

Administration Report of the
Department of Industries.

For the year ended.

1926 - March.

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From

KHAN BAHADUR MUHAMMAD BAZL-UL-LAH SAHIB

BAHADUR, C.I.E., O.B.E.,
Director of Industries, Madras,

To

THE SECRETARY TO GOVERNMENT,

DEVELOPMENT DEPARTMENT.

Dated Madras, 8th September 1926.

SIR,

I have the honour to submit the Administration Report of the Department of Industries for the year ended 31st March 1926.

2. Printed copies of the report will be forwarded to Government and to the Accountant-General as soon as they are received from the Press.

I have the honour to be,

Sir,

Your most obedient servant,

M. BAZL-UL-LAH,
Director of Industries.

ADMINISTRATION REPORT OF THE DEPARTMENT OF
INDUSTRIES FOR THE YEAR ENDED
31ST MARCH 1926.

PERSONNEL.

Direction.—Mr. E. F. Thomas, C.I.E., I.C.S., continued to be in charge of the department until the 27th March 1926 when he handed over charge to Mr. L. B. Green, M.B.E., and proceeded on leave. Mr. L. B. Green was in charge of the department until the end of the year. Mr. Green was in charge of the office of Deputy Director throughout the period under review.

2. *Director's tours.*—Mr. Thomas was on tour for 90 days during the year exclusive of a stay of 89 days at Ootacamund. The tours of Mr. Thomas covered most of the industrial centres in the Presidency and he also visited Bangalore on three occasions.

3. *District exhibitions.*—The department participated during the year in a number of industrial and agricultural exhibitions held in various parts of the Presidency ; e.g., at Madras, Tanjore, Srirangam, Kangundi, Ambur, Cuddapah and Venkatagiri. A very successful departmental display was arranged on a considerable scale in connexion with the Agricultural and Industrial Exhibition organized by the South Indian Athletic Association in conjunction with the Annual Park Fair held in December 1925 and the exhibits attracted considerable attention and resulted in a large number of inquiries from the public. The departmental exhibits included a wide range of pumping and boring apparatus, a notable display of textile machinery and appliances, and of textile processes including a demonstration of silk rearing and silk reeling, a collection of leather turned out at the Leather Trades Institute, a series of models made by the students of the Madras Trades School and a representative range of soaps, inks, and jams. M.R.Ry. P. K. Rajamanikkam Nayudu, Vice-Principal, Leather Trades Institute, as a member of the South Indian Athletic Association, was largely responsible for the success of the exhibition, which was organized on a larger scale than any held in Madras in recent years. Gold medals were awarded for the engineering exhibit, the sericultural demonstration and the leather exhibit, and silver medals for the lace and embroidery section of the

textile exhibit, the models of machinery displayed by the Madras Trades School, and the soap and ink exhibits. The Textile branch of the department arranged an exhibition of improved hand loom weaving appliances in connexion with the All-India Devanga Conference presided over by the late Sir P. T. Theagaraya Chetti which was attended by delegates from the weavers caste all over India; great interest was shown by the delegates and the local weavers in the exhibits and particularly in the hand driven silk reeling machine and the Amalsad patent hand sizing machine the latter of which was awarded a gold medal. The exhibition at Tanjore which was held in August was opened by the Hon'ble the Minister for Development. The working of a departmental hand-boring set and a high speed pumping set as also that of a torpedoing set was demonstrated to the ryots and visitors attending the exhibition, while a representative display of soap, ink, jam, and leather was also arranged. An Agricultural and Industrial Exhibition was held at Cuddapah in November in conjunction with the District Co-operative Conference, and this also was opened by the Hon'ble the Minister for Development. The working of a hand-boring and of a high speed petrol set was demonstrated by the Assistant Industrial Engineer, Bezwada, who attended the exhibition for the purpose of answering inquiries and explaining to the ryots and other visitors the terms on which the departmental plant and machinery could be made available for their use. A hand-boring set, a test-engine set and a torpedoing set were exhibited at the Agricultural and Industrial Exhibition held at Srirangam during the Vaikunta Ekadesi festival in December 1925. The exhibition was opened by Sir T. Desikachariar and a representative range of the products of the departmental factories such as soap, ink and jam were also exhibited. At the Cattle Show and Industrial Exhibition organized by the Zamindar of Kangundi, which was held at Battuvaripalli in January 1926, soap, ink and jam were exhibited. Four chrome kavalai hides and one chrome well bucket prepared at the Leather Trades Institute were also shown and attracted considerable attention. An exhibition in connexion with the seventh North Arcot district Co-operative Conference was held at Ambur in February 1926 at which the products of the departmental factories, chrome kavalai hides and chrome buckets from the Leather Trades Institute, as well as a hand-boring set and a pumping set were exhibited. At an exhibition held at Venkatagiri a gold medal was awarded to the Leather Trades Institute for a display of tanned leather. The expenditure involved in participating in these exhibitions is appreciable and, as pointed out before, not directly remunerative, but considerable interest has everywhere been evinced in the departmental exhibits, and I hope during the current year to demonstrate the departmental activities at an increased number of exhibitions so as to show the masses public in what

directions the department can be of use to them. The department frequently receives very short notice indeed of the holding of an exhibition and consequently the time available is often insufficient to permit of arrangements being made for a satisfactory display of departmental products even if it is found possible to forward any exhibits at all. It is hoped that the authorities under whose auspices the district exhibitions are held will in future give as much notice as possible to the department, as well as to private exhibitors, as if this is done, it will be possible to arrange for a more satisfactory representation of the several departmental activities.

4. *British Empire Exhibition.*—Though the period of special duty of Rao Bahadur S. K. Sundracharu in connexion with the British Empire Exhibition terminated on the 15th February 1925, there was still a considerable volume of work in regard to the settlement of outstanding claims from parties both in England and in Madras for supplies made or services rendered, and in the disposal of the miscellaneous correspondence with exhibitors whose goods were sold during, or after the close of, the Exhibition. The reconciliation of the accounts and the despatch of the certificate and medal awarded to every one of the exhibitors also involved a good deal of work and it was not until late in the year that the winding up of the affairs of the exhibition was finally completed. Incidentally, it may be mentioned, that the exhibitors very much appreciated the handsome medal and certificate awarded to them.

COMMITTEES.

5. *Railway Local Advisory Committees.*—Mr. Thomas continued to serve as the Government representative on the local Advisory Committees of the South Indian and Madras and Southern Mahratta Railway Companies during the year. Four meetings of the South Indian and seven meetings of the Madras and Southern Mahratta Railway Advisory Committees were held during the year under review. Mr. Thomas was able to attend only two meetings of the former and one of the latter.

6. *Jail Industries Committee.*—The Orders of Government were received during the year on the report of the Committee appointed to conduct an inquiry into the condition of jail industries and to submit proposals for improving their present organization with a view to render them more efficient and self-supporting. The orders, in so far as they affect the Department of Industries, may briefly be summarized thus (1) that the officers of this department should advise the Inspector-General of Prisons on technical questions in respect of the equipment and management of industries, the pay and qualifications of technically trained subordinates and cognate matters, (2) that

specification of articles required by consuming departments should be standardized in consultation with the Director of Industries, and (3) that in cases of difference of opinion in regard to the quality or value of an article supplied by jails to consuming departments, an expert officer from the Department of Industries should be deputed to act as a referee in association with a representative of the consuming departments and one of the Jail Department. It was also directed that in all cases of difference of opinion as to quality and in cases of dispute as regards prices charged for jail made articles the decision of the expert officer of the Department of Industries should be final. The question of standardizing the specifications of articles required by consuming departments, which is one of considerable magnitude was under examination at the close of the year.

7. *Medical Stores Committee.*—The Director of Industries was appointed a member of a Committee constituted during the year to investigate and report on the best method of reducing the cost of drugs, etc., supplied to local bodies. Four meetings were held during the year all of which were attended by Mr. Thomas.

8. *Unemployment Committee.*—In G.O. Mis. No. 330, Law (General), dated the 4th February 1926, Government constituted a Committee to investigate the question of unemployment among the educated middle classes and appointed the Director of Industries as one of the members. A preliminary meeting of the Committee was held in February which was attended by Mr. Thomas.

9. *Co-ordination of work in Government Workshops Committee.*—The Committee appointed by Government during the previous year to examine the nature of the work done in each of the workshops and to advise as to how far the work done in the several workshops could be co-ordinated without interfering with special departmental needs so as to avoid waste of labour and money, submitted its report in January. The Committee recommended *inter alia* that the Industrial Workshop at Madras should be continued in view of the fact that it does a considerable amount of private work and operates at a profit, and also because its amalgamation with the Public Works Workshops at Madras would not result in any reduction of staff and running charges, but would only complicate the accounts and interfere with the special departmental needs of the Industries Department. The conclusion arrived at by the Committee is to be welcomed as it is difficult to see how the Department of Industries could function properly without an efficient workshop of its own. It is hoped that this controversial question may now be considered as finally settled. The utility and necessity of the Madura Industrial Institute Workshop were also examined by the Committee who considered that it should be continued as there was no other

organized private Engineering workshop in the southern districts of the size and capacity of the institute that could supply the requirements both of Government departments and private individuals. The Committee by a majority, however, proposed that further inquiry should be made to ascertain why it is working at a loss.

