium they are indeed hardly distinguishable, though, from the cultivator's point of view, these slight differences may be indicative of widely dissimilar properties. Few botanists would venture to isolate *aus*, *aman*, *boro*, and *rowa* races of *Oryza sativa*; yet the rice cultivator of Bengal would have no difficulty in distinguishing these and many others; nor in fixing the period at which each should be sown and the nature of the soil on which its cultivation would be most successful. This, in my opinion, is an exactly parallel case, and I might mention many such to the wonderful problem of the production of so widely different products as bhang, ganja, charas, and hemp fibre from botanically one and the same plant. Some of the racial characteristics that exist may be mainly due to climate and soil; but it should not be forgotten that there are generally very potent influences in the production of races of cultivated plants. It would accordingly be most unwise to set on one side the possibility of differences, on the ground of these being mainly, or even exclusively, due to climatic and other such influences.

I hold, therefore, that the study of the living plants on the part of a botanist might very possibly result in the isolation of the fibre-yielding plant of *Cannabis sativa* as possessing certain structural peculiarities more or less constantly associated with that physiological property, just as I believe that a similar isolation might be possible in the bhang, ganja, and charas-yielding states of the plant.

2. The practical bearings of this purely botanical contention might be very extensive and valuable. So far as I am aware, no botanist has as yet explained the formation of the narcotic in certain forms of *Cannabis*, and not (or practically not) in others. We may, in fact, be said to be ignorant of the precise use of that substance in the economy of the plant. Its discharge from the stems, leaves, flowers, and fruits seems to a large extent mechanical and to be dependent on some external disturbance, more especially an interruption to the sexual functions of the individual. It may indeed be said to be uncertain whether the formation of the narcotic should be regarded as an excretory substance normally deposited within receptacles, or be viewed, in its early stage at least, as a substance intimately connected with the metabolism of the plant, but which becomes a useless bye-product of life under certain conditions. But of course such excreta are only useless to plant life, in so far that they are not concerned in the further nutritive processes which accompany growth. This is important in its bearing on the probable chemical history of the narcotic. The solid and liquid contents of the laticiferous vessels, for example, of the poppy or of the India rubber plant are very different from the deposits found within glands. The former bear a distinct analogy to the blood in the veins of animals, while the latter might not inaptly be characterised as refuse matter. The contents of the laticiferous vessels may, however, be said to be of two chief kinds—(a) those which are constantly being used up in the growth of tissues, such as the proteids, carbo-hydrates, fats, and ferments; and (b) the secretions and excretions ultimately thrown down within these vessels or their vesicular modifications, such as the resins, gums, alkaloids, etc. Through the action of ferments many of the latter subsequently become available for the future growth of the plant, so that they are more properly stores of food than excreta. But the purely excretory matter stored up by plants in their variously formed receptacles may be here mentioned, such as granules of calcium oxalate; resins and ethereal oils combined usually into balsam, mucus, various kinds of gums; and lastly tannins (some tannins are, however, reserve-materials). These and such like are the excretory deposits, and they are made normally within individual cells dispersed through the tissue or into cells arranged in rows forming vesicles between the vascular bundles. Sometimes also the receptacles of secretion are intercellular spaces of various shapes and sizes filled by the discharges from the abutting cells. A well-marked modification of this might be mentioned in the resin and gum passages which are formed by the separation of

rows of cells, thus producing intercellular chambers of considerable length. A point of importance that may be here specially mentioned is the fact that excretory deposits of the nature here discussed are made from the very earliest period of individual life; in other words, anterior to the formation of even vascular tissue and consequently long before the stage at which flowers and fruits are formed.

But there are farther purely epidermal receptacles of secretion quite distinct from those discussed above. To this class belongs, according to the commonly accepted views, the deposits of the narcotic in the hemp plant. Epidermal receptacles are generally designated as glands, but in the vast majority of cases these contain only ethereal oils with resins dissolved in them. And there are two classes of glands—those located just below the epidermis and those above it; the latter are mostly hairs or stings. The viscid condition of the surface of many leaves is due to epidermal glands, and in some cases the fluid contents of such glands possess a characteristic odour peculiar to the species. The formation of glands and the nature of their contents are essentially different from the corresponding features detailed above regarding the laticiferous system and its excretory deposits, and this distinction is of vital importance. Glands originate from a single mother-cell which undergoes division until a rounded mass of tissue is produced, the cells of which are smaller than those of the closely-fitting surrounding tissue, and they contain a peculiar form of protoplasm. Later on the central cells of this special structure become absorbed, thus forming a cavity which contains the solution of the cells and their contents, the secretory product of glands. It is thus doubtful how far the contents of glands can be called excretory deposits. They are more frequently specific secretions formed for a definite purpose in the life history of the plant. Such, while discussing the glands of the hop, "says the so-called Hashish arises similarly in the long-stalked many-celled capitate hairs of the female plant of the Indian hemp." But I suspect that in the plant as met with in India there is something more than this, and that microscopical investigations are likely to reveal special developments by which the resinous narcotic has assumed the character of an excretory discharge. At all events the formation of the narcotic is not, so far as my observation goes, confined to the female plant. But I have already qualified my opinions as those based on casual observation, and I need therefore only add that the above review of the most recently published theory of the deposition, permanently or temporarily, of various chemical substances within the tissues of plants has been given with the object of showing the possibility of there existing in *Cannabis* some structural modifications by which the narcotic is deposited within the leaves of one form (the bhang-yielding plant); appears on the surface of the female flowering-tops (especially if fecundation be prevented) of another, the ganja plant; and exudes from the surface of the leaves, stems and fruits of still a third—the charas plant. And I would even venture to go further and suggest that when the chemistry of the substance is fully worked out it will be found to vary quite as greatly in these three forms of *Cannabis sativa* as does the inspissated laticiferous fluid (opium) of the various cultivated races of *Papaver somniferum*. Such variation might account for the reputed different properties of bhang, ganja and charas. In concluding this section of my remarks, therefore, I would only add, by way of recapitulation, that if the narcotic of Indian hemp (as currently believed) be purely and simply a glandular secretion, it differs as widely from opium botanically as it does chemically. It must in that case be a substance unconnected with the metabolism of the growing plant, and its reputed formation in association with imperfect fecundity might be characterised as very possibly a pure hallucination of ignorant cultivators.

3. Accepting the main contention here advanced that, as in the case of all other Indian crops, so with *Cannabis sativa*, there are cultivated races, we obtain at once a solution of the remarkable fact of one and the same plant botanically yielding in one part of India one product, in another a widely different article. We are enabled also to understand why it should alike luxuriate on the tropical plains and on the Alpine slopes. But this view of the case urges, as of primary importance, that early attention be given to the systematic study of the various forms, so that we may be saved from the error of arousing false expectations or of doing injury to one cultivator because, perchance, of the pernicious nature of the product of another's labours. When Dr. Stocks wrote in 1848 that "the plant grows well in Sind, and if it ever should be found advantageous (politically or financially) to grow hemp for its fibre, then Sind would be a very proper climate," he was reasoning very possibly from insufficient data. Because *Cannabis sativa* (in one of its charas-yielding states), flourishes in Sind, it by no means follows that accordingly the fibre-yielding plant may be substituted. On the contrary, we now know that by far the major portion of the narcotic-yielding races of the plant form no marketable fibre in their stems, and further that it is but rarely the case that both series of races (narcotic and fibre) can be grown in the same locality. So far as works published in Europe are concerned, it may in all fairness be said that the error has been very frequently made of regarding the Garhwal and Kumaon regions of fibre production as the total areas of Indian hemp cultivation in this country (e.g., *Cyclopaedia of India* and the *Encyclopaedia Britannica*), or on the other hand of mistaking the extensive areas of narcotic production as possible regions of the supply of a fibre which is sometimes spoken of as at present being allowed to run to waste. Errors of this nature would, as I take it, be quite as serious, if not more so, than the omission to demarcate the tracts of country over which each

peculiar form of the narcotic-yielding plant is found. Without therefore entering on the subject of the deleterious nature or otherwise of the drug, I may safely say that, in my opinion, it would be undesirable to impose restrictions of equal severity on tracts of country where fibre is produced or where bhang only can be grown, as on regions of ganja or charas production. It would be quite as justifiable to prosecute occupants of houses where the wild plant occurred within a fixed radius. Legislature might rather proceed on the lines of the scientific limitations of the forms of the plants possible of cultivation and the character of the narcotic produced.

4. Before concluding I may add that, in spite of all that has been written to the contrary, I still believe that India may one day come forward as a valued country in the production of hemp fibre. With the gradual extension of railway communications the valleys of the Himalaya will sooner or later be tapped, when hemp production may then be expected to assume considerable importance. But there are very possibly tracts of the central tableland of India similar to the Godavery district (where hemp fibre is a regular article of trade) which could easily grow the fibre-yielding forms of the plant and thus give to India a new source of wealth. It is therefore, in my opinion, a matter of considerable moment that this feature of *Cannabis sativa* cultivation should not be lost sight of amid the conflicting mass of opinion likely to be recorded regarding the hemp narcotics.

*Note added by Secretary, Revenue and Agricultural Department.

An illustration of Dr. Watt's argument may be suggested by the case of the flax plant *Linum usitatissimum*, which supplies fibre in Ireland and Europe and only oil-seeds in India. Attempts to grow flax for fibre in India have failed, and attempts to grow it for oil-seeds in Europe would probably fail also.

If for any reason flax (fibre) were condemned as an injurious article, it would be very hard to prevent the natives of India from cultivating it for oil-seeds. Or if the oil-seeds were condemned as an intoxicating food for cattle, would the growing of flax for textile purposes be forbidden in Europe?

Letter from BRIGADE-SURGEON-LIEUTENANT-COLONEL GEORGE KING, M.B., LL.D., F.R.S., C.I.E., Superintendent, Royal Botanic Garden, dated 18th June 1894, to the Secretary, Indian Hemp Drugs Commission.

I have the honor to acknowledge the receipt of your letter No. 455 forwarding, for the expression of my opinion on some of the matters touched on therein, a copy of a letter addressed to you by Dr. G. Watt, No. 422, dated 31st ultimo.

2. In the first paragraph of his letter Dr. Watt reminds the Commission that, as in the case of other cultivated plants, so in that of *Cannabis sativa*, there are races. The most notable of these races in *Cannabis* of course are the fibre-yielding race, found in Europe and in temperate parts of the Himalayas; and the narcotic-yielding race, found in the plains of India and other tropical parts of Asia. In addition to these well-marked races, I understand Dr. Watt to say that he believes that, by a prolonged and careful study of living plants of *Cannabis*, intermediate races might become recognisable.

3. In the second paragraph of his letter Dr. Watt expounds the methods and objects of the formation, within the tissues of living plants, of the substances which may be classified as (a) *reserve materials*, i.e., matters prepared by plants with the object of being consumed in the processes of growth. (Of this kind of product starch may be taken as a familiar example.) (b) *Excretions*, i.e., substances built up by the plant as bye-products, and containing matters which are really as much rejections from the food-stuffs of plants as are the matters rejected by animals at the conclusion of the process of digestion. These excreta of plants are not however actually voided, as is the case in animals; but are deposited in glands in various parts of the tissues. Familiar examples of these are gums, resins, and many of the vegetable alkaloids. Dr. Watt's own opinion as to whether the narcotic matter of *Cannabis sativa* is of the nature of a reserve-material, or an excretion, is contained in the last two sentences of the second paragraph of his letter. I may observe that, in the first chapter of his report on ganja, Dr. Frain gives his opinion in favour of its being of the nature of a reserve-material.

4. The third paragraph of Dr. Watt's letter is occupied with the consideration of the possibility of growing hemp for its fibre profitably in India, and presumably for export; while, in his fourth and final paragraph, Dr. Watt expresses his belief that "India may one day come forward as a valued country in the production of hemp fibre." The Commission are of course aware that, early in the century, the Hon'ble East India Company made an effort to grow hemp fibre profitably in this country in the way that still appears to afford the greatest probability of success, viz., by sowing seeds of the European fibre-yielding race. The company's experiments, which extended over several years, were ultimately abandoned, the evidence of the hopelessness of the scheme having been accepted as conclusive. Equally unsuccessful were later experiments made with the view of obtaining a useful fibre from the narcotic-yielding race ordinarily cultivated in India. Dr. Watt's present hope appears to be founded on the alleged existence of a tract of country on the Godavery "where hemp

fibre is a regular article of trade," and on his expectation that there may "possibly" be "tracts of the central tableland of India similar to the Godavery district which could easily grow the fibre-yielding forms of the plant." As regards the growth of hemp fibre in the Godavery district, there should be no difficulty in finding out what the real fact is, i.e., whether the "hemp" grown there is "sunn hemp," the product of a plant of the pea family named *Crotalaria juncea* or ganja hemp. If the latter, then it might be worth while to repeat, on a small scale, the Honourable Company's experiment of growing from European seed.

5. The inner valleys of the Himalayas appear to me to be so handicapped by the heavy cost of carriage of their produce to a seaport as to make it unlikely that hemp fibre grown in them could compete successfully in the London market with fibre grown on the continent of Europe. Moreover, when one considers the number of fibre-yielding plants which are known to be indigenous to India, one rather doubts the expediency of selecting for encouragement the cultivation of a species of which even the fibre-yielding race yields a narcotic so potent as charas.

6. I regret that I am unable to explain the precise meaning of Dr. Watt in the sentence alluded to by you and which ends as follows: "tracts of country where fibre is produced, or where bhang only can be grown as in regions of ganja or charas production." From the context, I gather that Dr. Watt suggests that excise regulations should be relaxed in regions where the *Cannabis* plant produces fibre, even although it may also (as it in fact does) produce charas.

MEMO. BY BRIGADE-SURGEON-LIBUTENANT-COLONEL G. KING, M.B.,
LL.D., F.R.S., C.I.E., DIRECTOR OF BOTANICAL SURVEY OF INDIA.

1. The plant familiarly known as Indian hemp (*Cannabis sativa*, L.) is really wild in no part of British India. But in all parts of India, and also in Upper Burma, plants of it may be found growing without cultivation near villages and gardens where hemp is at present, or has in former times been cultivated. In botanical phraseology, hemp is found in India, not as an indigenous plant, but as an escape from cultivation.

2. By physical conditions, I understand soil and climate. As regards soil, the drug-yielding variety is (as I am informed by Dr. Prain) grown on a large scale, and as a regular crop, only in Rajshahye, in some parts of the tributary mchals of Orissa, and in some parts of Central India. The soils of the tracts where it is so grown have not, so far as I am aware, been analysed chemically; physically they are known to be friable and well drained. Soil, however, does not appear to be a matter of much importance in the growth of the resin-yielding hemp. For, with careful cultivation, it can, I understand, be grown as a garden crop in any part of India. At elevations below 2,000 feet, the difficulty of cultivation is very slight; from 2,000 to probably 9,000 feet there is no difficulty whatever. At higher elevations than the latter it does not appear to be much grown. As regards climate there is little to be said beyond that a period of continuous dry weather, extending over three or four months of the year, is essential, and that temperatures like those prevailing in the middle zone of elevation in the North-Western Himalaya appear to be the most favourable for the development of the drug.

REPORTS BY MR. B. C. BASU, ASSISTANT TO THE DIRECTOR OF THE DEPARTMENT OF LAND RECORDS AND AGRICULTURE, BENGAL, ON THE SPONTANEOUS GROWTH OF THE WILD HEMP PLANT IN THE DISTRICTS OF BHAGALPUR AND PURNEA.

With reference to your letter No. 938, dated 29th ultimo, I have the honour, in the name of Mr. W. C. Macpherson, Officiating Director of Land Records and Agriculture, to submit the following report on the spontaneous growth of the wild hemp plant in districts of Bhagalpur and Purnea. The statements contained in this report are based on personal observations and enquiries conducted in different parts of these districts. For this purpose I visited a large number of villages in Purnea and north Bhagalpur. I was assisted by the Excise Deputy Collector of Bhagalpur and other gentlemen whom I had the opportunity of consulting on the subject that the bhang plant grows rarely on the hard reddish soil of the South Gangetic division of the Bhagalpur district, and for this reason, and also on account of the extremely short time within which I was required to submit my report, I was obliged to leave this tract of country out of the scope of my enquiries.