10. *Indian Taxation and Indian Economic Enquiry Committees.*—The Director of Industries submitted written evidence to the Indian Taxation Committee but was not orally examined on it. Mr. Green prepared at very short notice a reply to the questionnaire framed by the Indian Economic Enquiry Committee and also gave oral evidence.

11. *Statutory Board of Industries.*—The composition of the Board constituted under section 3 (i) (a) of the Madras State Aid to Industries Act, 1922 (Act V of 1923), on the 31st March 1925, consisted of the following members:—

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|------|---|---|
| (1) | Director of Industries, <i>Chairman</i> , | |
| (2) | Secretary to Government, Finance Department, | |
| (3) | Chief Conservator of Forests, Madras, | |
| (4) | W. O. Wright, Esq., O.B.E., elected by the Madras Chamber of Commerce, | |
| (5) | S. J. Green, Esq., elected by the Madras Trades Association, | |
| (6) | M.R.Ry. Narayan Doss Girdhar Doss Avargal, elected by the South Indian Chamber of Commerce, | |
| (7) | „ Diwan Bahadur K. Suryanarayanamurti Nayudu Garu, M.L.C., elected by the Madras Legislative Council, | |
| (8) | „ Sami Venkatachalam Chettiyar Avargal, M.L.C., elected by the Madras Legislative Council, | |
| (9) | „ Rao Bahadur A. M. M. Murugappa Chettiyar Avargal, M.L.C., | Non-officials appointed by Government under section 3 (2) of the State Aid to Industries Act. |
| (10) | „ Rao Sahib K. V. Ramachari Avargal, B.A., M.L.C., | |
| (11) | „ C. V. Venkataramana Ayyangar Avargal, B.A., B.L., M.L.C., | |
| | | |
| (12) | M. N. Abdur Rahiman Sahib Bahadur, | |

with Mr. L. B. Green, M.B.E., Deputy Director of Industries, as Secretary to the Board. Under rule 6 of the rules framed under section 19 of the Act, M. N. Abdur Rahiman Sahib Bahadur who had failed to attend four consecutive meetings of the Board held in 1925 was declared by Government to have vacated his office as a member of the Board of Industries and in his place Government were under section 3 (2) of the Act pleased to appoint M. Muhammad Ismail Sahib Bahadur as a member.

12. Of the ten applications to which reference was made in the administration report of the preceding year, three were carried over to the year under report, viz., those of (i) Messrs Bommanna Somaraju and Karra Mallikharjanudu of Uppada, Godavari district, (ii)

the Kallakurichi Co-operative Agricultural and Industrial Society and (iii) the Kobinoor Saw Mill Company, Limited, Baliapatam, North Malabar. As regards the question of the guarantee of an overdraft of Rs. 2 lakhs applied for by the Carnatic Paper Mills, Limited, in respect of which Government had, during the previous year, passed orders to the effect that the matter would be considered as soon as the company satisfied the Government that by the application of the loan of Rs. 4 lakhs which had been sanctioned and disbursed to them the net assets of the business had been increased so as to make sufficient provision for the contingent liability that would be incurred, the company were unable to convince the Board of Industries and Government during the year, that, if Government guaranteed the overdraft applied for, the company would be able to finance the development of the concern or that in fact it would advance matters any further beyond enabling the company to clear off some of their remaining liabilities. As regards the application of M.R. Ry D. Rangaswami Nayudu, though a loan of Rs. 5,000 was sanctioned by Government during the previous year it could be disbursed only during the period under review.

13. Of the three applications left over, Government passed orders stating that they were unable to sanction the grant of the loan applied for by the Kobinoor Saw Mill Company, Limited, as the security offered was not considered satisfactory while the application of Messrs. Bommana Somaraju and Karra Mallikarjanudu was rejected on the ground that the industry could not be held to be a cottage industry within the meaning of section 5 (1) (c) of the Act. In the case of the application of the Kallakurichi Society, which was unanimously supported by the Board, Government sanctioned a loan of Rs. 18,600 which was disbursed to the society on the 8th December 1925.

14. During the year under review, three meetings of the Board of Industries were held, on 3rd April, 19th August and 4th November 1925. At these meetings, the new applications for assistance mentioned below were considered. Four other applications involving an amount of Rs. 1,00,000 had not at the close of the year reached a stage at which they could suitably be placed before the Board of Industries for consideration :—

(1) Two applications from the Carnatic Paper Mills, Limited, Madras, for further loans of Rs. 50,000 and Rs. 3,50,000 respectively.

(2) Application from Mr. L. S. Krishnan, Chalapuram, Calicut, for a loan of maximum amount of Rs. 25,000 for the purpose of establishing a saw mill and wood working plant at Nilambur, South Malabar.

(3) Application from Mr. S. Singaram, Yercaud, Salem district, for a loan of Rs. 50,000 for the purpose of developing his aloe plantation on the Shevaroy Hills, preparing fibre and manufacturing certain finished products therefrom.

The following subjects were also considered :—

(1) the question of amending rule 1 of the Special Loan Rules framed by Government under the Land Improvement Loans Act, 1883, and of the consequential modification of section 20 of the State Aid to Industries Act,

(2) the draft rules framed under the proviso to sections 5 and 9 and clauses 3, 10 and 12 of section 19 (b) of the Madras State Aid to Industries Act,

(3) the interpretation to be put on certain expressions occurring in section 5 (1) of the State Aid to Industries Act.

15. Of the applications mentioned in the preceding paragraph, the application of the Carnatic Paper Mills, Limited, for a loan of Rs. 50,000 was recommended by the Board and Government in their Order No. 1699, Development, dated the 25th November 1925, were pleased to sanction an amount of Rs. 30,000 in the first instance and shortly after the close of the year sanctioned the balance of Rupees 20,000 also with a view to enable the company to meet its liabilities on account of the pay of the staff and to maintain the mortgaged property in a satisfactory condition pending the issue of final orders on their application for a further loan of Rs. 3½ lakhs and for the guarantee of an overdraft of Rs. 2 lakhs. The applications from Messrs L. S. Krishnan and Singaram which had been recommended by a majority of the Board were pending disposal at the end of the year. In the result, out of the allotment of Rs. 4 lakhs provided in the budget for the year 1925-26 under the head 'Loans and Advances by Provincial Government—(f) Advances under Special Laws State Aid to Industries', three loans aggregating in all Rs. 53,600 were disbursed during the period under review and the balance of Rs. 3,46,400 was resumed by Government towards the close of the year.

16. Out of the three subjects mentioned above as having been considered by the Board, orders on the second and third viz., draft rules under certain sections of the Act and the interpretation to be put on certain expressions occurring in section 5 (1) of the Act were passed by Government while the first, viz., the question of amending rule (1) of the Special Loan Rules framed by Government under the Land Improvement Loans Act was still under the consideration of Government at the close of the year. The question of framing draft rules under the proviso to sub-section 2 of section

5, section 9 and clauses 3, 10 and 12 of section 19 (b) of the Act was under consideration during the year under review and Government finally agreed with the Director of Industries and the Board of Industries that there was no necessity to formulate any definite rule under the proviso to sub-section (2) of section 5 of the Act, and that the question whether the entertainment of apprentices should be made a condition precedent to the grant of a loan and if so the number of apprentices to be taken and the conditions of their training should be determined by Government on the advice of the Board of Industries in the case of each individual application. Government similarly considered it unnecessary to define the functions of a Government Director appointed under section 12 by a statutory rule under clause 10 of sub-section (b) of section 19. The interpretation of certain expressions occurring in section 5 (1) of the Act to which reference was made in the report of the preceding year received careful consideration by the Department and the Board, and Government concurred with the view of the Board that it would be inadvisable to lay down any precise definition of the expressions occurring in section 5 (1) of the Act but observed that the question whether an industry is a 'nascent' industry within the meaning of clause (a) of the section should be considered with reference to the condition of the industry in the Presidency as a whole, that the word 'areas' used in clause (b) should be considered with reference to the conditions of the development of any particular industry, such as availability of raw material, labour, capital and markets. As regards the term 'cottage industries' used in clause (c) Government directed that it should be taken to refer only to industries carried on exclusively for the benefit of, and by workers in their homes and not to industries carried on for the benefit of middle men, though the workers happen to work not in factories, but in their own cottages.

17. A detailed reference to the affairs and prospects of the concerns which have been granted aid under the Act has already been made in my report on the working of the State Aid to Industries Act during the year ended 31st March 1926 which was submitted to Government early in July. As, however, the circulation of the said report is necessarily restricted I propose to summarise briefly the position of these concerns. By far the most important concern so far aided under the Act is the Carnatic Paper Mills, Ltd. The Company was passing through a period of acute financial stress during the year and the hope entertained that by Government aiding the concern substantially it would be possible to engender confidence in the soundness of the Company's position and stimulate the flow of the required further capital was not realised during the year under review. The Company are at present not able to

commence manufacturing operations owing to the lack of the necessary capital and but for the recent loan sanctioned to enable them to discharge pressing liabilities and to pay the staff, the Company must have gone into liquidation. The amount of capital paid up did not show any appreciable increase and there was no guarantee that even with the additional funds applied for, which would bring the total amount of Government assistance to Rs. 10 lakhs, the Company would be able to complete the equipment of the mills, clear the liabilities and provide the working capital required. A very difficult situation has thus been created for if the Company goes into liquidation a serious set back to indigenous enterprise in the Presidency would result. The whole question of the future of the Company with reference to its indebtedness to Government for assistance granted under the Act, together with the Company's application for a further loan of Rs. 3,50,000 and the guarantee of an overdraft of Rs. 2 lakhs were under the consideration of Government at the close of the year.

18. Messrs. Muppana Somaraju and Virraju who were granted a loan of Rs. 50,000 in December 1924 sustained a loss of Rs. 7,920-8-8 during the year. The sales amounted to Rs. 2,01,415-1-5 while the value of stock on the 31st December 1924 was Rs. 61,718-11-0. The factory of this firm, it is interesting to note, was started about 12 years ago with the assistance and advice of one of the departmental weaving parties. In it silk is twisted and dyed and woven into cloth whilst dyed warps are also prepared for issue to cottage weavers who weave the cloth in their own houses in accordance with standardised patterns for which a demand exists. It was a condition of the loan that the proceeds of it should be applied for the development of the factory so as to permit of the preparation, twisting and dyeing of an increased quantity of silk for hand-loom weavers. It was also hoped that the proprietors would instal the improved departmental silk twisting and jacquard machines. The latter has not yet been done while the audit report does not show whether the loan has enabled the factory to finance the purchase of an increased quantity of silk and as a corollary to increase the supply of dyed warps to cottage weavers.

19. The Canara Rice and Saw Mills, Ltd, Coondapoor, were granted a loan of Rs. 9,600 for the purpose of purchasing a band saw for their mills. From the audit report for the year ended 31st May 1925, it is observed that they made a net profit of Rs. 3,326-10-9 and that their net assets at the close of the year amounted to Rs. 37,765-8-0. The Company opened during the year an agency at Mangalore where the demand for their sawn timber steadily increased and the buildings at Coondapoor were extended with a view not only to stock and protect the sawn timber from the

weather but also to accommodate the band saw machinery. A dividend of 6 per cent was paid for the year.

20. M.R.Ry. D. Rangaswami Nayudu was granted during the previous year a loan of Rs. 5,000 for the purchase and installation of two gins and for the construction of the necessary building and godown at Gudiyattam, North Arcot district. The audit report for the years 1923-25 indicate that the concern is working satisfactorily. The net profits for a period of 23 months ending 31st March 1925 were Rs. 673-11-9 after allowing Rs. 2,760 for interest on the proprietors capital at 12 per cent per annum. This installation is an interesting one, for the establishment of the ginnery will, it is anticipated, assist the expansion of cotton cultivation in the North Arcot district, as the Director of Agriculture will be able to establish seed farms and have the cotton co-operatively ginned, purchase the seed and in this way keep it pure. Hitherto the Director of Agriculture has been unable to do this for lack of local ginneries.

21. The loan granted to the Kallakurichi Co-operative Agricultural and Industrial Society could not be disbursed until the 8th December 1925 owing to certain legal formalities having to be observed. From the annual audit by the officers of the Co-operative Department it is observed that the net profits for the year 1924-25 amounted to Rs. 3,898-9-6 and after carrying one-fourth of this amount to the reserve fund, the balance, it is expected, will enable the management to pay a dividend of about 7 per cent. The main activities of the Society, whose factory is well situated in the centre of a large agricultural area, consist of the milling of rice and the decortication of groundnuts. The crushing of sugarcane and the manufacture of jaggery have also been undertaken while the extraction of oil, it is understood, is under contemplation. There is undoubtedly scope for the establishment of many similar factories in other areas for the utilization and working up into manufactured form of the agricultural products of the province and it is perhaps in the direction of assisting financially industrial co-operative societies of this kind that the Act will find its greatest scope and usefulness.

22. From the 27th December 1923, the date on which the Act came into operation to 31st March 1926, six loans of an aggregate amount of Rs. 5,13,200 were sanctioned and disbursed to the applicants, of which loans to the Carnatic Paper Mills, Ltd., accounted for no less than Rs. 4,30,000. The period during which the Act has been in force is so short that it is difficult to express a definite opinion as to the extent to which it is likely to further industrial development, although it can hardly be claimed that the results so far have fulfilled expectations. It seems probable that the greater number of applications received will be for amounts not exceeding

Rs. 50,000. If, however, the Act is successful in stimulating the establishment and development of mills and factories which have for their object the working up of the agricultural and forest products of the province, it will serve a useful purpose whilst it is hoped that well-organized industrial co-operative societies such as the Kallakurichi Society will find themselves able in increasing measure to take advantage of the facilities afforded by the Act.

23. *General assistance to trade and industry.*—This work is carried on in the Bureau of Industrial and Commercial Information, the purpose of which is to provide general and statistical information on industrial and commercial subjects in connexion with the existing industries and of projected developments of industries in the Presidency, and to answer inquiries relating to commerce, trade and industries, affecting the Madras Presidency. The organization and work of the Bureau have been so fully discussed in previous administration reports, and also in the recently published account of the activities of the Department of Industries, that it is unnecessary to refer to them in any detail here. The inquiries have increased considerably during recent years and the consideration and answering of them now forms an important part of the activities of the department. The volume of inquiries dealt with during the period under review was well maintained. In case the Bureau has not got the information desired, it can, usually, as pointed out before, secure it more fully and with less delay than an individual firm or private person. It is not claimed that there have not been occasions when the information desired was not on record or when the most persistent and widespread inquiries failed to elicit a particular item of information but happily such occasions have been very rare and almost invariably the Bureau has been able to furnish adequate replies either immediately from the data on record in its reference files or the knowledge possessed by the departmental staff or as a result of inquiries instituted. The work of the Bureau is not so spectacular as that of some of the other sections of the department, but it is obviously of the utmost importance in an industrially backward province like Madras that persons should be able to obtain full and accurate information on industrial and commercial subjects, and evidence of the Bureau's usefulness is forthcoming in the steady increase in the number of persons who utilize the services offered by it in regard to the supply of information and by letters of thanks received for services rendered or information supplied. In fact, it is not too much to say that the public have learnt to look to the

Bureau for counsel and help when in any difficulty with regard to industrial and commercial matters and to recognize it as an organization especially established to help them.

24. *Commercial and industrial inquiries.*—The number of industrial and commercial inquiries received from the public and other Government departments in regard to the sources of supply and markets for various articles and commodities was again very large. The Director-General of Commercial Intelligence was, as usual, furnished with a number of reports as to the financial standing, business reputation and experience of export trade, of firms and individuals who had expressed a desire for overseas trade introductions. In cases where such applications are received direct by this department, the communications are transferred for final disposal to the Director-General of Commercial Intelligence with a report on the standing and experience of the firm. Information was also exchanged from time to time with His Majesty's Trade Commissioner at Calcutta, the United States Trade Commissioner at Bombay and Calcutta and with various foreign Consuls and other authorities. The Director-General of Commercial Intelligence was furnished by the Deputy Director with a short weekly review of trade and market conditions in respect of the main classes of produce. In connexion with the application of certain firms and individuals in the Madras Presidency for inclusion in the list of approved contractors for the supply of stores of various kinds required by the Government of India, the Chief Controller of Stores, Indian Stores Department, was furnished with reports based on an inspection of the firms' works, as to their capacity, financial standing, quality of the articles manufactured and their suitability generally for inclusion in the list of approved contractors.

25. It is difficult, if not impossible, to summarize in a few paragraphs the scope of enquiries received during the year on the industrial and commercial subjects, but in order to illustrate the wide range of the references received it may be mentioned that they included inquiries regarding chemicals, drugs, dye-stuffs and tan-stuffs, ores, minerals, metals, machinery and hardware; matches, splints and veneers; timber; oils, paints and varnishes; soaps, perfumes and essences; tile slabs, cement floorings and other building materials; hides and skins and leather; silk, hosiery, lace and embroidery, cotton and woollen goods, carpets and rugs; coir yarns and mattings, fibres and many other articles too numerous to mention. Following the practice adopted in recent years, I will now give some twenty examples of individual services rendered which will, it is hoped, serve to illustrate the many and varied ways in which the Bureau is of practical use in supplying information and advice on industrial and commercial subjects.