2. The prevailing soil of north Bhagalpur and of Purnea is of a more or less sandy character and of a light grey colour; loamy soils are occasionally found in the low rice lands, and clay soils are practically unknown. The different parts of these districts suffer unequally from floods. Some tracts enjoy complete immunity from floods; some are inundated only during short periods when the rivers rise very high, and even then a considerable area of each large remains above water, while in others the villages are completely inundated by water all sides during the entire rainy season, the houses alone with little bits of elevated land joining thereto remaining above water. I tried to extend my enquiries to every typical tract of country in north Bhagalpur and Purnea, and I trust that what I have said below in regard to the spontaneous growth of the bhang plant will apply equally to the whole of these districts.

3. There appears to be some confusion about the right use of the terms "alluvial lands," "dearrah" and "chur lands." "Alluvial land" is a very general term which applies equally to lands that have been formed by the silting action of water. In fact, it includes almost the whole of Bengal proper and Bihar. By "dearrah" or "chur" (which terms are synonymous) is meant land that is still in course of formation by fresh deposits of silt from a river which usually flows over it during the rains. It is unlike land which is inundated with the spill of a river carrying with it little or no silt, and thus derives little addition or benefit from inundation. In course of time, dearrah lands may be sufficiently raised to get beyond the reach of ordinary floods; villages are settled on them, and gradually they lose their destructive character and merge into old alluvial lands.

4. The points on which the Commission have desired for information are:

- (1) The circumstances under which the hemp plant grows wild in those districts?
- (2) If it grows on land that is submerged, for how long a period is such land submerged?

5. To the second question I may reply at once that the plant will never grow in land that remains submerged under water during the rains. The floods of the Kosi come with sudden violence, so that it occasionally happens that the waters have reached the *anginas* or *adrangles* of the houses, and people have to wade through water in moving from one house to another. But this state of things ordinarily lasts for a day or two, and seldom for so long a period as seven days. The same is true of the floods of the Ganges, though they do not rise or subside with such suddenness as those of the Kosi. Bhang may grow on lands which undergo such short submersions, but I am satisfied that it will never grow on land that remains longer under water. The plant is essentially a weed of high and dry land.

6. I am not surprised that the evidence laid before the Commission was discrepant as to the question whether wild hemp grows on submerged lands or on the higher lands above the reach of floods. Very few of the villagers whom I questioned seemed to have any definite opinion on the subject, some averring that hemp seed remaining in the soil retains its vitality for an indefinite time even when submerged under water, and that it sprouts as soon as the land has become sufficiently dry after the subsidence of the flood, while others allege that the seed is bound to lose its germinating power under prolonged submersion. The following are the statements which I observed would, however, appear to lend support to what I have said above:—

First.—The class of land in which the hemp plant grows in Purnea and Bhagalpur, as will appear later on, precludes entirely the possibility of long submersion under water.

Secondly.—The plant is very often found to grow on the upper edges of deep ditches and other hollows which remain more or less full of water during the rains, but in no single instance could I discover a hemp plant growing on their bottoms and slopes which were nevertheless crowded with numerous weeds characteristic of a water-logged soil.

The fact that the bhang plant grows in the greatest profusion and with the greatest luxuriance in those villages which suffer most from floods has doubtless given rise to the impression that it grows on land that remains under water for a long time.

7. The range of the plant being confined to the higher lands of villages above the ordinary flood level, it must not be imagined that it grows on every description of such lands. In fact the conditions under which it grows appear to me to be extremely simple. As a rule, it is confined to land in the immediate vicinity of the raiyats' homesteads. Such land is usually called *dihisar* in Purnea and Bhagalpur, and is naturally the richest in the village. It receives the dropping of the raiyats' cattle, which are kept tethered on it, as well as all kinds of house refuse and sweepings. It is almost invariably cropped with mustard and tobacco crops, which never flourish except on rich soil. In those villages, however, which suffer most from floods, the extent of such land is limited, and what little there is of it is seldom cultivated, but is used as standing room for the raiyats' cattle during the rains, and is left bare during the rest of the year. It would thus appear that a rich soil is essentially necessary for the growth of the hemp plant, and such soil is never found at a distance from the village site; the plant is practically confined to the immediate neighbourhood of the raiyats' homesteads.

8. I have said that wild hemp is generally associated with tobacco and mustard. The cultivation of these crops seems to afford conditions which are eminently favourable to the growth of bhang, and which are not afforded by the cultivation of any other crops grown in those districts. In the first place, the soils on which tobacco and mustard are grown are rich in manure, while the outlying fields, which grow different kinds of *bhadai* and *rabi* crops (e.g., paddy, marua, indigo, rahar, etc., during the rains and *kurthi*, barley, grain, lentils, etc., during the cold weather), are never manured. In the second place, *dihisar* lands which bear tobacco or mustard are left without tillage till May or June, by which time the hemp plants have dried up and shed their seeds; these lands are invariably kept fallow during the rains for the benefit of the succeeding tobacco or mustard crop, and the raiyats being too busy with the cultivation and sowing of indigo, *bhadai*, paddy and other rain crops, have no time to attend to the tillage of the *dihisar* lands until May or June. The outlying fields are, however, broken up after the first shower in Magh (January-February), and the hemp plant, even if it could once find a footing on such lands, would be eradicated before it had a chance of shedding its seeds. I have also noticed that the hemp plant grows at its best in the higher parts of sloping fields. On deserted house sites, a most favourable resort of this weed, it grows more luxuriantly over the top of the mounds than on the sides, and better over the sides than at the bottom. These facts would show that the plant affects well-drained soil and cannot bear a soil which remains over-charged with water for a long time. This may also account for the absence of bhang from outlying fields from which water does not flow off so readily as from homestead lands.

9. I found bhang growing most luxuriantly in those villages which are reduced to the state of little islands during the rainy season. These villages contain large areas of waste land which afford pasture to enormous herds of buffaloes and cows during the cold and hot weather; and cattle-breeding is a regular profession with the villagers. The *dihisar* lands are used as *bathan*, or standing ground for the cattle, and thus get abundantly manured with cattle dung. The washings from these lands flow over the alleys and ditches in the village, and as there is little or no cultivation at any time of the year, every bit of bare ground, which is otherwise suited, is covered with a luxuriant mass of wild hemp as soon as the cold weather has set in.

10. The soil on which the bhang plant grows in Purnea and North Bhagalpur is invariably of a sandy character; in fact, as I have said before, there is little else but sandy soil in these districts in particular on the higher lands which form the village site. The hemp plant is known to require a loose sandy soil and a moist climate, both of which conditions are offered by the district of Purnea and the northern half of the Bhagalpur District. I cannot also help believing that the negligent character of the prevalent system of cultivation encourages the growth and spread of bhang. Thus I found that although tobacco is very largely grown in Purnea, very little care is bestowed on keeping the crop free from weeds. The young seedlings are transplanted early in Kartik, and after two or three weeks, that is, about the end of Kartik, the soil is lightly stirred up with a hoe, and bhang and all other weeds are removed. Beyond this single cleaning, few cultivators would attempt to check the fresh growth of weeds. A fresh crop of bhang comes up in a short time and overspreads the field. It is in fact said that bhang comes up anew after each weeding during the cold weather, the roots throw up fresh shoots, and there are always some seeds in the soil ready for germination at any time during the cold weather as soon as circumstances permit. In North Bengal and in parts of Central Bengal, where tobacco forms a staple crop, the raiyat would never allow a single weed to appear in his tobacco field until the crop is actually reaped, and however favourable the conditions of soil and climate may be, it is certain that the bhang plant can never obtain a footing on land so carefully cultivated.

11. I have so far dealt with the circumstances under which the wild hemp plant grows spontaneously in Purnea and Bhagalpur. It is clear that the plant is never found on land that remains long under water, that it is as a rule found on homestead lands, such as are either cropped with mustard and tobacco, or are used as *bathan* for cattle.

12. There can be no doubt that Government is now foregoing what may prove to be an important source of excise revenue owing to the free use of bhang in those districts where the hemp plant grows in a state of nature, and, what is more serious is that no attempt is made to check the use of this noxious drug. The working man often stands in need of ganja, but bhang is the beverage of the comparatively well-to-do and lazy classes, and it is only reasonable that they should be called on to pay their share of taxation instead of altogether escaping from it, as is the case at present in many of the districts of North Behar. I have considered the possibility of exterminating the wild bhang plant, and if this can be done, as I believe it can, bhang may be grown under the same restrictions as ganja is at present cultivated in Rajshahi. I have said that the plant grows very seldom at a distance from the raiyats' houses, so that if the responsibility for eradicating the plant is thrown upon the immediate occupier of lands, I have little doubt that the weed can be exterminated in the course of a few years. If the plant grow like many other weeds in all circumstances of soil and situations, its extermination would be a work of great difficulty; but, confined as it is to lands immediately adjoining the raiyats' homesteads, its eradication need not entail undue hardship on the cultivators. The plant comes up in November and occupies the soil till May, and although each weeding causes fresh plants to come up, yet two or three weedings given in succession cannot fail to free the land for the year from this noxious weed. The point to be insisted upon is that the plants should never be allowed to flower and seed. The seeds of the plant are easily carried from place to place; they are easily transported by wind and water, and cattle and goats, which occasionally browse on bhang, may drop seeds with their excrements in fields that may be previously free from the pest. The total extermination of the plant may therefore require several years of determined and continued effort. Efforts have been made from time to time to exterminate wild hemp in several police circles through the agency of village chowkidars, but they were of an extremely desultory character and consequently failed to produce the desired effect. In case it be decided to have the plant exterminated, I may suggest that an experiment may be made in a small isolated tract of country for two or three years in order to see if the plant can be wholly destroyed by a continued course of eradication.

In continuation of my letter No. 1258-A., dated the 18th instant, I have the honour to submit, for the information of the Commission, the following facts which came to my notice in the course of my enquiries with regard to the spontaneous growth of the wild hemp plant in Purnea and North Bhagalpur.

2. I could find no evidence of the hemp plant being actually cultivated in any part of Purnea and Bhagalpur: everywhere it came up as a weed. In some places, however, where the plant did not grow in abundance and would, therefore, seem to be an object of considerable value to bhang drinkers, I observed signs of its having been looked after with some degree of care. As a rule, the people of these districts could not distinguish between male and female plants, the leaves of both being used as bhang, but one man pointed out to me a plant which was a female and said that this class of plants produced the best drug. It is not uncommon to see a few selected plants, mostly females, left on the ground; these acquire a nice bushy appearance, not unlike that of the ganja-bearing plant. All this made me suspect that the people knew a great deal more about the bhang plant than they were willing to avow.

3. I was told by several persons, among them a European gentleman who has long resided in North Bhagalpur, that bhang is often used to adulterate ganja. I am unable to vouch for the accuracy of the statement, but if it be true it will furnish a strong argument in favour of the extermination of the hemp plant from those districts in which it grows spontaneously at present.

4. Besides yielding the intoxicant drug the wild hemp plant is used in Purnea and North Bhagalpur as fuel, and occasionally, though seldom, the green plants are twisted in the absence of other materials at hand into a rough sort of rope for binding bundles of wheat and barley and carrying them from the field to the threshing-floor.

NOTE BY MR. B. ROBERTSON, DEPUTY COMMISSIONER, NIMAR, ON CULTIVATION AND PREPARATION OF GANJA IN NIMAR.

Ganja is grown in 60 or 70 villages in Nimar. The cultivation is confined to the western half of the Khandwa Tahsil. The rainfall at Khandwa may be taken as an average for this tract. During the last 25 years this average has been 32.76.

Soil.

2. The soils in which ganja is grown are known locally as—

"Pandhar"—land near the village abadi, which is largely mixed with ashes and sweepings from the village (see Nimar Settlement Report, paragraph 307).

"Mand"—a light yellow alluvium previous to moisture (see for description, Nimar Settlement Report, paragraphs 13 and 306).

"Kali"—black soil.

The first two are the best. In very wet seasons, the third kind retains too much moisture near the surface.

3. Seed is raised in the villages of Karki, Punjhria, and Chhirbel in this district. But the best seed comes from Dhakalgaon in Holkar's territory. The latter gives a stouter and more branching plant than the local seed. Both seeds are used all over the ganja-growing tract, but Dhakalgaon ganja is more specially produced towards Dhangson in the north. The price of ordinary seed is 8 annas a ser and of Dhakalgaon Re. 1. The production of the latter is limited, and it is much sought after and is therefore high-priced.

4. The land is plentifully manured about every third year. There is no rotation of crops, ganja being grown in the same fields year after year. The manuring takes place in April or May. The manure is spread on the surface, and mixed with the soil by "bakharings." There are in all two ploughings and two "bakharings" before the soil is ready for the seed.

5. Sowing takes place about 15 days after the rains have broken. The seed is sown by means of a hollow bamboo used along with a "bakhar." There is no transplantation in Nimar. The seed germinates in three or four days after sowing.

6. Weeding is commenced about 20 days after sowing. A hoe (kolpa) drawn by a pair of bullocks is passed along the furrows to clean the space between the rows of plants. Ordinarily this bullock "hoeing" takes place twice. The spaces between the plants are cleaned by means of a "kharpi," or small hand-hoe. About the same time, the lower leaves of the plants are broken off, leaving the lower part of the stem bare. The whole of this weeding and cleaning process goes on for about a month.

7. Next takes place the eradication of the male and certain other useless plants. The word used is "parakh," meaning examination. The first plant eradicated is the male, known as "naria" or "bhangra." Then comes another plant called "adnaria," a hermaphrodite showing signs of both sexes. Other plants are known as "seoria" and "moria," both of which are generally uprooted. The "moria" is, until 15 days or so before cutting, undistinguishable from the female plant. The flower of the female plant never opens, while the "moria" flower at this time assumes a yellowish or reddish tinge and opens out. A certain amount of ganja can be obtained from the "moria" plant, and it is sometimes allowed to stay on in a crop of "mal" or good ganja. It possesses the faculty of fertilising itself, for it produces a seed, the result of sowing which is a crop of nothing but "moria" plants. It is needless to state that it is ruthlessly weeded out of ganja which is being grown for seed.

The "parakh" process begins about a month after sowing. About this time both the male and female plants begin to flower. All the cultivators possess the faculty of recognising the noxious and useless plants, and no special class is employed for the purpose. The male and "adnaria" plants first manifest themselves. "Moria" plants, as has been noted, are not distinguishable until shortly before the crop is ripe.

8. In September, three months after sowing, the crop is irrigated. Three waterings are given at intervals of 10 to 14 days.

Watering.

9. About the first or second week of November the crop ripens, the flowering heads assuming a brownish appearance. Dhakalgaon ganja ripens 15 days later than local ganja. The twigs which bear the flowering heads are broken off, collected in baskets, and carried to a threshing-floor. There they are spread out, and a heavy roller is passed over them. This is done only the first day as a rule; after that, as the twigs begin to dry, they are pressed under foot for three or four days. By this process the twigs are almost entirely cleaned of their leaves, and only the flowering tops remain, the latter being flattened out. The produce is then known as "kalli." The "kalli" is afterwards taken to the cultivators' houses and there stacked in heaps, which are kept pressed down by a heavy weight. It remains like this for a week, after which it is packed in gunny bags, each containing from 2 to 3 maunds, and taken to the Khandwa storehouse.

10. The average outturn from an acre is from 12 to 15 maunds. The crop has in recent years been bought up by a corner of "dallals" at Khandwa, the ordinary price ranging from Rs. 5 to Rs. 7 per maund, according to quality. The average money outturn per acre is thus about Rs. 80 or Rs. 90, and the money cost of cultivation is estimated at Rs. 60. The selling price per maund at the Khandwa storehouse is at present as high as Rs. 15 or Rs. 16 per maund.

Statement showing extent of ganja cultivation in Nimar during the last 20 years.

Year.	Number of licenses for ganja cultivation.	Area under cultivation.	Remarks.
1	2	3	4
		Acres.	
1873-74	...	970.05	The figures in column 3 represent the area actually cultivated, not the area for which licenses were granted. The latter is almost always in excess, as the cultivator generally asks for a license for more land than he means to plant, in order to ensure against his being proceeded against for excess cultivation.
1874-75	...	535.35	
1875-76	...	414.65	
1876-77	519	556.20	
1877-78	745	1,009.65	
1878-79	701	825	
1879-80	...	252.35	
1880-81	...	437.10	
1881-82	...	78.15	
1882-83	485	359	
1883-84	572	743.10	
1884-85	1,207	833	
1885-86	1,757	1,106	
1886-87	484	830	
1887-88	433	485	
1888-89	574	833	
1889-90	699	916	
1890-91	408	477.91	
1891-92	474	963.05	
1892-93	697	984.34	

MEMORANDUM BY MR. H. V. DRAKE BROCKMAN, OFFICIATING COMMISSIONER OF EXCISE, CENTRAL PROVINCES, ON THE CULTIVATION AND MANUFACTURE OF GANJA IN THE KHANDWA TAHSIL OF THE NIMAR DISTRICT.

Ganja is sown yearly in about 100 villages, and about 600 or 700 licenses are issued each year. Seed is locally raised in the villages of Lohari, Karli, Panjhria, and Chiribel; this seed produces a comparatively thin plant which does not branch off so freely as that raised from the seed obtained from Dhakalgaon in Indore. Dhakalgaon seed is sold at a minimum price of Re. 1 per ser; it has, on several occasions, gone as high as Rs. 2 per ser. The ordinary price of local seed is Re. 0-12-0 per ser. Seven or eight villages in the Dhargaan station-house circle use Dhakalgaon seed, and the ganja raised in them commands the best price at the Government storehouse.

2. "Pandhar" (chalky), "mand" (black with an understratum of yellow clay), and "kali" (rich black) are the soils most suitable for ganja rearing. The first two are the best; the last is also good, but in seasons of more than average rainfall retains too much water close to the surface.

3. Irrigation and plentiful manuring being indispensable, the same fields are used year after year. A single manuring produces an effect which endures for two or three years, so that there is no inducement to practise rotation of crops.

4. The land selected is well manured every third year in Baisakh (April to May), 16 to 20 full cart-loads being allowed per acre; the ordinary household refuse, cowdung, and ashes are used, and if the home supply is inadequate, more is purchased at the rate of Re. 1 per cart.

5. If gram or masur is not grown in the field, it is ploughed over once in January or February. In any case the ground is in Baisakh (April to May) turned over with the "hal" ("nagar" or earth-turning plough) to expose it to the sun, and then well "bakhared" to make it smooth and to break up all large clods. If it is the turn of the field to be manured, the manure is spread after the ground has been turned over, and is then worked in with the "bakhar." When the ground has been well soaked, i.e., about 15 days after the setting in of the rains, it is again turned over with the "hal" and levelled with the "bakhar." Seed is sown on a sunny day in the latter half of Asarh (June to July), i.e., 20 to 25 days after the setting in of the rains, an instrument called "sarta," which is worked along with a "bakhar," being used for the purpose.

6. For six days after sowing, a strict watch is kept, otherwise birds would do great damage when the seed germinates, which it does four days after sowing. Twenty days after sowing, i.e., when the plants are about 9 inches high, weeding of grass and thinning of plants begin; an implement called "kolpa" is used for the former purpose. A space of 6 to 9 inches is cleared between each plant and the next, the intervening plants being uprooted and thrown away. About six weeks after sowing, the first examination (parakh) takes place. All the male plants ("naria" or "bhangaru") which can at that stage be recognised as such are picked out and thrown away. The cultivators appear to be able to distinguish the pollen-bearing sacs ("gaungri") of male flowers even at this early stage. This examination is repeated daily for about two months. Then comes a second examination with a view to eliminate those plants which combine the signs of both sexes ("adnaria"). These "adnaria" plants seem to be identical with the "abnormal female plants with some male flowers on them," of which mention is made in Chapters II and VI, Part I of Dr. Prain's Report.

7. There is yet another class of plant which is eliminated; this is called "moria," and is said to be identified from its bearing a cluster of flowers on the top. The "moria" plants are not injurious to others, but are eliminated because they are useless for the purpose of ganja manufacture, their flowering heads being devoid of resin, and consequently of intoxicating power. Sometimes they are allowed to remain in the field; if removal is determined upon the necessary action is taken a fortnight or so before cutting begins. These plants probably correspond with those termed "khasia" in Bengal—see Chapters I (page 2) and II (page 5) of Dr. Prain's Report.

8. During the fourth month, i.e., in October, the plants are irrigated; rainfall will from this time onward injure them by washing away the resinous juice they contain; whereas irrigation increases the amount of this juice. Three waterings are given, an interval of seven days being allowed between each. It will be understood that irrigation is only beneficial if effected after the rains have entirely ceased.

9. About four and a half months after sowing, i.e., generally about the 20th November, the flowering heads assume a brownish appearance, which is a sure sign of maturity. Cutting

then begins. Only the "bhuttas," i.e., twigs about 12 inches in length which bear the flowering heads, are picked; they are collected in baskets and emptied into a "khala" (threshing-floor). At night the whole of the day's cutting is spread out in a layer, 9 to 12 inches thick, and left exposed to the dew till the following morning. The next step is to press the pickings flat; this is done by men treading them under foot. Several heaps are formed, which are worked upon in turn, each being turned over and left to dry in the sun while another is being pressed. This process goes on for four or five days, and the ganja is then taken to covered sheds where it is stacked to a height of 5 or 6 feet, and kept down by heavy weights. After remaining in this state for about a week, it is packed tightly in gunny-bags, and taken to the Government storehouse at Khandwa.

10. Seven days' previous notice of intention to cut the ganja crop has to be given to the Tahsildar, and the whole crop must be removed to the Government storehouse within 30 days of the date on which permission to cut is granted.

11. The following is an estimate of the cost of cultivating an acre of ganja and of manufacturing the crop into the article supplied to wholesale vendors:—

	Rs.	A.	P.
Rent paid to Malguzar	...	3	0 0
First ploughing, 8 days, at Re. 0-12-0	...	6	0 0
Cost of carting and spreading manure (every third year)	...	20	0 0
First bakharig, 4 days, at Re. 0-12-0	...	3	0 0
Second ploughing, 2 days, at Re. 0-12-0	...	1	8 0
Second bakharig, 1 day, at Re. 0-12-0	...	0	12 0
Sowing, 1 day, at Re. 1	...	1	0 0
2 weedings, 4 days, at Re. 1	...	4	0 0
5 men with kolpas for 5 days	...	5	0 0
4 examinations, 32 men	...	8	0 0
3 waterings	...	4	0 0
12 men for reaping	...	1	8 0
2 basket carriers from field to khala	...	0	8 0
6 men for 4 days for pressing	...	6	0 0
1 cart from khala to sheds	...	0	8 0
6 gunny-bags	...	3	12 0
Labour for filling bags	...	0	12 0
1 cart to Khandwa	...	1	8 0
Hamalage at Khandwa	...	0	6 0
Storage in the godown at Khandwa at Re. 0-0-6 per maund per mensem—say	...	0	12 0
TOTAL	...	71	14 0

It must be understood that the above estimate is drawn up on the assumption that hired labour is employed for all purposes. As a matter of fact, however, the cultivators and their families themselves do almost all the work, and cash payments are limited in practice to the following:—

	Rs.	A.	P.
Rent	...	3	0 0
Weeding—say	...	5	0 0
Reaping and carrying	...	2	0 0
Pressing	...	6	0 0
Price of tags	...	3	12 0
Godown charges—say	...	1	4 0
TOTAL	...	21	0 0

The rates adopted are those prevailing in the immediate vicinity of Khandwa; elsewhere the cost of cultivation would be somewhat less. The average outturn from an acre is 16 maunds, and the average selling price at the Government storehouse, Rs. 4 per maund.

12. The method employed for the cultivation of the plant for seed is precisely the same as for the production of the ordinary ganja ("mal") as regards preparation of the soil. Male plants ("naria") are of course essential in this case; most, however, are eliminated. "Adnaria" plants are all eliminated, as in a field of "mal" ganja. When the seeds have set, the plants are cut down, tied in bundles and dried in the sun. The seed is then threshed out by hand. Irrigation is not required, and comparatively little attention is paid to the crop.

REPORT BY MR. H. M. LAWRIE, C.S., OFFICIATING DEPUTY COMMISSIONER,
BHANDARA, CENTRAL PROVINCES, ON THE CONSUMPTION OF GANJA
AMONG THE POWARS.

In accordance with the instructions contained in your office letter No. 4259, dated the 10th September last, I have the honour to report that a careful inquiry has been made by Mr. Gokhle, Extra-Assistant Commissioner, as to the alleged increasing use of ganja among the Powars. The conclusions arrived at by Mr. Gokhle are as follows:—

2. It is true that there has been an increase of ganja consumption among Powars in this district, but not more so than among other classes. The increase of consumption among Powars may have attracted greater notice than that among others on account of the higher position of this caste in the social scale. It is perhaps erroneous to say that Powars had a prejudice against the use of the drug; what prejudice they may have had was merely that entertained by people generally, and might be more correctly described as want of familiarity with its use than any objection to it.

3. Purchases by Powars do not always represent consumption by them. There are a number of Powars who are large rice cultivators, and who in the transplanting season have to supply their labourers with some stimulant. Finding ganja to be cheaper than country liquor and quite as acceptable to their workmen, some Powars appear to have in this way made large purchases of ganja—not for their own use. The character and habits of Powars have not varied at all, so far as can be ascertained, in consequence of the more extended use by them of ganja. It has been mentioned that there is now a saying among Powars that a man who does not take ganja is nothing but a girl, but it does not appear that the taking of ganja has made these people more manly. It does not mean much more than that to take ganja is looked on as the sort of thing a grown man does, just as in England among boys smoking is sometimes looked on as a sign of emancipation from the school-room. It may to a certain extent refer to the supposed aphrodisiac qualities of the drug.

4. From the accompanying statements which Mr. Gokhle has had prepared, it will be seen that while the increase of ganja sales in shops where there are many Powars from 1891-92 to 1893-94 is only 31 per cent., that in shops where there are comparatively few Powar customers is, for the same period, 42 per cent. In the case of shops where there are no Powar purchasers the increase is only 12 per cent.; but this does not appear to be connected with the fact of the absence of people of this caste, but to be dependent on other circumstances. Among Powars, as among people of other castes, there has been an extension of the use of this drug in the last ten years; but the figures given in Mr. Gokhle's Statement II must not be taken to show a real increase in consumption to the extent of the increase in sales, since there is no doubt that a considerable amount of the increase is to be accounted for by the better arrangements now in force for the prevention of illegal ganja consumption. It is said that in the zemindaries on the south-eastern border of the district there used to be a good deal of ganja cultivation which has now been stopped, and that this ganja used formerly to be introduced into this district. But Mr. Gokhle's enquiries lead him to believe that, during the last four or five years in particular, the use of ganja has become more familiar to Powars, as well as to members of subordinate castes.

5. The reason why the report was not submitted by the date mentioned in the concluding portion of your letter was partly the fact that Mr. Gokhle was temporarily transferred from the district for two months in the close of 1893, and the enquiries on this subject consequently interrupted. Recently Mr. Gokhle has been on tour in the Turrora tahsil, which is under his charge, and where the Powars are in great number, and he has thus had a good opportunity of ascertaining by personal enquiries how the matter stands.

STATEMENT I.

Showing the quantities of ganja sold at the ganja-shops in the Bhandara District during the years 1891-92 to 1893-94.

Name of tahsil.	Name of ganja-shop.	GANJA SALES IN SEERS.			Remarks.
		1891-92.	1892-93.	1893-94.	
Bhandara	Ambagarh	45	53	50	These ganja-shops have many Powars.
	Sihora	34	32	50	
	Bamhani	50	91	112	
	Turrora	70	72	88	
	Gondia	73	99	84	
	Rampalli	104	128	80	
	Gond Mohali	70	97	100	
	Pulchur	39	72	70	
	Katangri	27	...	...	
	Koti	71	124	133	
Turrora	Kurhari	53	63	72	These ganja-shops have few Powars.
	Ekori	108	117	136	
	Total	744	928	975	
	Bhandara	60	68	84	
	Turrora	118	122	100	
	Beni	52	79	78	
	Katipur	26	33	31	
	Sarandi	24	27	65	
	Adari	83	113	183	
	Mardara	53	69	87	
Sakoli Tahsil	Kamtha	58	50	65	These ganja-shops have no Powars.
	Katori	8	30	29	
	Tikhari	67	49	72	
	Sakhratola	...	62	50	
	Bijli	100	96	84	
	Angaon	45	51	62	
	Lakhni	...	...	...	
	Total	694	847	990	
	Bhandara	70	73	86	
	Bhandara	34	31	37	
Turrora	Adyal	44	46	60	These ganja-shops have no Powars.
	Pouni	25	24	34	
	Jamb	34	29	40	
	Andhalgaon	11	43	78	
	Mohali	55	45	36	
	Mundhri	46	8	18	
	Dewhara	41	...	...	
	Salekasa	25	10	31	
	Darekas	28	26	27	
	Sakoli	25	19	24	
Sakoli Tahsil	Pohora	16	23	20	The same contractor.
	Kitari	14	12	30	
	Palandur	7	3	...	
	Dighori	41	37	27	
	Lakhandur	21	22	31	
	Sangerbi	30	10	21	
	Nawagaon	...	14	24	
	Palandur (Chichgath)	40	43	53	
	Arjani	23	32	31	
	Chichewara	...	...	...	
Total		630	569	706	
GRAND TOTAL		2,068	2,344	2,671	

STATEMENT II.

Showing sale of ganja in the whole district.

Year.	Maunds.	Seers.	Remarks.
1870-80	25	37	
1880-81	35	20	
1881-82	38	7	
1882-83	31	20	
1883-84	40	9	
1884-85	48	15	
1885-86	65	23	
1886-87	41	27	
1887-88	35	16	
1888-89	42	16	
1889-90	46	5	
1890-91	48	24	
1891-92	54	15	
1892-93	61	36	
1893-94	66	35	Ten months' actuals,—55 maunds 29 seers.

BULLETIN ON THE CULTIVATION AND MANUFACTURE OF GANJA IN MADRAS, BY MR. C. BENSON, M.R.A.C., DEPUTY DIRECTOR, AGRICULTURAL BRANCH, MADRAS.

The true hemp plant (*Cannabis sativa*), though grown here and there in most parts of the presidency in backyards, is found as a regularly-cultivated field crop in only two localities, viz., in the Malayali villages on the Javadi hills in North Arcot, and in one or two villages in the Bapatla taluk of Kistna District. It is also raised to a certain extent in the hilly parts of Vizagapatam and Ganjam, but there seldom more than a few plants are grown by each person.

The Javadis are a low hill range covered with jungle, amongst which the Malayali villages lie scattered, few of them consisting of more than three or four huts. Each village has a small patch of land cleared for cultivation near by, and there, in almost all cases, a plot or two of hemp will be found growing. The Malayalis claim to be Veilalas, but except for purposes of trade and barter have little or no connection with the people of the plains. They also claim to alone possess the knowledge necessary for the manufacture of ganja—a practice which has been carried on, they state, in these hills from time immemorial. They attribute the fact that the growth of the crop is confined to the hills merely to the ignorance of the people of the plains, and state that if the latter knew how to deal with the crop, they would easily grow it outside the hills.