(i) Information was furnished to an inquirer in regard to the sources of supply of annatto seeds, as well as a list of principal exporters, quantity and value exported and the countries to which the seeds were consigned.

(ii) A Government Department in Burma was furnished with a list of the principal dealers in raw and reeled silk in the Kollegal taluk.

(iii) An inquirer who contemplated starting a small candle factory was furnished with an estimate of the machinery and plant required and information in regard to the sources of supply of the requisite raw materials.

(iv) A firm in Calcutta was furnished with a list of suppliers in Madras of squirrel skins.

(v) A retired Civilian now in England was supplied with a list of manufacturers of work baskets in nests similar to those which had been exhibited in the Madras Court of the British Empire Exhibition, and which are chiefly produced in the Ramnad district, as also with information in regard to the position of the industry.

(vi) A well-known artist in England required a piece of dark green Aventurine quartzite for an inscription tablet and was prepared to pay anything up to £100 for a stone of suitable quality. A few sample pieces were obtained and forwarded to him for approval and on receipt of cable instructions a block of stone was obtained, with the assistance of the Collector of Bellary and despatched to London. The artist in acknowledging receipt of this stone expressed his gratitude for the assistance rendered by the department in the matter.

(vii) An inquirer in Scotland who was interested in the preservation of mango fruit was supplied with information in regard to the possibilities of organizing an export trade in this product with the United Kingdom, as also with particulars of the methods of preparation followed in the Northern Circars, names of dealers in mango and samples of the product.

(viii) A collection of photographs illustrative of industrial development in the Madras Presidency was made for the Indian Trade Commissioner in London.

(ix) A local firm was furnished on request with a note on the tobacco industry of the Presidency.

(x) The Superintendent of a Central Jail was furnished with information in regard to the calorific value of certain species of woods.

(xi) Estimates and specifications for machinery suitable for extracting fibre from Agave were obtained from manufacturers in England and America and communicated to the several inquirers.

(xii) A local firm was furnished on request with detailed information as to the uses of Tale powder or French chalk, names of importers, quantity and value imported, names of suppliers, prices, etc.

(xiii) A mufassal inquirer was furnished with information in regard to importers of glass bangles from Japan.

(xiv) A firm was supplied with a list of principal importers of coconuts into Rangoon, Bombay, Broach, Karachi, Calcutta and Cuttack from the Madras Presidency.

(xv) A local firm was furnished with a statement showing the quantity and value of Travancore coconut oil imported into the Madras Presidency.

(xvi) A firm in Madura was furnished with information on the subject of alce fibre and its industrial possibilities.

(xvii) An inquirer from Ellore was furnished with detailed information in regard to the expression of castor oil and the machinery employed in the process.

(xviii) An official in Portugese India was furnished with information in regard to the cashew nut industry as also with reference to cashew fruit as a source of industrial alcohol.

(xix) A representative of an important Canadian firm interested in the manufacture of animal intestine was furnished with information as to the extent of animal slaughter in the principal centres of the Madras Presidency and the recovery of the by-products.

(xx) An inquirer from South Kanara district was furnished with information on the subject of banana drying and pulping as also with reference to the extraction of plantain fibre and the production of flour.

26. *New industrial undertakings.*—There was again a decline in the number of new flotations as also an increase in the number of companies which ceased to exist during the year. Five new cotton mills were registered during the year, the largest being the Malakshmi Textile Mills, Ltd., with an authorized capital of Rs. 12 lakhs and the Sundareswarer Textile Mills Co., Ltd., with a capital of 10 lakhs, both with registered offices at Madura. The Sri Suryanarayana Spinning and Weaving Mills with a capital of Rs. 4 lakhs, was floated in East Godavari, and the Olavakot Mills Co., which has its registered office at Palghat was formed with an authorized capital of Rs. 1,50,000. The Ponmalai Valayuthaswami Mills Co., Ltd., was registered at Coimbatore with a capital of Rs. 1 lakh with the object of spinning and ginning cotton. Among other industrial undertakings registered during the year may be mentioned, the Calicut Soaps

and Candles Co., Ltd., with a capital of Rs. 3 lakhs, and the Sri Briganayaki Match Factory, Ltd., Cuddalore, with a capital of Rs. 1½ lakhs. The Ottapalam Tile Works, Ltd., which was registered in the year 1921-22 went into liquidation as its liabilities rendered its continuance impossible. The Palamcottah Mills, Ltd., and the Rock Cotton Spinning and Weaving Mills Co., Ltd., became defunct owing to their inability to attract sufficient capital. The Callianjee Ginning and Pressing Co., Ltd., was wound up by an order of the High Court. As regards the South Indian Industrials, Ltd., which was in financial difficulties, attempts have since been made to revive some of the concerns formerly under its management, the Chittavalasa Jute Mills, Ltd., having been reorganized and the managing agency transferred to a well-known Calcutta firm. The total number of spindles in the cotton mills in the Madras Presidency increased from 543,738 to 591,271. There were only 15 cotton mills working during the year as the Godavari Spinning and Weaving Mills, Ltd., at Pandalapa in Godavari district, which was at work during the previous year, was not in operation during the period under review. The Bezwada Spinning and Weaving Mills, Ltd., and the Sri Minakshi Mills, Ltd., Madura, have still not reached the stage of production. In the case of the former, the construction of the main building was completed and the erection of machinery, and plant which was approaching completion at the close of the year has since been completed and the Mills were opened by His Excellency the Governor on 30th August 1926. This mill is a comparatively small one consisting of only 100 looms with winding warping and sizing machinery sufficient for 175 looms. The Company however propose, later when its financial position improves, to add a spinning side to the mill. There is considerable scope for the establishment of cotton spinning and weaving mills on the East Coast as there is no weaving mill and only two very small spinning mills to the north of Madras. Bezwada is a particularly suitable centre for a cotton mill on account of its proximity to the cotton producing areas of the East Coast and its situation at the junction of two railways. It is to be hoped, therefore, that this concern will not be hampered by lack of funds and that the further capital required will be forthcoming, as if it proves successful, a decided stimulus would be given to the development of the cotton spinning and weaving industry in the Andhra country and possibly the Ceded districts also.

There has been considerable delay owing to unforeseen causes in the erection of the machinery and plant of the Sri Minakshi Mills, Madura, and information is not available as to when manufacturing operations are likely to be started. The number of jute mills remained stationary at four during the year though the looms and spindles showed an increase of 1 and 354 respectively.

27. *Mining operations.*—Though the administration of the Mines Act and the Mining Rules is vested in the Board of Revenue, this department is regularly informed of all applications for prospecting licences or mining leases received by the Board of Revenue or Collectors, and is thus enabled to keep in touch with the applicants and to initiate any enquiries which may be desirable from the standpoint of development of industries. In this way the department maintains touch with mining developments and is able to advise where necessary, as to the outlets for the minerals proposed to be worked.

The following prospecting licenses and mining leases were granted during the year.

			ACS.	
Eight prospecting licences for prospecting for Manganese over an area of			8,754	
Two prospecting licences for prospecting for	Gold	1,776		
One do. do.	Iron, Chromite and manganese.	1,220		
Ten do. do.	Mica	792		
One do. do.	Clay	200		
Five do. do.	Barytes	199		
One do. do.	Garnet	55		
One do. do.	Iron ore	53		
One do. do.	Asbestos	31		
One mining lease for working	Gold	1,604		
Eleven do. do.	Mica	807		
One do. do.	Corundum	678		
Three do. do.	Manganese	452		
Four do. do.	Barytes	71		
One do. do.	White clay	7		

Mining continued to be carried on in the districts of Vizagapatam, Nellore, Anantapur, Kurnool, Bellary, Nilgiris and Salem, and the minerals raised were manganese, magnesite, mica, steatite, barytes, gold and silver. Prospecting for asbestos was conducted in the Cuddapah district where 319 cwts. were raised against 270 cwts. in the previous year. The output of gold, silver, manganese and barytes all showed a decrease as compared with the previous year. As regards the extraction of gold, out of the three mines which were worked during the year only one was worked throughout the period under review while the other two were worked for a short time only and the leases were subsequently terminated. The decrease in output of manganese and barytes is attributable to adverse conditions. The increase in the output of magnesite is due to new method employed in the calcination plant and to the discovery of large deposits of the raw material. The increased demand for mica was reflected in the considerably larger production of this mineral in the Nellore district during the year under review. There has been a general improvement in the mica trade during

doubt to activity in the field of electrical engineering and the prospects of the mica industry appear to be reasonably good.

28. A reference was made in the administration report of the preceding year to the extension of time which had been allowed to Mons. E. Gaudart of Pondicherry in respect of the exploitation of the Kanchamalai iron ores in the Salem district. The concessionaire had to put down trial borings to ascertain the quantity of water available at the site, and to approach owners of adjoining lands for opening a road from the hills to the nearest railway station, and as the economical exploitation of the ore demanded the adoption of a patent process, to come to terms with the firm in whom vested the rights of the process. A good deal of preliminary work in these directions appears to have been carried out and it is understood that extensive concentration trials conducted by Messrs. Krupp were distinctly favourable since they went to show that Kanjamalai ore might be improved by magnetic concentration as easily as similar ore from Sweden and Norway. As the expenditure involved in the erection of a concentration plant was expected to amount to £30,000 Mons. Gaudart is at present engaged in negotiations with a view to raising the requisite funds. In the meantime, Mons. Gaudart has, on the recommendation of this department, been granted by the Board of Revenue a further extension of time up to December 1926 to commence mining operations.

29. In last year's report it was stated that the series of experiments carried out by a party with a sample consignment of *Acacia Sundra* supplied by the Forest department appeared to afford promise of the manufacture of a suitable quality catch in this Presidency. While negotiations were in progress with the Forest department for the grant to the party of a lease over *Acacia* trees in certain forest areas in the Bellary and Anantapur districts and the Forest Department were apparently disposed to consider the question favourably, it transpired that the reserves in the Bellary district had been handed over to the Forest Panchayat and that similar areas in the Anantapur district were likely to be so transferred. It was understood that any arrangement which aimed at forming a panchayat subject to the lease of the *Acacia Sundra* trees would not be practicable and that in the areas already under the management of panchayats in Bellary district there would be great opposition to the proposal in view of the growing insistence of the villagers on the conservation of the forests for the purposes of pasture, manure and agricultural implements. As the quantity of *Acacia Sundra* expected to be obtained from the forest retained by the Forest Department was considered by the applicant to be inadequate for the purposes of manufacturing catch and not to

justify the risk involved in investing Rs. 20,000, the proposition was unfortunately abandoned.

30. In connexion with the question of the supply of cement for the Cauvery-Mettur project, the Public Works Department were supplied with detailed information as to the possibilities of manufacturing suitable cement in this Presidency and were informed that Bezwada in the Kistna district and Parambai or some other centre in the Villupuram taluk of the South Arcot district appeared to be the only suitable centres in this Presidency for the establishment of a cement factory. They were furnished with a note on the question of cement manufacture at Bezwada prepared by the Deputy Director in 1919 which gave the history of the various investigations which had been made as also particulars of the raw materials, the localities in which the deposits occur, the markets in South India for cement and other miscellaneous data. Further detailed investigation is required in order to say definitely whether it would pay the Public Works Department to sponsor the establishment of a cement factory at Bezwada primarily for the purpose of supplying the requirements of cement for the Mettur project. There are possibilities also in regard to the establishment of a factory in the Villupuram taluk which project has been initiated by Mons. E. Gaudart of Pondicherry who has taken considerable interest in the development of industries in the French possession. Mons. Gaudart proposes to derive his lime stone from the cretaceous beds of Pondicherry and to transport it to the site of the factory by means of an aerial ropeway. Mons. Gaudart claims that it should be possible to supply cement from this factory at a lower price than that of equivalent imported cement or cement obtained from factories in Northern India. It would obviously be a very great advantage for a new cement factory to be assured of a market for the whole of its output during the first few years of its existence and on the completion of the Mettur project it should be possible for the factory to develop a satisfactory market in Southern India, particularly if part of its output from the inception is ear-marked for the requirements of the ordinary Madras market and a connexion is thus gradually built up. The question turns on whether cement or lime will be used for the Mettur dam and this question is at present under the consideration of the Public Works Department.

31. *Lace and embroidery.*—A reference was made in last year's administration report to the fact that Miss Tweddle had, on the completion of her period of employment in the department in connexion with the measures to be taken to improve and develop the existing lace and embroidery trade of the Presidency, been entrusted with the task of investigating conditions in the Philippines and other Eastern countries, and subsequently to enquire into the possibilities

of markets in North America and in England. Miss Tweddle's report was received shortly before the close of the year under review. It contains a good deal of useful information on the subject of her investigation and now that we have something to work upon, I trust that it will be found possible to take some practical steps for the development of the industry. The subject is a difficult one, however, and any undue precipitancy in regard to the setting up of an organization either here or in England is, I think, to be deprecated until it has been ascertained definitely that the Madras lace workers can produce lace of suitable quality and find a market for it. For while it is probably true that the most promising line of development is to endeavour to produce lace, the design of which represents something of the Indian spirit and to attempt to create a new style by giving a distinct individuality to the lace turned out, it will first be necessary by means of small scale experiments to ascertain whether the workers can turn out a suitable quality and style of lace at a price which will command a satisfactory market. Furthermore it must be recognized that the unfavourable trend of fashion has led to a marked decline in the popularity of embroidery and crochet work and other forms of art needlework. Miss Tweddle's report has since been published for general information and steps have been taken to invite comments or suggestions on the recommendations made in it by persons interested in the industry.

32. *Statistics.*—The department continued to compile statistics relating to industries, including statements of cotton, jute, paper and woollen mills, mines and minerals (including an annual report on the working of the Mines Act) and planting products, as also the fortnightly returns of wholesale prices of certain basic commodities at selected marts in certain districts of the Presidency. The accuracy of the statistics compiled by the department may on the whole be considered very fair and the improvement which has been effected in this respect during the last few years was maintained during the period under review. As I have pointed out before, however, the department has no control or check over the primary reporting agencies or offices in which the figures of individual estates, etc., are compiled and it is doubtful whether under the arrangements at present in force a much higher standard of accuracy can be looked for.

33. *Publication of an account of the departmental activities.*—It had been suggested by the Hon'ble the Minister for Development that a separate account of the activities of the department should be compiled so that they may become more widely known. The preparation of a brochure was entrusted to Mr. Green who produced

a very complete and interesting account of the departmental activities. The publication was issued towards the close of the year and copies of it have since been supplied to all Members of the Legislative Council as well as to a number of officers of Government and influential non-official gentlemen. It is hoped that this account of the work of the department will fulfil the object of showing to the public what the State is obtaining in return for the money expended on it.

II

34. This section of the report will deal with experiments and enquiries having for their ultimate object the starting either by private owners, or by Government of new industries or of new branches of or improved processes in existing industries. This work which is carried on mainly in the Bureau includes most of the chemical experiments initiated by the department.

35. *Coir industry on the East Coast.*—A reference was made in the administration reports of the two preceding years to the position of the coir industry on the East Coast and it was stated that as soon as money could be found for the purpose it was proposed by the department to initiate an experiment in regard to improved methods of retting coconut husk which would consist essentially of soaking husks separated from the nuts at the proper stage in water under proper conditions for some months. Orders were received a few days before the end of the year under review sanctioning a proposal for the conduct of experiments in coir retting at Ambajipet in the Godavari district with a view to demonstrate that, provided West Coast methods are adopted, coir fibre and yarn can be produced on the East Coast approximately equal in quality to that produced on the West Coast, and a sum of Rs. 2,500 was provided for the purpose in the budget for the year 1926-27. It is hoped that, as a result of this experiment, it will be possible to establish the practicability of producing good quality yarn on a commercial basis on the East Coast in which case the economic position of some of the coast areas would be improved since there is a steady demand for good quality weaving yarns.

36. *Match industry.*—There are no further developments to record with reference to the match industry in the Madras Presidency. Two new companies were registered during the year with the object of manufacturing matches, viz., Sri Briganayaki Match Factory, Ltd., Cuddalore, with a capital of Rs. 1,50,000 and the Sri Krishna Match Company, Ltd., Palghat, with a capital of Rs. 6,000 and the progress of these concerns will be watched with interest. The proprietor of a match factory in Bellary has applied for a loan of Rs. 20,000 under the provisions of the State Aid to

Industries Act for the purpose of installing additional plant and providing the further capital required by the concern and this is now under consideration. The vital necessity of selecting a suitable site for the establishment of a match factory and of ascertaining *beforehand* whether suitable match woods can be delivered at the factory site at a price which will admit of manufacture at a profit cannot be too often and too strongly emphasised as instances have come to notice where essential preliminary enquiries as to the availability of a suitable wood supply have not been made. The difficulty of extracting timber at a price low enough to enable match manufacture to be conducted at a profit is not always appreciated by enquirers who appear to think that it should be an easy matter for the Forest Department to supply them with timber in the required quantity at a sufficiently low price whereas, so far as the information at the disposal of the department extends, the centres where suitable timber is available are very few. The best location for a match factory, in the opinion of the Forest Department, is on the West Coast although even here difficulty would be experienced in obtaining supplies at cheap rates which is essential for success as all suitable match woods are also in demand for coffee and tea boxes and prices are therefore comparatively high. As previously pointed out, any scheme for exploiting woods for match manufacture should preferably be linked with a general scheme for extracting all marketable timbers and utilizing waste ends for splints and veneers by working them up into match woods. The only wood which will be cheap is waste from saw mills but the only saw mill where the Forest Department have any quantity of soft woods is Olavakot; and there are now two match factories near there. In any location, the Forest Department would have difficulty at present in supplying a sufficient quantity of suitable wood and under present circumstances therefore it seems probable that a large factory would have to use imported timber for splints and veneers.