On the hills cultivation is carried on in small plots, the natural fall of the ground preventing any considerable tolerably level area being found in one place, although to a certain extent the plots are terraced. In these plots the Malayalis raise the ordinary dry food-grains of the country for their own consumption, and with them the hemp plant alternates, hemp not being ordinarily taken on the same land in two successive years. The soil is free, friable, and open, derived directly from the rocks on which it rests; thoroughly well-drained, and appears to be fairly fertile. For hemp it receives a heavy dressing of cattle dung, without which it is said to be hopeless to raise the crop. This manure is spread on the surface in May, or June, before the first rains allow of ploughing being begun. As soon as the land is sufficiently moistened, it is ploughed and the operation is repeated three or four times at convenient intervals until some time in July, when the seed is sown. Sowing is done by dropping the seed, at the rate of five or six sers per acre, in a furrow opened with a plough, the seed being covered with soil drawn over it by the feet of the sower. The seed is sown in rows about three feet apart, and during the growth of the crop the spaces between the rows are worked and kept clean by ploughing and weeding. The young plants appear in about a week after sowing, and when about three weeks old they are partially thinned out, and when they reach to a foot high they are earthed up by means of a plough, which is run along on either side of the rows. This latter process, aided by hand-weeding at intervals of about a fortnight, thrice repeated, keeps the whole land clean.

When the crop is about four months old, the anxieties of the cultivator commence and the crop has to be examined carefully and frequently, so that any male plants—called female by the ryots—may be detected and removed. Detection of the male plants is only possible when the flowers appear. Their entire removal is absolutely essential to securing a crop of ganja, as otherwise the whole crop runs to seed. The removal of the male plants is a continuous process, going on as the plants are detected. Notwithstanding this care a certain amount of seed actually sets.

Some time early in January the harvest begins. It continues up to March. Plants are ready for cutting as soon as the leaf turns yellow and begins to drop. At the same time the spikes of female flowers also turn yellow. The crop is never cut on a damp or cloudy day.

In harvesting, the ripe plants are cut bodily, tied into small bundles, and carried to the threshing-floor of the village. There the spikes are stripped off the stems, with a few of the leaves, and the stems are thrown away. The material thus collected is spread out on the floor in the sun during the middle of the day for three, four, or five hours, and then loosely rolled in the hand to work out such seed as may have been formed and to break up the leaf that remains. This working also causes the spikes to stick to one another to some extent. The broken leaf is then winnowed out, collected, and powdered.

The manufacture then begins. A closely-woven bamboo basket is taken and dusted inside with leaf powder. Into it is placed a layer of the spikes an inch or an inch and a half deep. The spikes are then trodden under foot by a man working round and round on his heels in the basket four or five times: the man supporting himself on a stick, whilst the basket is held steady by two others. If the basket be large enough two men do the treading, grasping each other's shoulders to steady themselves. Layer over layer of the spikes is thus made in the basket till it is full, each layer being separated from the next by a little leaf-dust. When the basket is full, its contents are turned out on a piece of flat hard ground, and on the top of

the pile a large flat stone is placed, upon which are piled other stones to weight and compress the heap. The weights remain thus till next morning at about 8 or 9 A.M., when each layer is taken out separately, broken into small bits, and spread in the sun to dry. Whilst spread out thus, the pieces are trampled on with the heel and turned over from time to time to secure proper drying. In the evening the pieces are again re-piled and weighted and next day again turned out to dry; the process being repeated till the whole is thoroughly dried.

Great importance is attached to the thoroughness of the treading, the sufficiency of the pressing, and the completeness of the drying; the quality of the drug being said to depend on the manner in which these processes are carried out. If the cakes are not dried sufficiently they appear green, and are of inferior quality—good ganja being brown.

When fully cured the cakes are stored in the ryot's houses, where they are packed in date mats in bundles each containing 20 visses (say 60 lb.) and kept under pressure till sold to dealers.

In the *Kistna District* the soil, the conditions under which the crop is grown, and the method of manufacture all differ entirely from those described above, as much as they do from the practice in Bengal, according to Dr. Prain's description. It is only in one village, Daggunpad, in the Bapatla taluk, not far from the borders of Nellore, and about 15 miles from the sea coast, that any considerable area of the crop is to be found, although a little is also grown in one or two of the neighbouring villages. The country is a wide open plain of black cotton-soil, and from its appearance badly or poorly drained. The soil is not particularly stiff for the description concerned, being in fact a good stiff loam, and contains a considerable amount of kankar. On the land on which hemp is grown, the common crops with which it usually alternates are

Jonna (*Sorghum vulgare*),
Variga (*Lanicum milia-
ceum*),
Dry paddy.
Coriander,
Tobacco,
Indigo,
Chillies.

noted on the margin. The crop is grown in open fields, some near to, and some at a distance from the village, but all reasonably accessible. In some cases it is cultivated, and handled by the ryot who

owns the land; but more frequently the cultivation of the land, and all the cattle labour required is supplied by the ryot, and the planting and handling of the crop is undertaken by others—chiefly Muhammadans, of whom there is a considerable settlement in this village. Here, as in Bengal, the plants are raised in seed-beds and planted out, but except at the time of planting, no irrigation is resorted to after the crop is put out into the field.

The seed-beds are usually made on the bund of a tank, and are 6 feet wide by 60 feet long. The soil of these beds is dug up with a crowbar and reduced to a fine tilth and levelled. Seed is thus sown at the rate of 4 or 5 sers (of 85 tolabs) to a bed; two such beds supplying plants sufficient for an acre of land. The seed is covered with earth strewn over it by hand. The bed is then watered by hand and the watering is repeated daily for about two months as required. The sowing takes place in August. When the plants are 2 feet high they are lopped off, and in a few days numerous side branches are put out. The plants are then transplanted into the field.

Land intended for hemp may have carried a crop of hemp in the previous year—19 out of 118 acres planted in Daggunpad* this year (1893-94) being said to have carried hemp in 1892-93—but more usually the crop is alternated with one of those mentioned above. If it follows hemp, heavy manuring is necessary. Cultivation of the land for the crop usually begins with ploughing in July, and between then and October it is ploughed about three times and finally worked with the three-lined grubber (*gorru*, or seed drill used without its seed hopper and tubes). It is then marked off in 2 feet squares with a marker, similar to the *gantaka*, or scuffle worked without its share. At the angles of each square four or five plants are dibbled into a hole made with a stick, and then they are watered to set the plants. The crop is planted out in October.

The land intended for this crop is manured either with cattle manure or by sheep-folding, the application of manure being considerable when the land carries hemp successively year after year.

* The crop records of Daggunpad give the following results:—

Of the land sown with ganja	In 1892.		In 1893.	
	ACRES.		ACRES.	
Curriel—	86-29.		117-84.	
	In 1893.	In 1892.		
Ganja ...	19-09	19-09		
Jonna ...	1-60	25-53		
Variga ...	23-19	20-31		
Dry paddy ...	3-60	8-0		
Tobacco ...	20-35	13-30		
Chillies ...	2-81	2-50		
Coriander ...	4-72	8-27		
Indigo ...	1-69	15-46		
Not sown ...	9-84	4-60		

A month after planting the fields are hand-weeded, and about a fortnight later a plough is run between the rows, and the plants are earthed up slightly. Two months after planting out flowering begins, and then the removal of the male (here as elsewhere termed *female*) plants begins. They are cut off near the roots and thrown away. This work goes on continuously as long as male plants are found.

About February the plant begins to ripen and the harvest commences. It goes on till the end of March. The plants are cut bodily with the sickle, and are laid out in the field, where they grow for three days to dry in the sun. On the fourth day they are tied into small bundles of about ten plants each, and then piled, head and tail, in the field. The heaps are opened, and the bundles re-piled next day, the process being repeated over several days. When the quantity to be dealt with is small and space allows, the bundles are carried to the grower's house and there piled; but in all cases the crop is finally carried to the house, and a month later the spikes are removed. Each spike is plucked off by hand and then they are spread out on a hard floor in the open for one night in the dew to soften and become pliable. In the morning the spikes are collected and stored in large gunny-bags, being packed closely therein by a man treading them down into the bag. The produce is then ready for sale, and may be kept for as much as two years.

In both localities it is stated that of late years the area planted with hemp has been reduced, the price offered for ganja having fallen with the restriction of the demand owing to the introduction of the system of licensing retail vendors.

A few years ago, the crop was also grown to some extent in one village in the Pulivendla taluk, Cuddapah District, but its growth there has now been abandoned. It was then grown as a garden crop, in rotation with garden korra (*Setaria italica*) or garden ragi (*Eleusine coracana*), the plants being raised in seed-beds and then planted out. The method of manufacture adopted there appears to have resembled that still followed in Kistna.

NOTE BY MR. G. A. GRIERSON, C.I.E., MAGISTRATE AND COLLECTOR, HOWRAH, ON REFERENCES TO THE HEMP PLANT OCCURRING IN SANSKRIT AND HINDI LITERATURE.

I have the honour to state that I have searched through all the Sanskrit and Hindi books accessible to me, and to forward the accompanying note on the references to the hemp plant occurring in the literatures of those languages.

I have met the hemp plant in Sanskrit and Hindi literature under various names. The principal are—

- (1) Bhanga.
- (2) Indragana.
- (3) Vijayā or Jyā.

The earliest mention of the word ganja which I have noted is dated about the year 1300 A.D.

Whenever the word vijayā is used, it is doubtful whether the hemp plant is meant, or the yellow myrobolan, as the word means both.

The name bhanga occurs in the Atharvaveda (say, B.C. 1400). The hemp plant is there mentioned simply as a sacred grass. Pāṇini (say, B.C. 300) mentions the pollen of the hemp flower (bhanga). In the commencement of the sixth century we find the first mention of vijayā which I have noted. It is a sacred grass, and probably means here the hemp plant.

The first mention of bhanga as a medicine which I have noted is in the work of Sūgruta (before the eighth century A.D.), where it is called an antiphlegmatic. During the next four centuries bhanga (feminine) frequently occurs in native Sanskrit dictionaries in the sense of hemp-plant.

In the tenth century the intoxicating nature of bhanga seems to have been known: and the name Indragana, Indra's food, first appears, so far as I know, in literature. Its intoxicating power was certainly known in the beginning of the fourteenth century. In a play written in the beginning of the sixteenth century, it is mentioned as being consumed by jogis (Āiṇva mendicants). It is there named "Indra's food."

In later medical works it is frequently mentioned under various names.

I append a more detailed account of the passages in which I have noted the uses of the Indian hemp.

I may add that I have not traced in literature any difference between the uses of the word ganja and of the word bhanga, though modern *kavirājas* tell me that they are distinct plants.

Cir. B.C. 1400.

In the *Atharvaveda* (cir. 1400 B.C.) the bhanga plant is mentioned (II, 6, 15) once:—

"We tell of the five kingdoms of herbs headed by Sōma; may it and *kuṣa* grass, and *bhanga* and barley, and the herb *saha* release us from anxiety."

Here reference is evidently made to the offering of these herbs in oblations.

The grammarian Pāṇini (5, 2, 29) mentions *bhangaḥkṛta*, the pollen of the hemp flower, as one of his examples.

Cir. B.C. 300.

The fact that the pollen of this special flower was quoted is worth noting.

Varāhamihira in his *Bṛhatsamhitā* (XLVIII, 39) mentions *vijayā* as used with other grasses in the rites of the *Pūṣya*, bathing festival.

Vijayā in this passage certainly means some plant or other. The word may mean either the Indian hemp-plant or be a synonym of *haritaki* (the yellow myrobolan). Dr. Hærnle informs me that in the oldest medical works the word is explained by commentators in the latter sense. It is doubtful what meaning we are to adopt here. The word may mean the hemp-plant *bhanga*. In the passage from the *Atharvaveda*, already quoted, amongst the five plants special honoured as oblations, *bhanga* is closely connected with the herb *saha*. So also in the *Bṛhatsamhitā*, *vijayā* is mentioned as one of a long list of plants to be used in the offering, and the very next plant mentioned is *sahā*, which is apparently the same as *saha*.

This would encourage the theory that the *vijayā* of the *Bṛhatsamhitā* was more probably the same as the *bhanga* of the *Atharvaveda*.

In Sūgruta (Ut. XI, 8) *Bhanga* is recommended together with a number of other drugs as an antiphlegmatic.

Before the eighth century.

Vijayā is mentioned in the same work as a remedy for catarrh accompanied by diarrhoea (Ut. XXIV, 20, and Ut. 39, page 415, 20), as an ingredient in a prescription for fever arising from an excess of bile and phlegm. In these two passages, however, *vijayā* is probably an equivalent of *haritaki*, the yellow myrobolan, and does not mean hemp.

In the various *kōsas*, or dictionaries, *bhanga* is frequently mentioned as meaning the hemp-plant. Thus,—

(1) *Amarakōśa*, 2, 9, 20.

Cir. A. D. 500.

(2) *Trikāṇḍaśeṣa*, 3, 361.

Tenth or eleventh century.

(3) *Hemacandra's Anukārthakōśa*, 2, 37.

Twelfth century.

(4) *Hemacandra's Abhidhānacintāmaṇi*, 1179.

The *Sarasandārā* (date not known to me), a commentary on the *Amarakōśa* mentioned above, by Mathureṣa, and quoted in the *Ābhidhānaśāstra*, mentions that the seed of the *bhanga* plant is the size of that of millet (*kalāya*).

Twelfth century.

Cakrapāṇidatta is said to have flourished under Nayapala, a prince who reigned in the eleventh century A.D. In his *Ābhidhānāṅgī*, a medical vocabulary, he gives the following Sanskrit names for bhanga:—

- (1) *Vijayā* (victorious), (2) *Trailokyavijayā* (victorious in the three worlds), (3) *bhanga*, (4) *Indragana* (Indra's food), (5) *Jyā* (victorious).

These names seem to show that its use as an intoxicant was then known.

The *Rājāni śānta* of Narahari Paṇḍita adds the following names to those given by Cakrapāṇidatta in the *Ābhidhānāṅgī* above mentioned:—

Cir. 1300.

- (6) *Pāṭra* (hero-leaved or the leaf of heroes),
- (7) *Geṣṭhā*,
- (8) *Caṇḍā* (the light-hearted),
- (9) *Ajāyā* (the unconquered),
- (10) *Ānandā* (the joyful),
- (11) *Lāsinī* (the rejoicer),

and adds that the plant possesses the following qualities:—

- (1) *Kaṣṭha* (acidity); (2) *kaṣāyatra* (astringency); (3) *Uṣṇa* (heat); (4) *tiktatva* (purgency); (5) *vātakaphāpahatva* (removing wind and phlegm); (6) *samprāṇita* (astringency); (7) *vākpradātva* (speech-giving); (8) *balatva* (strength-giving); (9) *mādhākṛitva* (inspiring of mental power); (10) *grēṣṭhāḍipānatva* (the property of a most excellent excitant).

The *Ārṇagadhṛasamhitā*, a medical work by Ārṇagadhara, the date of which is unknown, but which must have been compiled during the Muhammadan period of Indian History, specially mentions (I, 4, 19) *bhanga* as an excitant (*vyavāyin*). In the same passage it mentions opium.

Cir. A.D. 1500.

The *Dhūrtasamāgama*, or "Rogues' Congress," is the name of an amusing if coarsely written farce of about the year 1500 A.D., the author of which was one Jyōtīrīṣa. In the second act two Āiṇva mendicants came before an unjust judge, and demand a decision on a quarrel which they have about a nymph of the bazar. The judge demands payment of a deposit before he will give any opinion. One of the litigants says—

"Here is my ganja bag; let it be accepted as a deposit."

THE JUDGE (taking it pompously, and then smelling it greedily):—"Let me try what it is like (takes a pinch). Ah! I have just now got by the merest chance some ganja which is

¹ I quote the MS. in the Library of the A. S. B.

soporific and corrects derangements of the humours, which produces a healthy appetite, sharpens the wits, and acts as an aphrodisiac."

The word used for ganja in the above is *Indrāṇa* (Indra's food).

The *Rājavaprakāṣa*, another medical work written by Bhavadēvamīra (cir. A.D. 1600),¹ has as follows :—

Cir. A.D. 1600.

Bhaṅgā gañjā mātulānī mādinī vijayā jayā |

Bhaṅgā kaphaharī tiktā grāhinī pēcanī laghuk |

Tikṣṇā pittalā mōha-muda-cūg-vahnī-vardhinī ||

"*Bhaṅga* is also called *gañjā*, *mātulānī*, *mādinī* (the intoxicating), *vijayā* (the victorious) and *jayā* (the victorious). It is antiphlegmatic, pungent, astringent, digestive, easy of digestion, acid, bile-affecting; and increases infatuation, intoxication, the power of the voice, and the digestive faculty."

"The *Rājavalabha*, a *materia medica*, by Nārāyaṇadāsa kaviṛāja, the date of which I do not know, but which is quoted in the *Ṣaḍḍakalpadrūma*, and is believed to be ancient, has the following :—

Ṣaḍḍa-ṣaṇam tu tikṣṇā-śnam mōha-krit kuṣṭha-nāṣanam |

Bala-mūlā-ṣaṇi-krit-ṣṭoma-dōṣa-hari rasāyanam ||

Jālā mandara-manthanāj jala-nidhan pīyūsa-rūpā purā |

Trailōkye vijaya-pradē 'ti vijayā ṣṛi-dēvarāja-priyā ||

Lōkānām hita-kāmyāya ksiti-talē-prāptā noraiḥ kāmāḥ |

Sarvā-śauka-vināṣa-harsa-jananī yaik sēvitā sarvadā ||

"Indra's food (i.e., ganja) is acid, produces infatuation, and destroys leprosy. It creates vital energy, the mental powers, and internal heat, corrects irregularities of the phlegmatic humour, and is an elixir vitæ. It was originally produced, like nectar, from the ocean by the churning with Mount Mandara,² and inasmuch as it gives victory in the three worlds, it, the delight of the king of the gods, is called *vijayā*, the victorious. This desire-fulfilling drug was obtained by men on the earth, through desire for the welfare of all people. To those who regularly use it it begets joy and destroys every anxiety."

The *Rasapradhīpa*, a work, the date of which is unknown to me, and which is quoted in the *Ṣaḍḍakalpadrūma* mentions *jayā* as a remedy for indigestion :—

P. Date.

Kṣāratrayam sūtagandhōṣa paṇcakōlam idam ṣubham |

Sarvāś tulyā jayā bhristā tad-ardhā ṣiṅgujā jātā ||

Natron, saltpetre and borax, mercury and sulphur, and the prosperous five spices (long pepper, its root, *peper chaba*, another pepper, and dry ginger). To these add an equal amount of parched *jayā* and half of that amount of horse-radish (*moringa*) and *jātā*.³

It is not certain whether *jayā* here means bhang or *Haritaki* (yellow myrobalan). The word has both significations. The latter, perhaps, suits the formula best.

In the *Rasaratna-samuccaya*, a work written in the south of India, *jayā* is classified as a semi-poison,—

Lāngolī visamustiṣ ca karavīrō jayā lathā |

P. Date.

Tilakah kanakō 'rkaṣ ca vargō hy upavisātmaḥ ||

*Lāngolī*⁴ (*Vanguiera spinosa*), the root of the *Nerium odoratum*, *jayā* (*Symplocos racemosa*) *kanaka*⁵ and *āk* (a kind of *Euphorbia*), are semi-poisonous.

Bhang is frequently mentioned by vernacular poets. The oldest instance with which I am acquainted is the well-known hymn by

1400 A.D.

Vidyapati Bhākur (1400 A.D.), in which he calls

Ṣiva "Digambara bhaṅga," in reference to his habit of consuming that drug. According to an old Hindu poem, on which I cannot now lay my hands, Ṣiva himself brought down the

bhāṅg plant from the Himalayas and gave it to mankind. Jōgis are well-known consumers of bhang and ganja, and they are worshippers of Ṣiva.

In folk-songs, ganja or bhang (with or without opium) is the invariable drink of heroes before performing any great feat. At the village of Bauri in Gaya there is a huge hollow stone, which is said to be the bowl in which the famous hero Lōrik mixed his ganja. Lōrik was a very valiant general, and is the hero of numerous folk-songs. The epic poem of Albā and Rūdal, of uncertain date, but undoubtedly based on very old materials (the heroes lived in the twelfth century A.D.), contains numerous references to ganja as a drink of warriors. For instance, the commencement of the canto dealing with Albā's marriage, describes the pestle and mortar with which the ganja was prepared, the amount of the intoxicating drink prepared from it (it is called *saḍṣī*) and the amount of opium (an absurdly exaggerated quantity) given to each warrior in his court.

That the consumption of bhang is not considered disreputable among Rajputs may be gathered from the fact that Ajabēs, who was court poet to the well-known Maharaja Bishwanath Singh of Biwa, wrote a poem praising bhang and comparing *siddhi* to the "success" which attends the worshipper of "Hari." Here there is an elaborate series of puns. The word *siddhi* means literally 'success,' and *hari* means not only the god Hari, but also bhang.

¹ According to Dutt "not before 1535 A.D."

² Nectar was produced in this fashion.

³ The name of several plants; I do not know which is meant here.

⁴ The name of several plants,—*Jussiaea Repens*, *Hemionitis cordifolia*, *Rubia munjista*, *Hedysarum Legopediole*.

⁵ Said by a kaviṛāja to mean dhatura.

NOTE BY MR. J. M. CAMPBELL, C.I.E., COLLECTOR OF LAND REVENUE AND
CUSTOMS AND OPIUM, BOMBAY, ON THE RELIGION OF HEMP.

To the Hindu the hemp plant is holy. A guardian lives in the bhāng leaf. As the wife of Vishnu, the preserver, lives in the hysteria-curing *tulsi*, or Holy Basil, and as Shiva dwells in the dysentery-scaring *bel*, *Agla marmelos*, so the properties of the bhāng plant, its power to suppress the appetites, its virtue as a febrifuge, and its thought-bracing qualities show that the bhāng leaf is the home of the great Yogi or brooding ascetic Mahadev.

So holy a plant should have special rearing. Shiva explains to his wife, Parvati, how, in sowing hemp seed, you should keep repeating the spell 'Bhangī,' 'Bhangī,' apparently that the sound of that guardian name may scare the evil tare-sowing influences. Again, when the seedlings are planted the same holy name must be repeated, and also at the watering which, for the space of a year, the young plants must daily receive. When the flowers appear the flowers and leaves should be stripped from the plant and kept for a day in warm water. Next day, with one hundred repetitions of the holy name Bhangī, the leaves and flowers should be washed in a river and dried in an open shed. When they are dry some of the leaves should be burnt with due repeating of the holy name as a *jap* or muttered charm. Then, bearing in mind Vāgdēvatā, or the goddess of speech, and offering a prayer, the dried leaves should be laid in a pure and sanctified place. Bhang so prepared, especially if prayers are said over it, will gratify the wishes and desires of its owner. Taken in the early morning such bhang cleanses the user from sin, frees him from the punishment of crores of sins, and entitles him to reap the fruits of a thousand horse-sacrifices. Such sanctified bhang taken at day break or noon destroys disease. Before the religious user of bhang stand the Ashtadēvatā or Eight Guardians with clasped hands ready to obey him and perform his orders. The wish of him who with pure mind pours bhang with due reverence over the Ling of Mabadev will be fulfilled.

Such holiness and such evil-scaring powers must give bhang a high place among lucky objects. That a day may be fortunate the careful man should on waking look into liquid bhang. So any nightmares or evil spirits that may have entered into him during the ghost-haunted hours of night will flee from him at the sight of the bhang and free him from their blinding influences during the day. So too when a journey has to be begun or a fresh duty or business undertaken it is well to look at bhang. To meet some one carrying bhang is a sure omen of success. To see in a dream the leaves, plant, or water of bhang is lucky ; it brings the goddess of wealth into the dreamer's power. To see his parents worship the bhang-plant and pour bhang over Shiva's Ling will cure the dreamer of fever. A longing for bhang foretells happiness ; to see bhang drunk increases riches. No good thing can come to the man who treads under foot the holy bhang leaf.

So evil-scaring and therefore luck-bringing a plant must play an important part in the rites required to clear away evil influences. During the great spirit time of marriage in Bombay among almost all the higher classes of Gujarat Hindus, of the Jain as well as of the Brahmanic sects, the supplies sent by the family of the bride to the bridegroom's party during their seven days' sojourn includes a supply of bhang. The name of the father who neglects to send bhang is held in contempt. Again, after the wedding, when the bridegroom and his friends are entertained at the house of the bride, richly-spiced bhang is drunk by the guests. The Gujarat Mussalman bride before and after marriage drinks a preparation of bhang. Among the Pardeshi or North Indian Hindus of Bombay bhang is given not only at weddings, but the Pardeshi who fails to give his visitor bhang is despised by his caste as mean and miserly. Another great spirit time during which bhang plays an important part is the time of war. Before the outbreak of a war and during its progress the Ling of Mahadev could be bathed with bhang. Its power of driving panic influences from near the god has raised for bhang the name of Vijaya, the unbeaten. So a drink of bhang drives from the fighting Hindu the haunting spirits of fear and weariness. So the beleaguered Rajput, when nothing is left but to die, after loosing his hair that the bhang spirit may have free entrance, drinks the sacramental bhang and rushing on the enemy completes his *jahar* or self-sacrifice. It is this quality of panic-scaring that makes bhang, the Vijayā or Victorious, specially dear to Mahadev in his character of Tripur, the slayer of the demon Tripurasur. As Siva is fond of *vel* leaves, as Vishnu is fond of *tulsi* leaves, so is Tripuresvar fond of bhang leaves. He who wishes to obtain his desires must constantly offer bhang to Tripuresvar.

Bhang the cooler is a febrifuge. Bhang acts on the fever not directly or physically as an ordinary medicine, but indirectly or spiritually by soothing the angry influences to whom the attacks of fever are due. According to one account in the Ayurveda, fever is possession by the hot angry breath of the great gods Brahma, Vishnu, and Shiva. According to another passage in the Ayurveda, Shankar or Shiva, enraged by a slight from his father-in-law Daksha, breathed from his nostrils the eight fevers that wither mankind. If the fever-stricken performs

the Vijayā abhishek, or bhāng-pouring on the Ling of Shankar, the god is pleased, his breath cools, and the portion of his breath in the body of the fever-stricken ceases to inflame. The Kashikānda Purana tells how at Benares, a Brahman, sore-smitten with fever, dreamed that he had poured bhāng over the self-sprung Ling and was well. On waking he went to the Ling, worshipped, poured bhāng and recovered. The fame of this cure brings to Benares sufferers from fever which no ordinary medicine can cure. The sufferers are laid in the temple and pour bhāng over the Ling whose virtue has gained it the name Jvāreshwar, the Fever-Lord. In Bombay many people sick of fever vow on recovery to pour bhāng over a Ling. Besides as a cure for fever bhāng has many medicinal virtues. It cools the heated blood, soothes the over-wakeful to sleep, gives beauty, and secures length of days. It cures dysentery and sunstroke, clears phlegm, quickens digestion, sharpens appetite, makes the tongue of the lisper plain, freshens the intellect, and gives alertness to the body and gaiety to the mind. Such are the useful and needful ends for which in his goodness the Almighty made bhāng. In this praise of the hemp the Makhan or great Greek-Arab work on drugs joins. Ganja in excess, causes abscess, even madness. In moderation bhāng is the best of gifts. Bhāng is a cordial, a bile absorber, an appetiser, a prolonger of life. Bhāng quickens fancy, deepens thought, and braces judgment.

As on other guardian-possessed objects, the cow, the Vedas, or the leaf of the *bel* tree, oaths are taken on the bhang leaf. Even to a truthful witness an oath on the bhang leaf is dreaded. To one who forswears himself the bhang oath is death.

So holy a plant must play a leading part in temple rites. Shiva on fire with the poison churned from the ocean was cooled by bhang. At another time enraged with family worries the god withdrew to the fields. The cool shade of a plant soothed him. He crushed and ate of the leaves, and the bhang refreshed him. For these two benefits bhang is Saankarpriya, the beloved of Mahadev. So the right user of bhang or of ganja, before beginning to drink or to smoke, offers the drug to Mahadev saying, leba Shankar, leba Babulnath: be pleased to take it Shankar, take it Babulnath. According to the Shiva Purana, from the dark fourteenth of Magh (January-February) to the light fourteenth of Ashadh (June-July), that is, during the three months of the hot weather, bhang should be daily poured over the Ling of Shiva. If not every day, bhang should be poured at least during the first and last days of this period. According to the Meru Tantra on any Monday, especially on Shravan (July-August) Mondays, on all twelfths or *pradoshas*, and on all dark fourteenth or *shivratris*, still more on the Mahashivratri or Shiva's Great Night on the dark fourteenth of Magh (January-February), and at all eclipses of the sun or moon, persons wistful either for this world or for the world to come should offer bhang to Shiva and pour it over the Ling. Not every devotee of Shiva makes offerings of bhang. Such rites in Bombay are seldom performed except in the Bhuleswar and Babulnath temples and there only on special occasions. The bhang offered to Mahadev is without pepper or otherspice. It is mixed with water, water and milk, or milk and sugar. It is poured over the Ling. According to some authorities the offerer should not touch the offered bhang. Temple ministrants Atits, Tapodhans, Bhojaks, Bhopis, Bharadis, Guravas alone should drink it. If there are no ministrants the remains of the offering should be poured into a well or given to cows to drink. Other authorities encourage the offerer to sip the bhang. By sipping the bhang reaches and soothes the Shiva-Shakti or Shiva-spirit. On special occasions during failures of rain, during eclipses, and also in

...ivas make offerings of bhang. The form of Vishnu or the
 welcome offering is Baladev, Balaram, or Dauji, the elder brother
 and of spirits, not of bhang. But Banias, Bhatias, and other high
 caste people are not able to offer spirits, instead of spirits present bhang. In Bombay
 Baladev, unlike the special offerings to Shiva, is a common and every-
 where offering of bhang no worship of Baladev is complete. Unlike the plain
 offering of bhang the Ling, Baladev's bhang is a richly-spiced liquid
 which the offerer, join in drinking. Such social and religious drinking
 in Bombay in the temple of Dauji in Kalyan Kiparam lane near Bhu-
 vaneśvar class worship of Baladev the liquor offering has been refined into
 it is in the worship of Devi, Shiva's early and terrible consort. On
 the two week days sacred to Devi, still more during the Navratri or
 September-October, those whose caste rules forbid liquor make a
 offering of Baladev all present, worshipper and minis-
 trant. And as in the worship of Baladev all present, worshipper and minis-
 trant. Shitaladevi, the Cooler, the dread goddess of small-pox, whose
 nature of bhang, is cooling, takes pleasure in offerings of bhang. During
 small-pox the burning and fever of the disease are soothed by pouring bhang
 Shitaladevi. So for the feverishness caused by the heats especially to the
 the drinking of bhang. Unlike spirits the tempter to flesh bhang the
 is pleasing to the Hindu religion. Even according to the strictest school of
 to stimulants, while to a high caste Hindu the penalty for liquor-drinking is
 attaches to the use of bhang, and a single day's fast is enough to cleanse
 from the spirit of *ganja*. Even among those who hold stimulants to be devil-possessed
 penalty and their attach to the use of hemp drugs only when they are taken with no reli-
 gious object and without observing the due religious rites.

At the other extreme of Hindu thought from the foes to stimulants, to the worshippers of the influences that, raising man out of himself and above mean individual worries, make him one with the divine force of nature, it is inevitable that temperaments should be found to whom the quickening spirit of bhang is the spirit of freedom and knowledge. In the ecstasy of bhang the spark of the Eternal in man turns into light the murkiness of matter or illusion and self is lost in the central soul-fire. The Hindu poet of Shiva, the Great Spirit that living in bhang passes into the drinker, sings of bhang as the clearer of ignorance, the giver of knowledge. No gem or jewel can touch in value bhang taken truly and reverently. He who drinks bhang drinks Shiva. The soul in whom the spirit of bhang finds a home glides into the ocean of Being freed from the weary round of matter-blinded self. To the meaner man, still under the glamour of matter or *māyā*, bhang taken religiously is kindly thwarting the wiles of his foes and giving the drinker wealth and promptness of mind.