37. It was stated in last year's administration report that it had been decided that the major chemical problems arising in the Presidency after the retirement of Dr. Marsden, the Industrial Chemist, should be referred to the Indian Institute of Science, Bangalore, for investigation, and in return for this service a contribution of Rs. 10,000 was made by Government to the funds of the Institute during the year under review. It is certainly a great advantage for the Director of Industries to be able at any time to consult the staff of specialists attached to the Institute on any chemical problem or question which arises. During the year Mr. Seshachalam, the Leather Research Chemist, worked in the laboratories of the Institute for about two weeks for the purpose of standardizing a number of liquor solutions in connexion with the

tanning researches that he had on hand. With the facilities at present available at the Leather Trades Institute, only the quality as distinct from the strength of the acid contents of solutions can be determined and the electrometric work involved cannot be undertaken until the new laboratories have been completed and electric current provided.

38. After the retirement of the Industrial Chemist in March 1925, the Leather Research Chemist was entrusted with the work of dealing with miscellaneous chemical enquiries in addition to those pertaining more properly to the leather and tanning industries. Mr. Seshachallam's work during the year in his capacity as Chemistry Assistant to the Director consisted of (a) assistance rendered to the different sections of the Department of Industries and (b) enquiries received from and assistance rendered to the general public. Analyses of water were carried out for the Engineering branch of the department and of glycerine for the Superintendent of the Kerala Soap Institute while the following six illustrations are typical of the assistance rendered to the general public:—

(i) A firm in Salem, who contemplated the opening of a dyehouse required for analyses to be made of their water with a view to determining its suitability for boiler feed and dyeing purposes. The water was analysed as a result of which the firm were furnished with information as to how the water could be softened by the aid of chemicals and rendered suitable for their purpose.

(ii) A firm engaged in the preparation of graphite crucibles sent samples of crucibles for test and the presence of iron in the crucible—which is a decided drawback—was pointed out to them.

(iii) An enquiry was received from the Carnatic Paper Mills, Limited, with reference to a reduction of the temperature of the factory water to 5 or 10° below the atmospheric temperature and a simple method of obtaining the desired result was suggested.

(iv) A firm of match manufacturers experienced difficulty owing to the fact that only the top portion and not the splint became ignited and a method of overcoming the defect was suggested.

(v) Information in regard to the industrial uses of gallic acid was supplied to an enquirer as also with reference to the manufacture of glauber's salt.

(vi) A saw mill was supplied with a recipe for varnish. The arrangements introduced during the previous year for carrying on the chemical work of the department worked satisfactorily during the period under review.

39. *Management of manufacturing institutions owned by Government.*—The manufacturing activities which are at the present time under the direction of the department are soap and glycerine, fluid, powder and tablet inks and (until about the close of the year under review) jams and preserves. The experimental manufacture of printers' ink was initiated during the year.

KERALA SOAP INSTITUTE.

40. *Staff.*—Mr. A. K. Menon was in charge of the Institute throughout the year. Mr. P. S. Srinivasa Ayyar and Mr. C. V. Narayana Ayyar continued as First and Second Assistant respectively during the whole of the period until review.

41. *Production and accounts.*—The year under review has seen a satisfactory expansion in practically all branches of the factory's activities and the orders received and executed again exceeded those of the previous year both in quantity and value, every effort having been made to obtain as large a volume of business as possible, even at comparatively unremunerative prices, so as to keep the factory employed and spread the overhead charges over as large an outturn as possible. The Institution experienced very keen competition during the year and although the turnover, as will be seen, showed a satisfactory increase, the profit on contracts, as well as on each individual item of its trade, was very low and indeed the results obtained from the year's working were only made possible by economy in production and careful and judicious buying of the raw materials. The year opened with a stock of 48 tons, 17 cwt., 92 lb. of soap and 458 tons, 19 cwt., 45 lb. of all classes of soap valued at Rs. 1,92,540-11-6 were manufactured during the year against 373 tons, 1 cwt. and 9 lb. valued at Rs. 1,59,935-6-10 in the previous year. The sales increased in value from Rs. 2,28,135-2-8 in the year 1924-25 to Rs. 2,76,415-0-9 in the year under review. The profit and loss statement as audited by Messrs. Fraser and Ross disclosed an actual net profit of Rs. 24,722-13-0, but as Government decided, on the advice of the Accountant-General, that the bad or doubtful debts written off or reserved for during the year 1925-26 should be debited to the profit and loss account, the net profit was reduced to Rs. 16,722-13-0. The view of the auditors, as also of the department, was that these debts which related to the period before the concern was commercialised should be adjusted against the accumulated profits but this was not accepted by Government. The net profit was struck after debiting an amount of Rs. 2,447-6-0 for direction charges,

Rs. 1,424-1-0 for audit fee and Rs. 2,250 on account of leave and pension contributions.

42. *Varieties of soap manufactured.*—The policy of the Institute in maintaining the highest standard of quality for its products and supplying them at a reasonable price was adhered to during the year. There was a slight decrease in the sale of Vegetol but all other sections of the business showed a substantial and satisfactory expansion. The falling off in the demand for Vegetol is attributable partly to the severe and increasing competition of country-made soaps, and also to the fact that many people are apparently giving up the use of this class of cold process soap owing to the large number of injurious and colourable imitations which have been placed on the market and the difficulty of distinguishing the original brand from the spurious substitute. A further reason why the sales of Vegetol failed to realize expectations during the year is that there appears to be a growing desire on the part of the public to purchase a soap that is more economical in use than Vegetol which lathers very freely and, if carelessly handled, is somewhat wasteful. Furthermore now that toilet soaps of excellent quality are marketed by the Institute at prices ranging from 3 annas to 5 annas per cake, there is evident a growing preference on the part of the public for such soaps which not only possess an agreeable fragrance but are decidedly superior to Vegetol in point of durability. Vegetol, however, maintains its popularity as a bath soap in districts such as Coimbatore where owing to the hardness of the water ordinary soaps will not lather freely, and certainly for use with hard water Vegetol is unexcelled. There was a notable increase of over 125 per cent in the sale of toilet soaps. This increase is very gratifying since the competition of imported soaps is most intense in toilet soaps which are also the most profitable line to manufacture. The orders received from the Director of Contracts for yellow bar soap and soft soap showed a further satisfactory increase, although the margin of profit on these contracts, which were obtained on the face of severe competition, was very slender indeed. The demand for Washwell, the best known and appreciated of all the Institute's products, showed a satisfactory expansion. The prosperity of the planting industry was to some extent reflected in an increased demand for the insecticidal soap manufactured by the Institute which is employed for destroying the insects and pests on estates.

43. *Sales organization.*—Mr. R. C. Dalal continued during the year under review to act as agent for South Kanara, Malabar, Cochin, Travancore, Coimbatore, Nilgiris, Salem, Trichinopoly and the Mysore States, including Bangalore, and the amount of business introduced by him was not altogether unsatisfactory having regard to prevailing trade conditions. Mr. Adam Hajee Muhammad Sait

continued as the leading stockist at Madras together with three other stockists: Messrs. C. Somoo Mudaly & Co., Mr. C. R. Vadivelu Mudaliyar and Mr. S. T. Paldano. The results shown by the latter three stockists, however, were far from satisfactory and at the close of the year a proposal was under consideration to terminate the arrangement and to appoint Mr. Adam Hajee Muhammad Sait as the sole agent for Madras and the adjacent districts of Chingleput and North Arcot. Mr. S. C. Dalal who was appointed as agent at Bombay entirely failed to justify his selection and an early opportunity will be taken of terminating his agency. Messrs. T. C. Ramudu Jetty & Sons, Tanjore, Mr. K. Raghavendra Rao, Kumbakonam, the Kodaikanal Co-operative Society, Kodaikanal, Mr. G. Palaniappa Mudaliar, Madura, Messrs. Majety Veerabhadra Rao & Co., Ellore, Mr. P. Gomez, Tuticorin, and Messrs. Minakshi & Co., Ramnad, served as stockists in their respective areas with varying success. It is hoped gradually to appoint agents as stockists in other areas of the presidency where the Institute is not at present represented, but the difficulty is that most firms require credit which in the absence of adequate security it is not possible to give them. Experience indicates also that in order to obtain the best results from the agents and stockists, it is necessary to visit them periodically in order to discuss local market conditions and to encourage them to develop sales. The leading European soap-makers have travellers constantly visiting the chief consuming centres and the Institute is at a distinct disadvantage in this respect.