In this devotion to bhang, with reverence, not with the worship, which is due to Allah alone, the North Indian Mussalman joins hymning the praises of bhang. To the follower of the later religion of Islam the holy spirit in bhang is not the spirit of the Almighty. It is the spirit of the great prophet Khizr or Elijah. That bhang should be sacred to Khizr is natural. Khizr is the patron saint of water. Still more Khizr means green, the revered colour of the cooling water of bhang. So the Urdu poet sings 'When I quaff fresh bhang I liken its colour to the fresh light down of thy youthful beard.' The prophet Khizr or the Green prophet cries 'May the drink be pleasing to thee.' Nasir, the great North Indian Urdu poet of the beginning of the present century, is loud in the praises of his beloved Sabzi, the Green one. 'Compared with bhang spirits are naught. Leave all things thou fool, drink bhang.' From its quickening the imagination Mussalman poets honour bhang with the title *Warak al Khizall*, Fancy's Leaf. And the Makhzan or great Arab-Greek drug book records many other fond names for the drug. Bhang is the Joy-giver, the Sky-lifter, the Heavenly-guide, the Poor Man's Heaven, the Soother of Grief.

Much of the holiness of bhang is due to its virtue of clearing the head and stimulating the brain to thought. Among ascetics the sect known as Atits are specially devoted to hemp. No social or religious gathering of Atits is complete without the use of the hemp plant smoked in ganja or drunk in bhang. To its devotee bhang is no ordinary plant that became holy from its guardian and healing qualities. According to one account, when nectar was produced from the churning of the ocean, something was wanted to purify the nectar. The deity supplied the want of a nectar-cleanser by creating bhang. This bhang Mahadev made from his own body, and so it is called *angaj* or body-born. According to another account some nectar dropped to the ground and from the ground the bhang plant sprang. It was because they used this child of nectar or of Mahadev in agreement with religious forms that the seers or Rishis became Siddha or one with the deity. He who, despite the example of the Rishis, uses no bhang shall lose his happiness in this life and in the life to come. In the end he shall be cast into hell. The mere sight of bhang cleanses from as much sin as a thousand horse-sacrifices or a thousand pilgrimages. He who scandalises the user of bhang shall suffer the torments of hell so long as the sun endures. He who drinks bhang foolishly or for pleasure without religious rites is as guilty as the sinner of *lakhs* of sins. He who drinks wisely and according to rule, be he ever so low, even though his body is smeared with human ordure and urine, is Shiva. No god or man is as good as the religious drinker of bhang. The students of the scriptures at Benares are given bhang before they sit to study. At Benares, Ujjain, and other holy places yogis, bairagis and sanyasis take deep draughts of bhang that they may centre their thoughts on the Eternal. To bring back to reason an unminged mind the best and cleanest bhang leaves should be boiled in milk and turned to clarified butter. Salamisri, saffron, and sugar should be added and the whole eaten. Besides over the demon of Madness bhang is Vijayā or victorious over the demons of hunger and thirst. By the help of bhang ascetics pass days without food or drink. The supporting power of bhang has brought many a Hindu family safe through the miseries of famine. To forbid or even seriously to restrict the use of so holy and gracious a herb as the hemp would cause widespread suffering and annoyance and to the large bands of worshipped ascetics deep-seated anger. It would rob the people of a solace in discomfort, of a cure in sickness, of a guardian whose gracious protection saves them from the attacks of evil influences, and whose mighty power makes the devotees of the Victorious, overcoming the demons of hunger and thirst, of panic fear, of the glamour of *Māyā* or matter, and of madness, able in rest to brood on the Eternal, till the Eternal, possessing him body and soul, frees him from the haunting of self and receives him into the ocean of Being. These beliefs the Mussalman devotee shares to the full. Like his Hindu brother the Mussalman fakir reveres bhang as the lengthener of life, the freer from the bonds of self. Bhang brings union with the Divine Spirit. 'We drank bhang and the mystery I am He grew plain. So grand a result, so tiny a sin.'

NOTE BY BABU ABHILAS CHANDRA MUKERJI, SECOND INSPECTOR OF EXCISE, BENGAL, ON THE ORIGIN AND HISTORY OF TRINATH WORSHIP IN EASTERN BENGAL.

Date of origin.—In 1867 Babu Ananda Chandra Kali or Kailai, of Dhamrai, a village in thana Sabhar of the Dacca district, first started the worship at the house of his father-in-law at Fattedpur in the Atia pargana of the Mymensingh district (sub-division Tangail).

Antecedents of the originator.—Dhamrai is an important village in the Dacca district noted for its ear festival, which is annually held in honour of a local idol named *Madhab Thakur*, and which is witnessed by a large gathering of people.

Ananda Chandra received education at the Dacca Normal School. After leaving school he served for some time as a pandit (schoolmaster), and then entered the Police Department, but was there only a short time. He is a Barendra Brahman and belongs to a respectable family. He learnt to smoke ganja when he was only a boy. His present age is 60 years. He has the reputation of being a versifier. He smokes two pice worth of ganja every day.

He married at Fattedpur in the Mymensingh district. There he introduced Trinath worship 27 years ago. A *panchali* (poem) reciting the praises and exploits of Trinath was first published at Dacca in 1871 and the first edition (1,000 copies) was sold in a few months.

The circumstances under which the worship was first started.—Ananda Chandra Kali was at the time living in the house of his father-in-law. He was thinking of introducing the worship of a common god, who might be worshipped by all classes, rich and poor, Brahman and Chandai, and by all creeds, Saktas, Baishnavas, and Shaivas, and the idea occurred to him of having the present worship at which ordinary and inexpensive things, such as ganja, oil, and betel-leaf, were alone to be used.

Trinath (from Sanskrit *Tri*, three, and *Nath*, lord) is represented to be Brahma, Bishnu and Shiva, the Hindu Trinity in one.

Being a ganja-smoker himself Ananda Kali may have also thought that by introducing the worship he would be able to save the ganja-smokers from disrepute, as then ganja could be consumed in the name of a god and under colour of doing a religious or pious act.

Religious aspect of the worship.—The following translation of the Introduction to the *Trinath Mela Panchali* gives some idea of the subject:—

"The universe consists of the earth, the heaven, and the nether world, and Trinath is the lord of these three worlds.

"There was an incarnation of God in the form of Gour (Chaitanya), who delivered the sinners by preaching the name of Hari, but the Lord was not satisfied with this, and became concerned for the created, and soon he became incarnate again. Brahma, Bishnu and Shiva, gods in three forms, manifested themselves in one form. The one God, the Lord of the universe, seeing the miseries of mankind, came to their deliverance. Ananda (Ananda Chandra Kali, the originator) declares that the true and sincere worshippers of Trinath are sure to obtain salvation. Brahma, Bishnu, and Shiva met together and expressed their desire to come to this world in one form to receive worship.

"He is a truly pious man who worships Trinath, and blessings are showered on the worshipper.

"The worship should be made in a form in which the rich and the poor may equally join and may perform it easily.

"Only three things, each worth one pice, are required for this *pūja* (form of worship). The things which please all must be selected. The offering should consist of *siddhi* (ganja), *pan* (betel-leaf), and oil, each worth one pice.

"The votaries should assemble at night and worship with flowers. The ganja should be washed in the manner in which people wash ganja for smoking. The worshipper must fill three *chillum*s with equal quantities of ganja, observing due awe and reverence. When all the worshippers are assembled the lamp should be lit with three wicks, and the praises of Trinath should be sung. As long as the wicks burn, the god should be worshipped and his praises chanted. The god should be reverentially bowed to at the close of the *pūja*. When the reading of the *Panchali* is finished, those that will not show respect to the *Prasad* (the offering which has been accepted by the god), i.e., *chillum* of ganja, shall be consigned to eternal hell, and the sincere worshippers shall go to heaven."

How the worship spread.—Ananda Kali commenced the *pūja* with the aid of some ganja-smokers in the village of Fattedpur. A large number of people consume ganja in the Dacca

and Mymensingh districts, and the worship soon became popular. In fact it spread like wild-fire from one village to another among the ganja-smokers. Those that were not in the habit of consuming ganja also followed their example.

The following circumstances assisted the spread of the worship:—

I.—The puja is open to all classes from Brahmans to Chandals and to the rich and the poor. Caste does not stand in its way, and it may be performed almost every day and in all seasons.

II.—The puja is a *Manasik Puja* (made in pursuance of a vow on the fulfilment of the object desired). People have been led to believe that Trinath possesses the power of healing the sick and fulfilling desires, and that those who neglect his worship meet with disgrace, while those who observe it attain success in life. There are several stories in the Panchali narrated in illustration of this statement. It is also popularly believed that in the house where Trinath is worshipped cold, fever and headache do not appear.

III.—This is a cheap form of worship. The puja can be performed by even the poorest, only three pice being required.

IV.—People of the lowest class can mix with those above them without distinction of caste or creed on the occasion of these pujas.

V.—Ganja can be consumed by all in the name of a god, and the practice cannot be looked down upon, because it is done under certain forms and religious ceremonies. It is also popularly believed that those who mock the worshippers of Trinath shall be ruined and shall be the victims of misfortune.

The worship prevails not only among the poor, but also among the well-to-do. The latter often entertain their friends after the puja.

Women do not take any active part in the worship, but they often listen to the reading of the *Panchali*.

The worship is more or less general in the following districts:—(1) Dacca, (2) Mymensingh, (3) Faridpur, (4) Backergunge, (5) Noakhali, (6) Tippera, (7) Chittagong, (8) Bogra, (9) Sylhet, and (10) Pabna (Serajganj side).

The worship is on the decline. It is almost dying out among the educated *bhadrolokes*, but among the masses it still exists.

I have ascertained the above facts from Dr. Chandra Sekhar Kali (brother of the originator, Ananda Chandra Kali) and many other respectable persons, and also from personal enquiries in the Dacca, Chittagong and Rajshahi divisions.

MEMORANDUM BY MR. R. G. CULLODEN, ASSISTANT COLLECTOR OF CUSTOMS AND SUPERINTENDENT OF THE PREVENTIVE SERVICE, RANGOON, ON THE SMUGGLING OF GANJA INTO RANGOON.

Ganja has always been considered a prohibited drug in Burma. The prohibition of its importation has so far been successful that the drug has been kept out of the local market to a considerable extent; this is proved by the fact that whenever traced to any one possessing it, only very small quantities of the drug have been found on them.

That there exists a demand for the article and that high prices are paid for it no one can deny; this is testified to by the many attempts that are made to smuggle it into the country, and on which even the heavy penalties inflicted on detected cases do not appear to have any deterrent effect.

From the statement of seizures of ganja during the past five years, it will be seen that the illicit traffic is kept up with more or less regularity, the largest quantities coming from the Madras Coast. Advantage has also been taken of smuggling the drug by post.

There are many amongst the consumers who cannot do without the drug, the want being felt by them as much as the want of alcohol is by persons addicted to its use. The following will illustrate this. A Madrassi sepoy was once brought up for being in possession of 3 tolas weight of ganja, he cried as though his very existence was at stake when told that the drug would be confiscated. He said that if it was taken from him, he would be unable to perform his duties, and as he was ordered to a station in Upper Burma, where it was impossible to obtain it he would die. He declared that he only indulged in very small quantities at a time and that it did him no harm. I have seen several similar instances of a craving for the drug, the accused in such cases being more willing to submit to a fine than be deprived of the ganja. From my experience I am inclined to believe that the moderate consumption of the drug has not the demoralising effect imputed to it, though I would not venture to assert that there would not be a tendency to the abuse of the drug, if the prohibition was removed.

Punjabis, Pathans, natives of Upper India and Madrassi sepoys are those addicted to the use of ganja. The attempts at smuggling have been more frequent since the introduction of the Punjabi element in the police force; this is no doubt owing to a greater demand for the article. Judging from the physique of the latter race of men it would appear that the moderate indulgence in the use of the drug is attended with no ill effects.

No case of Burmans making use of ganja has even been brought to my notice. Hemp is grown in Upper Burma, and Burmans, if they choose, could use it as a narcotic without let or hindrance. The Burma ganja is said to be inferior in quality to that obtained in India, hence it is not valued so much by the natives of India and smuggling is, therefore, likely to be always resorted to as a means of getting the latter article into Rangoon.

The following recent cases of seizure indicate how ganja is smuggled. On the 6th July 1893 the customs preventive officers, acting on information, searched the *S.S. Camorta* from Madras, and found 5,481 tolas of ganja packed in tin cases concealed inside the paint lockers in the fore-castle of the steamer. As this part of the ship is occupied by the crew, they were charged with having brought it on board, but they disclaimed liability and consequently penalty of 500 rupees was inflicted on the vessel, in accordance with the orders of the Government of India as per letter No. 5205, dated Simla, 10th October 1889, the amount being recoverable rateably from the wages of the crew. On the 21st of the same month, or 15 days later, another large seizure was made, the ganja weighing 6,613 tolas and packed in tins was found concealed partly in the lazarette and partly inside the linen locker of the *S.S. Scindia* from Madras. The captain handed over the butler of the first-class saloon as the guilty one, the key of the locker having been in his possession. The accused was convicted and sentenced by the Magistrate to pay a fine of 500 rupees, and this not being paid, he was sent to prison for three months and 20 days. On the 21st August last as much as 11,760 tolas of ganja were found in two cases landed as passengers' luggage ex *S.S. Nowshera* from Madras. The gunner of Brookings Street wharf was implicated, as on landing those boxes he declared that they belonged to him. He was sentenced by the Magistrate to three months' imprisonment and to pay a fine of Rs. 500. His accomplice, a native, who brought the ganja by the steamer as his luggage was awarded two months' imprisonment. On the 18th of last month 2,420 tolas of ganja were found in a case declared to contain a sewing machine. The case was in transit from Madras to Mandalay and was consigned to a native at the latter place. It was allowed to go on to its destination and intimation having been sent by telegram to the Deputy Commissioner there, two natives who came and took delivery of the case were arrested. There has since been another seizure of 3,360 tolas of ganja, the drug being found in a box declared to contain shoes intended for Mandalay. The case was dealt with in a similar manner to the foregoing one, but the result is not yet known.

In 1888-89 the number of seizures was abnormally high, the aggregate quantity of ganja weighing as much as 17,753 tolas, and may be accounted for by the influx of a large body of native (Punjabi and Madrassi) troops consequent on the annexation of Upper Burma.

The following statement shows the seizures of ganja during the last five years, also during the first eight months of 1893-94 :—

Year.	Quantity, Tolas.
1888-89	17,753½
1889-90	626
1890-91	1,218
1891-92	2,430
1892-93	5,856
1893-94 (from 1st April to 30th November)	30,353

LETTER No. 133—11-E, DATED 5TH MARCH 1894, FROM THE ASSISTANT SECRETARY TO THE FINANCIAL COMMISSIONER, BURMA, TO THE REVENUE SECRETARY TO THE CHIEF COMMISSIONER, BURMA.

- *1. No. 659—11-E, dated the 27th January 1894.
2. No. 55—11-E, dated the 3rd February 1894.
- †1. Letter No. 11—34, dated the 1st December 1893, from the Deputy Commissioner, Bassein.
2. Letter No. 3124—14-29, dated the 13th December 1893, from the Deputy Commissioner, Amherst, with enclosures.
3. Letter No. 502—14-E, dated the 1st December 1893, from the Deputy Commissioner, Akyab.
4. Letter No. 6—62-E, dated the 13th December 1893, from the Deputy Commissioner, Rangoon Town District, with enclosures.
5. Letter No. 315—56-E, dated the 20th November 1893, from Commissioner, Pegu, with copy of answer to question 35.
6. Letter No. 494—20, dated the 2nd December 1893, from Chief Collector of Customs. (Copy of enclosures forwarded with Secretary to Financial Commissioner's letter No. 55—11-E, dated 3rd February 1894.)
7. Letter No. 1322—37-93, dated the 19th December 1893, from the Officiating Commissioner, Arakan, with enclosures.
8. Letter No. 9—1397, dated 12th January 1894, from the Deputy Commissioner, Toungoo.
9. Letter No. 232—14-E, dated the 16th January 1894, from the Commissioner, Southern Division.
10. Letter No. 18—34, dated the 24th January 1894, from the Deputy Commissioner, Meigui.
11. Letter No. 464—136, dated 30th January 1894, from Commissioner, Tenasserim Division.

With reference to paragraph 3 of your letter No. 16—2-E-19, dated the 2nd November 1893, and in continuation of this office letters cited in the margin, * I am directed to forward, for the Chief Commissioner's information, copies of the replies received from the officers who were consulted concerning—

- (I) the smuggling of ganja; and
- (II) the success of the system of prohibition which has been adopted in Burma.

On the first point the information supplied by the Deputy Commissioners of the four seaport towns shows that the smuggling of ganja is steadily increasing, as will be seen by the following summary of cases of smuggling detected, viz. :—

	1890-91.	1891-92.	1892-93.
	Tolas.	Tolas.	Tolas.
(I) Rangoon	8,423	9,771	13,115
(II) Moulmein	932	213	92
(III) Akyab	245	567	1,018
(IV) Bassein	Nil	Nil	Nil
TOTAL	9,600	10,551	14,225

The increase is most marked in Rangoon and Akyab, where Indians form a considerable portion of the population. In Moulmein there has been a large falling off. No reason has been given by the Deputy Commissioner for this decline.

2. Colonel Butler, Deputy Commissioner, Henzada, who was also consulted on the two points, is unable to furnish any information, and no report of any kind has been furnished by Lieutenant-Colonel Adamson, Commissioner, Central Division, although, as previously stated an urgent reminder was sent to him on the 20th January 1894.

No. 11—34, dated the 1st December 1893.

From—The Deputy Commissioner, Bassein,

To—The Secretary to the Financial Commissioner, Burma.

With reference to your letter No. 337—116-E, dated 11th November 1893, I have the honour to state that there has been no case of smuggling of ganja into this district for the years 1890-91, 1891-92, and 1892-93.

No. 3124—14-29, dated the 13th December 1893.

From—The Deputy Commissioner, Amherst District,

To—The Secretary to the Financial Commissioner, Burma.

With reference to your letter No. 337—116-E, dated 11th ultimo, I have the honour to submit herewith statement showing the quantity of ganja smuggled into Moulmein in 1890-91, 1891-92, and 1892-93. There has been no case of smuggling of ganja in the Amherst sub-division. No reports have been received from the sub-divisional officers of Thaton and Gyaing: they have been reminded to submit the same at once.

Statement showing the quantity of ganja smuggled into Moulmein.

	1890-91.	1891-92.	1892-93.
	Tolas.	Tolas.	Tolas.
Quantity of ganja smuggled into Moulmein ...	932½	212½	92½

No. 502-4-R.
14-93, dated the 1st December 1893.

From—The Deputy Commissioner, Akyab,

To—The Secretary to the Financial Commissioner, Burma.

I have the honour to acknowledge the receipt of your letter (Financial Department), No. 335—116-E., dated the 11th November 1893, giving cover to two printed copies of "Instructions to witnesses (Burma only)" framed by the Indian Hemp Drugs Commission, and to forward my answers to some of the nine queries framed by the Commission.

2. As regards point (1) I am inclined to think that after a three years' experience as Deputy Commissioner of Rangoon Town from May 1890 to June 1893 smuggling has increased, and that it is due to the influx of natives of India from the Madras Presidency, also to the increase of native troops since the events of 1885. The records of cases tried and the experience of the Rangoon excise and customs officers will, I think, prove that I am in all probability right. It is now brought in to some extent by post, but principally in Rangoon by the crew of the British India Steam Navigation Company's steamers, who put it in floating tins, and as they come up the river, somewhere about Elephant Point, throw it overboard to accomplices who are on the look-out in small boats or sampans.

3. As regards point (2), I should think, considering the fact that ganja is not used by indigenous races of Burma, or, if it is, only in very solitary instances, that the system of prohibition has on the whole been successful. But it is by no means certain whether the success may not be due to the fact that the use of opium has taken its place. I cannot give any other facts to support my view. The marginal statement shows approximately the quantity smuggled during 1890-91, 1891-92, and 1892-93.

4. One copy of the answers to these questions has been sent to the Commissioner direct as desired by you.

No. 6—62-R., dated the 13th December 1893.

From—The Deputy Commissioner, Rangoon Town District,

To—The Secretary to the Financial Commissioner, Burma.

With reference to your letter, Financial Department, No. 337—116-E., dated 11th instant, I have the honour to submit a statement showing the quantity of ganja smuggled into Rangoon in each of the years 1890-91, 1891-92, and 1892-93, together with a copy of Excise Officer Mr. Lewis' report on the subject. It is quite possible that in some cases some ganja has been shown twice over, and the quantities entered by the Chief Collector of Customs as smuggled are also contained in the amounts shown by the District Superintendent of Police and the Magistrate, but I find this cannot now be accurately ascertained.

Statement showing the quantity of ganja smuggled into Rangoon.

Received in	1890-91.	1891-92.	1892-93.	Remarks.
	Tolas.	Tolas.	Tolas.	
Custom House	1,218	2,430	5,356	
Police Office	1,767	386	1,113	
Assistant Magistrate's Court	125	1,299	384	
Junior Assistant Magistrate's Court	4,603	4,591	60	
Treasury	710	1,065	5,702	
TOTAL	8,423	9,771	13,115	

Report regarding ganja (Financial Department No. 357—116-E).

Ganja was prohibited in Burma in 1873. At that time I was in Thayetmyo, where there was a ganja-shop. Burmans who smoked ganja then were afraid of being punished for being in possession of it and took to using kunbon, which is prepared from opium, betel, and other leaves cut fine, dried, and fried with opium; then they smoke it. Natives—especially those belonging to the Commissariat Department, elephant and cattle drivers and lascars—did not give up the use of ganja, but they smoked it secretly, as ganja grew round about there, especially at Allannyo. The natives also use ganja for medicinal purposes for their cattle. At that time the native troops in the station for two or three days found it very difficult to get ganja; they soon got their supply cheaper than the license-holder sold it to them, as some men started on illicit traffic. In 1875 I came to Rangoon; then I found ganja, although prohibited, was used, and men were pointed out to me as ganja-smokers. They did not smoke in public, and how they got their ganja was very difficult to find out. After some time it was discovered that large quantities of ganja were imported through banghai post direct from Madras, addressed to butlers of different gentlemen in cantonment, and to the native regiment. This matter was represented to the Local Government, and at that time large quantities of ganja were seized in post.

Since the annexation of Upper Burma in 1885, large numbers of native troops and followers and cattle-drivers have come to Burma, and the demand for ganja has increased. I have heard that there is no difficulty in getting ganja in up-country. Rangoon is now becoming thickly populated with natives of India who are in the habit of using ganja. As it is not sold in Burma they get it from elsewhere. In the last two or three years large seizures of ganja have been made by the different departments, which plainly shows that smuggling of ganja is on the increase. There is a great demand for ganja by natives of India in Rangoon at present.

The abolishing of the sale of ganja in Burma has not, I think, reduced the use of it with the natives. It has increased illicit traffic, and has let people in other places know what the value of ganja in Burma is.

As the native population is so largely increasing in the town of Rangoon, and the demand for ganja so great, I would beg to suggest that, so long as ganja is allowed to be used and sold in India, that the same privilege be granted in Burma, with this restriction, that it be only sold to the natives.

The license-holder should be allowed to sell at one time one tola to a person, except on an order from the Deputy Commissioner granted to a person or persons who require a larger quantity of ganja for medicinal purposes.

No. 315—56-E., dated the 20th November 1893.

From—The Commissioner, Pegu Division,

To—The Secretary to the Financial Commissioner, Burma.

With reference to your letter No. 335—116-E., dated 11th November 1893, I have the honour to report that, in compliance with your instructions, one copy of the questions, with my replies to the few questions that I am able to answer, has been this day (20th November) posted to the address of the Indian Hemp Drugs Commission, and a second copy is enclosed herewith.

With regard to paragraph 2, I have the honour to say that my views on this point are given in my answer to question 35.

Question 35.

Would it be feasible to prohibit the use of any or all of these drugs? Would the drug be consumed illicitly? How could the prohibition be enforced? Would the prohibition occasion serious discontent among the consumers? Would such discontent amount to a political danger? Would the prohibition be followed by recourse to (a) alcoholic stimulants or (b) other drugs?

Colonel C. B. Cooke's answer.

The use of the drug is prohibited in this province. The prohibition is intended to protect the indigenous population from acquiring a habit which is by some persons held to be a cause of insanity. The alien population of Burma at the time that the prohibition was ordered was insignificant in number; in the twenty years that population has probably increased five hundred-fold, and the difficulties of enforcing the prohibition have also increased. But still I think the prohibition should not be omitted.

No. 494-20, dated the 2nd December 1893.

From—The Officiating Chief Collector of Customs, Rangoon,

To—The Secretary to the Financial Commissioner, Burma.

In reply to your letter No. 336—116-E., dated the 11th November 1893, I have the honour to submit a memorandum by Mr. K. G. Culloden, Assistant Collector of Customs

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and Superintendent of the Preventive Service, Rangoon, an officer of long experience in the department, on the results, from a customs point of view, on the prohibition of ganja in this province.

The note appears to me to prove that there is a large demand in Burma for ganja; the people *will* try to obtain it, and that the statistics of seizures by custom-house officers indicate that determined efforts are made by smugglers to import ganja.

No. 1322—37-93 (Excise), dated 19th December 1893.

From—The Commissioner, Arakan Division.

To—The Financial Commissioner, Burma.

I have the honour to submit a copy of my replies to the questions asked by the Hemp Commission.

With reference to paragraph 2 of your No. 335—116-E., dated 11th November, I do not think there is any necessity for altering the system of prohibition in force in Burma: except in the Akyab district, which borders on Chittagong, the drug is not much used.

I append a statement showing the number of ganja cases reported and brought to trial with the total amount of ganja seized, since the special excise establishment sanctioned in your No. 282—23-E., dated 10th February 1891, was introduced.

These figures have been supplied by the Inspector of Excise.

Statement showing the number of ganja cases reported and brought to trial and quantity of ganja seized by the special Excise Department, Akyab, since April 24th, 1891.

Year.	Number of cases reported.	Number of cases convicted.	Quantity of ganja confiscated.	Remarks.
1891-92	31	26	267½	
1892-93	27	18	260½	
1893-94	17	11	171	From 1st April to 30th November 1893.
TOTAL	75	55	698½	

No. 97—130, dated the 12th January 1894.

From—The Deputy Commissioner, Toungoo.

To—The Assistant Secretary to the Financial Commissioner, Burma.

With reference to your No. 318—11-E., dated 11th instant, and annexures, I have the honour to forward one copy of the questions of the Hemp Drugs Commission, together with my answers to some of the same.

2. With reference to the last paragraph of your letter No. 335—116-E., dated 11th November 1893, I have the honour to state that in my opinion the system of prohibiting ganja in Burma has been to a very large extent, though not entirely, successful. I base this opinion on my experience as a Magistrate. I regret that I cannot give the actual number of cases brought before me in which the possession of ganja was involved, but they were not sufficiently numerous to accuse the prohibitory system of failure, though quite enough to prove that a demand for the drug does exist, which has to be met by smuggling.

No. 232—14-E., dated the 16th January 1894.

From—The Commissioner, Southern Division.

To—The Financial Commissioner, Burma.

With reference to paragraph 2 of your letter, Financial Department, No. 335—116-E., dated 11th November 1893, I have the honour to report that, as far as my experience goes, the system of prohibition of ganja has worked well. This is based on my experience in different places. It is very possible, however, that the large influx of natives in the Military Police, etc., within the past few years may cause an increase in the consumption, but I think the existing Excise and Police Departments can cope with it.

No. 18 ½, dated the 24th January 1894.

From—The Deputy Commissioner, Mergui.

To—The Secretary to the Financial Commissioner, Burma.

In reply to your reminder No. 145—116-E., dated the 5th January 1893, directing attention to paragraph 2 of letter No. 335—116-E., dated the 11th November 1893, calling for an opinion as to the success of the system of prohibition of ganja which has been adopted in Burma, I have the honour to state that, as far as the general public are concerned, the use of ganja is practically extinct. A few of the natives of India still manage to smuggle it in for their own use, and detection is difficult.

2. Owing to my absence on tour, the reply to your reminder has been somewhat delayed.

No. 464—136, dated 30th January 1894.

From—The Commissioner, Tenasserim Division.

To—The Financial Commissioner, Burma.

I have the honour to state in reply to the 2nd paragraph of your Secretary's letter No. 335—116-E., Financial Department, dated 11th November last, that I have never, as far as my recollection serves me, come across a single instance of a Burman using or possessing ganja. In every case with which I have had to deal in my 31 years' experience in this province the offender was a native of India. The effect of the prohibitory system has undoubtedly been to render it somewhat difficult and dangerous for any one to possess the drug, and this must have very largely tended to keep it out of the hands of Burmans. In my opinion, if this system had not been adopted, the results would have been disastrous. Burmans would very certainly have taken to use ganja, for which they have now no desire, and from their national character those who took to it would have used it to excess, as is the case with opium, which, taken in moderation, does no harm.

2. It is most important to remember that the markedly characteristic feature in the Burman character is want of self-control. A Burman is, as a general rule, unable to deny himself anything obtainable. He won't work if he can get natives of India to work for him; he no sooner makes money than he spends it on silk clothes or in gambling at boat, cart, and pony races. Naturally happy and good-natured and by religion and training careful of life, he, on comparatively slight provocation, attacks his own friend with any weapon on which he can suddenly lay his hand, and will cause death without a thought and because he cannot control himself sufficiently to think. Long-premeditated crimes of violence are comparatively rare: a dacoity is got up in a day or two and is carried out often enough by men who are ordinarily fairly honest peasants, but perhaps gamblers or opium-smokers, or most rarely, if ever, drunkards in want of money to satisfy what by indulgence has become an uncontrollable craving. If a Burman once takes to gambling, to drinking, or to opium-smoking, he is for this very reason lost, and he, by his want of self-control, turns what is a harmless amusement or pleasure into a vice that utterly ruins him and makes him still more recklessly self-indulgent than he is by nature. It is for this reason that opium-smoking is for Burmans such a monstrous evil. If a Burman took to ganja in a similar way as he would were its consumption and even possession not prohibited, the effects would be terrible.

3. I regret that the very fact of the prohibition renders it impossible for me to furnish you with any statement of fact, except that I have never known a case of a Burman using ganja.

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ANALYSIS MADE BY THE COMMISSION OF CASES REFERRED TO BY WITNESSES IN ANSWERING QUESTION NO 5:

I.—Cases the records of which have not been called for.