44. *Training of apprentices.*—A scheme was submitted to, and was under the consideration of, Government at the close of the year for the training of 12 apprentices in soap manufacture. One of the objects underlying the establishment of the Institute by Sir Frederick Nicholson was to provide facilities for the training of students in the processes employed in soap manufacture, but it is difficult to see how the apprenticeship scheme can be brought into force without affecting the commercial aspect of the factory or that it can be worked without prejudice to running the Institute on commercial lines with a view to profit. No persons were admitted for training during the year.

45. *Glycerine manufacture.*—It was stated in last year's administration report that a satisfactory quality of 80 per cent concentrated crude glycerine had been recovered as a bye-product from the soap lyes and that the question of developing a market for the crude glycerine was receiving close attention. The glycerine plant was in operation throughout the year and very satisfactory product was recovered. Glycerine to the value of Rs. 4,034 was sold during period under review as against Rs. 419 in the previous year. The output of glycerine is directly dependent on the extent of the production of boiled soap and when the factory is working at its full

capacity a very satisfactory revenue should accrue from the sale of this bye-product. A good deal of useful data in regard to the modification of the established process of glycerine recovery to suit Indian conditions was obtained during the year.

46. *Laboratory*.—In order to maintain the uniformly high standard of the Institute's products a careful examination of the various raw materials received and the finished products turned out is requisite and during the year under review, 600 analyses were carried out in the Institute laboratory of which 170 were of raw materials and 430 of finished products in the various stages of manufacture. In addition, 140 samples of different materials were received and analysed for private firms and individuals. Some original laboratory work was also carried out on Rhambutan Tallow, Kokum Butter, Tiger Fat and Dammar Resin.

47. *Miscellaneous*.—The factory was visited during the year by a considerable number of visitors. All the educational institutions on the West Coast now make it a point every year to send their students to visit the factory and observe the processes of soap manufacture in all its stages. The visitors included Sir T. Sadasiva Ayyar, the Hon'ble Rao Bahadur Sir A. P. Patro, Minister for Education, Mr. G. T. H. Bracken, I.C.S., late Secretary, Development Department, Mr. D. Colin Campbell, Director of Commercial Audit, Rao Sahib P. V. Gopalan, K. Uppi Sahib Bahadur, T. M. Moidu Sahib Bahadur, Mr. S. Arpudaswami Udayar and several other members of the Legislative Council.

GOVERNMENT INDUSTRIAL INSTITUTE, MADRAS.

48. *Staff*.—Mr. S. Venkatarama Ayyar continued to be in charge of the Institute throughout the year.

49. *Premises*.—The Institute continued to be accommodated in the rented premises in Wallajah Road up to the 9th February 1926 when it was removed to Washermanpet. The premises in Wallajah Road proved fairly suitable for the purpose of the factory although the accommodation was very restricted, but when experiments in the manufacture of printers' ink were taken in hand at Washermanpet, adequate supervision on the part of the Officer in charge was rendered very difficult owing to the distance separating the two factories. Another reason why the transfer of the factory was decided upon was that consequent on the check to the expansion of the Leather Trades Institute, the accommodation provided in the extensions thereto was clearly in excess of the Institute's requirements and as such it was obvious that a considerable economy would be effected by giving up the rented premises occupied by the factory. The two

rooms in the east wing of the ground floor of the Leather Trades Institute extensions have accordingly been utilized by the Ink factory, one for the office and show room and the other for the factory chemical laboratory and for storage purposes. The whole of the large shed adjoining the extension block of the Leather Trades Institute of which it forms a part has also been utilized by the Ink factory. The factory also occupies a portion of the old Glue factory building which is not required to accommodate certain machinery and plant of the Leather Trades Institute or for the purpose of the printing ink experiments, and in this building the raw materials are stored and assembled and prepared for the manufacture of fluid ink, while the other varieties of ink, including ink powders and ink tablets, are also prepared in it.

50. *Varieties of inks manufactured*.—The Institute continued to be engaged during the year mainly on the manufacture of standard blue-black record ink, blue-black fountain pen ink, scarlet ink, green ink, violet, red and black stamping inks and cyclostyle inks, as also ink powders and ink tablets. The quality of several of the varieties of ink manufactured was still further improved during the year, but the limit of experimental research has not yet been reached. A number of new varieties of ink were also placed on the market including violet blue copying ink, a special feature of which is the number of press copies that can be taken from a letter written with it. This ink is to a great extent replacing similar ink which has hitherto been imported. A satisfactory quality of metal stamping ink as also of ruling ink, were manufactured during the year. The demand for ink powders in the form of pressed tablets continued to grow and it was found necessary, in order to cope with the demand, to instal an additional stamping press for the preparation of the tablets.

51. *Production and accounts*.—The output during the year ended 31st March 1926, amounted to 1,502½ gallons of various classes of fluid ink, 71,127 tins of ink powders and 14,506 packets of ink tablets. The sales amounted to 1,899 gallons of fluid ink, 1,321 phials of stamping inks, 71,585 tins of ink powder, 14,103 packets of ink tablets, and 272 tins of cyclostyle ink. The value of the sales effected amounted to Rs. 21,519-13-10 as against Rs. 26,156-0-5 in the previous year. The accounts as audited by Messrs. Fraser & Ross showed a loss of Rs. 1,604-4-0, on the year's working, after providing for direction, audit and all other overhead charges. The percentage of sales to the Superintendent of Stationery to the whole factory sales declined from 64 per cent in 1924-25 to 51.84 per cent in the year under review, sales to the public including municipalities, district boards, railway administrations, educational institutions, banks and commercial houses, showing a satisfactory increase,

although insufficient to offset the marked decline in the business done with the Superintendent of Stationery. The loss incurred during the year was due to the following causes: (1) the fall in sales and consequently the reduced output as compared with the previous year and (2) the expenditure incurred in connexion with the removal of the Institute from Wallajah Road to Washermanpet. There was considerable delay in obtaining the annual order of the Superintendent of Stationery as a consequence of which ink had to be stored in barrels which would otherwise have been released in time to permit of the manufacture of a fresh batch of ink, and when the empty barrels were available, manufacturing work had to be suspended in anticipation of the transfer of premises. It is anticipated that the Institute will show much better results during the current year as the extent of the orders on hand at the close of the period under review indicated that the Institute would be fully employed during the year. The principal obstacle to the successful development of the factory is the difficulty in obtaining containers as suitable stoneware jars are not at present available in India at an economical price. Messrs. T. A. Taylor & Co. continued as sole agents for the Institute throughout the year.

52. *Printers' ink experiments.*—Government, during the year, approved a proposal that the department should carry on the experimental manufacture of printers' ink in the old Glue factory building at Washermanpet as the average volume of imports appeared to justify an attempt to establish the industry. The manufacture of printers' ink is an entirely separate industry from that of ordinary writing fluids and ink powders and the experimental manufacture of printers' ink has accordingly been treated as an entirely separate pioneer industry and the costs of the experiment are debited against a separate allotment and not against the profits of the ink factory proper. In fact the only connexion between the two factories is that they are under the direct charge of one officer.

53. Printers' ink consists essentially of carbon black incorporated in a medium of varnish, the latter of which is obtained by boiling linseed oil and igniting the resulting vapour until the correct consistency is reached. Rosin, soap and a blue pigment are also introduced in small quantities and dissolved with a view to impart clearness and brightness to the impressions made with the finished ink. The five ingredients used in the manufacture of printers' ink thus consist of carbon black, linseed oil, rosin, soap and a blue pigment all of which are obtainable in India with the exception of carbon black which is usually imported from America. The experiments had only been in progress for about five months by the end of the year and although the laboratory results were, on the whole, promising, it is not possible to say at this stage for how long a period

the experimental manufacture is likely to extend over, as this will necessarily depend on the course of the experiments, and in view of the complexity of the subject, striking results cannot be expected within a short time. The process of manufacture of printers' ink is highly technical and scientific and the necessary skill in carrying out the operations can only result from considerable experience, whilst the evolution of suitable recipes to suit the varying requirements of the trade can only be obtained by prolonged experiments. During the period under review, the materials required for the experiment have had to be ground by manual labour with stone slabs and rollers, but the results of the preliminary laboratory experiments have been such as to justify the purchase of mechanical mixing and grinding apparatus which is essential if progress is to be made in the evolution of a satisfactory commercial product. Accordingly arrangements have been made to obtain the necessary mechanical apparatus through the Director-General of Stores. The varieties of printing ink on which experimental manufacture was concentrated during the year were 'News ink' and 'Book ink' and certain journals and periodicals were printed with the experimental product with satisfactory results.