Serial No.	Province.	Name of witness.	Number of witness.	Name of criminal.	Nature of the crime.	Reason for attributing the crime to hemp drugs.
1	Bengal	Mr. Williams	13	Not given	A Darbhanga sowar seems to have run amok in Calcutta. Witness was told he did not take liquor.	"My knowledge of the case was entirely hearsay."
2	Do.	Mr. Taylor	36	Do.	When witness was passing through a Sonthal village in 1856 with some friends, a man attacked them with a sword. It was during the Sonthal rebellion.	The villagers and the man himself said he was intoxicated with <i>bhong</i> .
3	Do.	Abhilas Chandra Mukerjee	63	Do.	A lad in an altercation with his uncle killed him with a sword. This case was reported to witness by the District Superintendent, Police.	The lad was a <i>ganja</i> -smoker and the uncle used to remonstrate with him.
4	Do.	Nobin Chander Sen	39	Do.	A fakir committed murder.	No special reason given.
5	Do.	Govind Chandra Das	64	Radhai Haldar	A man killed his mother because she would not bring his son who had been cremated, but whom he believed to have been raised from the dead by Trinath.	The man is said to have smoked <i>ganja</i> at a "Trinath fair." But the case is very doubtful.
6	Do.	Nobo Gopal Bose	218	Not given	A Brahmachari sacrificed a human being.	The accused told his pleader he was intoxicated from <i>ganja</i> .
7	Do.	Nimai Charan Das	142	Do.	A Muhammadan fakir killed a disciple with his <i>dhow</i> for being late in bringing his smoke.	No reason given. The man had not had his <i>ganja</i> and was angry.
8	Assam	K. C. Sanyal	31	Not given	A man addicted to <i>ganja</i> was sitting talking with a friend and suddenly killed him.	He was addicted to <i>ganja</i> .
9	North-Western Provinces.	Mr. Roberts	32	Not given	A constable threw small stones at his comrades and threatened to shoot, but gave up his rifle quietly.	He was addicted to <i>ganja</i> .
10	Do.	Mr. Partridge	20	Do.	A fakir in Srinagar chopped off a boy's head.	He was a consumer in considerable quantities and "fairly rational" when not under the influence of <i>charas</i> .
11	Do.	Munna Lal	123	Do.	A fakir threatened people on the street over 20 years ago.	The witness remembers it was <i>charas</i> .
12	Do.	Do.	123	Do.	2. A man was making a disturbance as witness passed by.	The people in the street said he was mad with <i>ganja</i> or <i>charas</i> .
13	Do.	Pandit Debi Parshad	204	Do.	A fakir threw idols into a well and also pushed in a man who remonstrated with him, fourteen years ago.	"He was an excessive consumer." He was sent to the asylum and remained there twelve years.
14	Do.	Mohant Rai.	242	Do.	Two men quarrelled four or five years ago.	No reason given in any of the three cases.
15	Do.	Do.	242	Lahri Baba	2. Killed a child for his ornaments 25 years ago when under the influence "of <i>bhong</i> with <i>dhatara</i> and arsenic in it."	
16	Do.	Do.	242	Not given	3. A teacher 40 years ago killed a student.	"It was ascribed by rumour to <i>ganja</i> -smoking."
17	Do.	Mr. R. Wall	233	Not given	A Gurkha soldier ran amok about 1879 at Naini Tal.	

Province.	Name of witness.	Number of witness.	Name of criminal.	Nature of the crime.	Reason for attributing the crime to hemp drugs.
3 North-Western Provinces.	Mr. R. Wall	233	Not given	2. A sepoy shot Lieutenant Coude at Benares in 1883.	"I cannot say whether it was a hemp case."
9 Punjab	Shekh Riaz Hossain	67	Not given	A fakir murdered a Tahsil chaprasi in Muzaffargarh.	He "was a constant consumer of <i>bhong</i> and did nothing else."
10 Do.	Mr. Robinson	16	Do.	A man nearly killed a banya with whom he had had dealings.	He was "under the influence of some drug."
11 Do.	Karm Elahi	44	Do.	A Sikh in Rawat Pindi throttled his nephew 8 or 9 months old.	He was "under excitement," and apparently insane, not under the influence of <i>bhong</i> at the time.
22 Do.	Colonel Hutchinson	4	Do.	A Gurkha belonging to the witness' then regiment ran amok. It was in the sixties. There was jealousy in the case.	No reason given. "It is too long ago to recollect details."
23 Do.	Mr. Warburton	30	Do.	A police sergeant about 1874 became violent from the use of <i>bhong</i> and <i>dhans</i> . Had he got a sword there would have been injury.	Witness' recollection. "He had been brooding over being passed over for promotion."
24 Central Provinces.	Hosen Khan	79	Not given	The witness' brother-in-law nearly killed his wife under the influence of <i>ganja</i> .	No special reason given.
25 Do.	Adhar Singh Gour	69	Do.	A confirmed smoker killed his own child.	The Sessions Court acquitted the man on account of insanity due to mental trouble.
26 Do.	Taradas Banerjee	70	Do.	A Sanyasi killed a Kapalik in the temple over 20 years ago.	He was a <i>ganja</i> -smoker, but witness cannot say he indulged that day.
27 Do.	Brijmohan Patnaik	24	Paltu	Tried to kill a woman under the influence of <i>ganja</i> .	No reason given. Witness does not know about provocation.
28 Do.	Dinanath, Rai Bahadur.	32	Not given	A Gond killed his wife because she would not give him water.	The man said he had done the deed under the effect of <i>ganja</i> .
29 Do.	Mr. Naylor	30	Do.	A Banjara killed his wife and two months of the tanda 19 years ago.	The people of the tanda said so.
30 Do.	Do.	30	Do.	2. A zamindar 15 years ago killed his brother by whose death he succeeded to the estate.	His friends said so.
31 Do.	Prem Singh	57	Do.	"I have seen a boy, not used to <i>ganja</i> , on becoming intoxicated with it, kill his father."	Witness was present apparently.
32 Do.	Mahomed Taki	33	Guppu Singh	Guppu wounded with a sword one of several constables who were drinking <i>bhong</i> with him 20 years ago.	The story is that he was drinking <i>bhong</i> at the time.
33 Do.	Do.	33	Not given	2. A Nat killed his wife 25 years ago.	The story is that he was drinking <i>bhong</i> at the time. "He subsequently became a lunatic and was sent to Jubbulpore."
34 Do.	Mr. Pasley	34	Do.	One Sadhu killed another	No reason given.
35 Madras	Mr. Simpson	67	Not given	A native officer shot his Subadar Major from jealousy about 1886.	Witness gives up this case. (N.B.—This case is quoted by witnesses Nos. 81 and 82.)

REPORT OF THE INDIAN HEMP DRUGS COMMISSION, 1893-94.

Serial No.	Province.	Name of witness.	Number of witness.	Name of criminal.	Nature of the crime.	Reason for ascribing the crime to hemp drugs.
36	Madras	Mr. Simpson (continued).	67	Not given	2. A barber cut the throat of his first wife and his own that they might die together, about 1833.	2. Witness is doubtful as to this case.
37	Do.	Do.	Do.	...	3. A boy in mischief threw a stone over a purdah and killed a woman sleeping on the other side.	3. This is very doubtful: people present said "the boy had thrown the stone in play."
38	Do.	Jayawamy Pillay	109	Do.	A consumer was quarrelsome and used to attack his relatives and beat them.	The matter never came to Court. The man took liquor also.
39	Do.	Dr. Lancaster	90	Do.	A sepoy in hospital at Nellore stabbed the orderly. He was "in a state of doubtful sanity" (vide Dr. Pemberton's evidence).	He used ganja. He was ultimately to be sent to the asylum.
40	Do.	Dr. Pemberton	98	Do.	A sepoy in Burma in 1881 ran amok. This witness also speaks to the Nellore case (No. 39 supra).	The witness had the man under observation.
41	Do.	Dr. Chatterjee	88	Do.	A sepoy ran amok in 1887 in Burma.	The discrepancy between Dr. Chatterjee's written and oral examination show his recollection to be defective.
42	Do.	Vasudeo Rajamani	128	Do.	A consumer tried to stab another man 23 years ago.	The man was a consumer.
43	Do.	Mahomed Murtaza	82	Do.	A sepoy shot a Jamadar without reason.	The men of his regiment said he was a great smoker.
44	Do.	R. C. Chatterjee	167	Do.	A man in Ganjam committed a murder.	"He was an immoderate smoker of ganja."
45	Do.	Rev. Mr. Higgins	150	Do.	A Brahman beat his child and wept when he became sober.	The man made this excuse.
46	Do.	Very Rev. A. Chelvaiah	161	Do.	A sepoy was anxious 42 years ago to do violence, but could not control his limbs.	No reason given. Witness was then twelve years old.
47	Do.	Mr. Merriman	28	Do.	A pensioned sepoy murdered his daughter-in-law and her brother and sister.	The man was a consumer.
48	Bombay	Mr. Kennedy	54	Not given	A Biluch sepoy ran amok and shot some people.	Witness rather indicates that this was premeditated.
49	Do.	Mr. Woodward	11	Do.	A man attacked and was shot by Mr. Woodward, Collector of Nasik.	"It was commonly reported."
50	Do.	V. R. Katti	116	Do.	A Lingayat trader killed his brother by night.	He was a consumer.
51	Sind	Suribhais Shewakram Advani	29	Not given	A sepoy at Hyderabad ran amok several years ago.	"It was believed." Mr. Giles (Witness 2) also quotes this case doubtfully.
52	Do.	Rahmatullah Khan	9	Do.	A drinker of bhang committed a murder in a scuffle about plucking berries.	The man was a consumer.
53	Do.	Mahomed Murid	11	Kowra Khokar	Kowra Khokar killed a companion at night.	"They were always quarrelling about opium and bhang."
54	Burma	Mr. Mayne	23	Not given	A sepoy shot a Subadar-Major at Sagaing in 1838.	He was a consumer.
55	Do.	Do.	Do.	Do.	A sepoy attempted to murder a Burmese girl.	Ditto.
56	Bihar	V. Khot	30	Do.	A man ran amok in Mhow	No reason given.

ANALYSIS OF CASES.

Serial No.	Province.	Name of witness.	Number of witness.	Name of criminal.	Nature of the crime.	Reason for ascribing the crime to hemp drugs.
57	Berar	K. A. Baki	36	Not given	A bairagi murdered a woman while intoxicated.	No reason given.
58	Do.	Mr. O'Grady	6	Ambrose	The servant assaulted the witness when he dismissed him.	The man made this excuse.

II.—Cases in which the records were examined by the Commission.

Serial No.	Province.	Name of witness.	Number of witness.	Name of criminal.	Witness's view of the case.	Result of examining the records.
59	Bengal	Mr. Ward	89	Not given	A smoker suddenly murdered a vendor because he would not supply him with more ganja.	In an altercation the vendor "first struck the accused with a split bamboo; and it was then that he wounded him with his knife," which he had in his hand as he had been eating fruit.
60	Do.	Do.	Do.	Isahak Shekh	2. A ganja-smoker cruelly treated his child. While under trial and on bail he hacked at his wife and father-in-law and killed another man who came to their rescue.	The man cruelly treated his child on trifling provocation. He determined to kill his wife for giving evidence against him, and killed a man who came to her rescue. There is no mention of ganja.
61	Do.	Dr. Crombie	104	Kallash Chandra Mallik.	"A Bengali Babu, as the result of a single debauch in an attack of ganja mania, slew seven of his nearest relatives in bed during the night, made a rapid recovery, and never again exhibited signs of insanity."	The Sessions Judge found that "for years prisoner has been peculiar in his behaviour. After his wife's death [six or seven years before this occurrence] he was quite mad for a month; and since his mother's death again he has been behaving like a man bereft of his reason." The murder was committed on the evening of his mother's Shradh; and the man's insane statements after the murder showed that he had the idea that the family were helpless without the mother.
62 to 64	Do.	Mr. Marindin	16	Three cases	No particulars were given by witness; but he mentioned the cases as illustrating homicidal frenzy attributed to hemp drugs.	All three were cases of insanity. In the first case there is doubtful mention of hemp drugs. In the other two there is no mention of these drugs; but in one of them (the third case) there is mention of liquor.
65 & 66	Assam	Mr. Dalrymple Clark	14	Two cases	The witness after consulting his subordinates examined the records of seven cases of this character and found two in which there was mention of ganja. He gave their names without details; and they were sent for.	In both cases the accused were ganja-smokers. But the record in each case indicates that the offences cannot be attributed to that drug. The one was a quarrel between some smokers. The other was a case of wife-branding.
67	Do.	Dr. Mullane	19	Ramchandra Puri	In 1885 a religious mendicant murdered a guest in the middle of the night apparently while under the influence of ganja.	The record suggests the same view as the witness holds.
68	...	Do.	Do.	Jadu Murha	2. A man was charged with committing murder in the Dum Duma bazar under ganja delirium. The witness does not remember de-	2. This man wounded several people. He used to drink liquor and take opium. He never took ganja. The Judge found that he had not had

REPORT OF THE INDIAN HEMP DRUGS COMMISSION, 1893-94.

Serial No.	Province.	Name of witness.	Name of Criminal.	Witness's view of the case.	Result of examining the records.
69	Assam	Mr. Moran	Lala Kamar	"I had a case of a man in my garden who cut off his wife's head whilst temporarily insane under the effects of the drug."	It is a striking fact that Mr. Moran was examined at great length before the Magistrate and never mentioned <i>ganja</i> . The record is quite against the <i>ganja</i> theory. The man seems to have been addicted to liquor.
70	Do.	Mr. McCabe	Not given	"A Nepalese under the excitement caused by <i>bhany</i> cut down an inoffensive person whom he had never met before and with whom he had no sort of quarrel whatever."	The man was drunk at the time and committed the murder in a drunken fray of which the principal feature was that he demanded more drink.
71	Punjab	Mr. Maconachie	Allah Baksh	In 1892 "a fakir excited with <i>bhany</i> made a furious attack on a companion with his club."	The man in a quarrel with his wife wounded her with an axe. Only one witness spoke to the use of <i>bhany</i> . Mr. Maconachie himself tried the case.
72	Do.	Mr. Dames	Kalu Khan, Khosa	"Kalu Khan stabbed a man with whom he had no previous quarrel while under the influence of <i>bhany</i> ."	This is a very interesting case in connection with an effort on the part of the Punjab Government to make the Khosas give up all intoxicants.
73	Madras	Colonel Chrystie	Shekh Hussain	"A peon, having been fined four annas, got into a high state of irritation and went and smoked <i>bhany</i> in a <i>makkan</i> in Anantapur at noon. The <i>bhany</i> appears to have excited him to madness. He beat an old man to death, and threatened others with a club. [This case is quoted by several other Madras witnesses.]	This man's asylum history should be read as well as the judicial records. He is one of the 1892 cases. He was punished as slated for a crime committed (as was supposed) when he was intoxicated. But inquiry into his antecedents and his jail and asylum history show recurrent insanity, the outbreaks of which are quite independent of <i>ganja</i> .
74 to 76	Do.	Mr. Stokes	Three cases	"The 1st class Inspector of Police, Tirupatur taluk, gives three instances of murder which he attributes to this cause."	There is really nothing to show that any of these cases was due to hemp drugs. They were cases of murder of a concubine in one case and a wife in the other two.
77	Do.	Mahomed Saheb, Anwar	Kuppia	This man killed his child on Kartika Nakshatram day "to send the child to God." There was evidence that he was under the influence of <i>bhany</i> .	The High Court adopted this view of the case.
78	Bombay	Nanabhai Cowasjee	Not given	In 1885 certain Talavias committed a riot in Broach, in which Mr. Prescott (District Superintendent of Police) was killed.	The present report of the Collector shows that this riot cannot be attributed to hemp drugs.
79	Do.	Mr. Sinclair	Kunjandas	A servant entered his master's bed-room and attempted to throttle his master's wife. He was supposed to be under the influence of <i>bhany</i> .	The records bear out this view.
80	Do.	Do.	Not given	2. A Brahman was found in a temple with the broken image of a goddess. He was acquitted on the ground of insanity due to hemp drugs.	The man was acquitted for want of evidence that he had committed the offence at all. He had, moreover, been insane for twelve years, and his insanity was attributed to several causes other than hemp drugs.
81	Do.	Colonel Humfrey	Do.	A sepoy ran amok and (before the Sessions Court) pleaded that <i>bhany</i> had been given to him. "I do not think the <i>bhany</i> caused him to commit the crime. I think it was established that the man had taken <i>bhany</i> , and if he did take it the crime was committed within half an hour afterwards."	The High Court did not consider the taking of the <i>bhany</i> established. They held also that if taken, it was taken some hours before the offence, and they held that all his proceedings showed that he was not under the influence of the drug alleged to have been given to him, and that the offence was premeditated.