FRUIT PRESERVING INSTITUTE, COONOR.

54. *Staff.*—Captain Bryant was in charge of the Institute on the opening day of the year, but on the following day he handed over charge to Mr. R. T. Patel who remained in charge of the Institute for the rest of the year. M.R.Ry. N. K. Muthuswami Ayyar, a permanent mechanic of the department, acted as Foreman during the year and was in charge of the manufacturing operations.

55. *Production and accounts.*—The year opened with a stock of 18,431 lb. of jams and preserved fruits valued at Rs. 8,063-9-0 and closed with a stock of 7,285 lb. valued at Rs. 3,165-5-0. The sale of jams and preserved fruits during the year amounted to 17,467 lb. valued at Rs. 8,712-5-6 against 33,457 lb. valued at Rs. 17,977-7-11 during the previous year. The results of the year's working, after allowing Rs. 500 for direction charges and Rs. 825 for audit fee, showed a loss of Rs. 17,204-8-8. Considerable difficulty was experienced during the year in securing fruits suitable for jam making in sufficient quantities at a reasonable price, whilst owing to lack of skilled supervision, the quality of the products turned out was not altogether satisfactory.

56. It was stated in last year's report that on a review of the position Government had decided that the Institute should be continued for some time longer, every effort being made in the meantime to reduce the cost of production and increase the sales through

the medium of two specially appointed canvassers. Two canvassers were accordingly appointed in G.O. No. 1058, dated the 22nd July 1925, one for the Tamil districts and the other for the Telugu districts. The business introduced by the travelling salesmen, however, was practically negligible and the general position underwent no improvement during the year. The question of the future of the Institute was further reviewed by Government in the light of experience gained during the year and the conclusion arrived at by the department, that the demand for the products of the Institute within the area which it served or could ever hope to serve was quite insufficient to absorb an economic output, was accepted. Accordingly, in G.O. No. 276, Press, dated the 24th February 1926, Government directed that the Fruit Preserving Institute should be closed and that its assets, excluding land and buildings, should be sold for the best price obtainable. An advertisement inviting offers for the machinery, plant, stores and stock in hand was published in the Press and the question of the disposal of the assets of the concern was under consideration at the end of the year. It is proposed to utilize the Institute buildings for the purpose of the Sub-Collector's office and court.

PALLAPALAYAM SUGARCANE CRUSHING FACTORY.

57. The factory started work on the 24th July 1925 and closed for the season on 1st October 1925. During this period the factory worked for 55 days and two nights and the total output of jaggery was 935 pothies as against 1,618 pothies in the previous year. On an average 30 pans of juice were boiled with five sets of furnaces in a day of eleven hours, each pan producing five maunds of jaggery. The considerable reduction in output during the year is attributable to (i) the uncertainty of the factory operating during the season owing to the question of its transfer to a co-operative society being under consideration, as a result of which several of the neighbouring ryots set up country mills for the crushing of the cane, (ii) the reduction in the area under sugar-cane cultivation due to the flooding of the fields, and (iii) the price of cattle food having advanced very considerably owing to the failure of the monsoon and the price of jaggery not being very attractive the ryots with a view to utilizing the tops of the sugarcane as fodder preferred to crush their canes in country mills as and when fodder was required for cattle.

58. The operations of the factory yielded a net profit of Rs. 160 after allowing reasonable depreciation on machinery plant and buildings which, all things considered, may be considered as not unsatisfactory, particularly as the accounts were debited with a sum

of Rs. 490 representing the cost of a new roller and the renewal of a broken shaft for the mill which for all practical purposes may be regarded as capital expenditure.

59. The success and economy of power crushing having been sufficiently demonstrated at Pallapalayam, there was obviously no object in continuing the operations there and accordingly endeavours were made to induce a group of local ryots to form a co-operative society to take over the factory. The Deputy Registrar of Co-operative Societies, Coimbatore, was finally successful in forming a co-operative industrial society for the purpose, and in G.O. No. 260, Development, dated the 27th February 1926, Government sanctioned the transfer to the newly formed society of the factory for a purchase consideration of Rs. 6,500. Enquiries are still proceeding in regard to other large cane-growing areas where the power crushing of cane could advantageously be demonstrated, and it is hoped to set up in suitable areas crushing plants of the Pallapalayam type with the object of encouraging the cultivation of sugarcane. The difficulties in the way of establishing central sugar factories in India are formidable. In the first place, sugarcane cultivation is seldom sufficiently concentrated to ensure a cheap and sufficient supply of cane to a large factory and, unless a central factory has control over a sufficient area of well-drained fertile land, it is not likely to succeed. Secondly, in many places jaggery is preferred to refined sugar and any attempt to utilize a large quantity of cane for the manufacture of sugar would raise the price of jaggery and consequently that of the cane. The line of advance appears to be to endeavour to improve the varieties of cane and the yield per acre, and by cheapening the cost of making jaggery to centralize and expand sugarcane cultivation. With an improved five-roller mill such as that installed at Pallapalayam, a much greater percentage of extraction is obtained than with the ordinary country mill and the cost of producing jaggery is correspondingly reduced. The setting up of more power cane crushing mills should therefore have the effect of increasing the area under sugarcane cultivation.

IV

60. Amongst scattered industries not conducted in factories, the most important is, of course, the handloom weaving industry. The activities of the Textile section of the department, which will now be reviewed, cover also cognate subjects such as hosiery, lace embroidery dyeing and printing and textile education, in addition to sericulture and silk filature reeling. After agriculture, handloom weaving is not only the largest, but the most important, as well as the most ancient, industry in this Presidency, and it may safely be taken that

the textile industry, including the production of raw silk, affords a means of subsistence to one million people. In the case of cotton goods, one-third of the total quantity manufactured on handlooms in India is produced in Southern India. It will be evident, therefore, that the textile section represents a very important branch of the departmental activities.

61. *Staff*.—Mr. D. M. Amalsad continued in charge of the Textile branch, including the direct control of the sericultural operations, throughout the year. He also performed the duties of Principal of the Government Textile Institute, Madras. Mr. K. T. Achayya continued to hold the appointment of Sericultural Assistant and was in charge of the Silk Farm at Coonoor throughout the period under review. Mr. S. Swaminatha Ayyangar continued as Factory Manager and Lecturer in the Textile Institute and did exceedingly good work. Messrs. K. Swami Pantulu, N. Narasayya, A. Ramalingaswami Pantulu, A. Samuel and G. Krishna Rao, Weaving Superintendents, were in charge of the several peripatetic weaving parties. The services of Mr. E. S. Pasupathi Ayyar were dispensed with in October, and Mr. A. Ramachandra Rao was appointed early in February to be in charge of the Peripatetic Rearing Party in Kollegal taluk in his stead.

62. *Peripatetic Weaving Parties*.—The work and scope of the peripatetic weaving parties were fully discussed in last year's report wherein it was explained that the nature of the work of the parties had undergone some alteration for, while formerly they were concerned mostly with propaganda work with a view to the general adoption of the fly shuttle slay and other improved appliances, their efforts are now directed chiefly to the improvement of the preparatory processes, the demonstration of the departmental hand sizing machines, the distribution of power sized warps and the development of the sericultural operations in the district. There were five parties at work during the year under review and these operated in the districts of Godavari, Anantapur, Madura, Salem and Madras. The practical working of the hand-driven hot air sizing machine was demonstrated at Anantapur, Kadiri, Peddapuram, Conjeevaram and Madura, while two cold air drying machines, which can be produced at a comparatively cheap price and are also driven by hand, were successfully demonstrated and finally disposed of to weavers in Mangalore and Edakkat. The efforts made to induce weavers to adopt weaver's beams on their country looms, without which long machine sized warps cannot be utilized, met with increasing success during the year. In all, 51 weaver's beams, 80 slays, 127 dobbies, 155 shuttles, 2,920 healds, 3,774 pirns, etc., and 6,200 yards of power sized warp, valued at Rs. 4,432, were introduced

through the medium of the several parties. The work of training local carpenters in the manufacture of improved weaving appliances proceeded during the year. The Weaving Superintendents, in addition to their other duties, were responsible for the supervision of the sericultural activities in their respective jurisdictions.

63. *Textile Institute*.—The Textile Institute, having fully justified itself by results and sufficiently demonstrated its usefulness, Government, in G.O. No. 493, Development, dated the 29th March 1926, accepted the Director's proposal that the Institute should be placed on a permanent basis and sanctioned the permanent retention of the existing staff, as also the permanent appointment of a Designer on Rs. 60-2-70 and the temporary appointment of a Lecturer in Textile Chemistry on Rs. 100 per mensem for a period of three years. It is anticipated that as the Institute develops it will assist to some extent in solving the growing problem of unemployment among both the educated and uneducated classes. A number of educated youths have already adopted, and in future a considerably increased number may be expected to adopt the handicraft art of weaving for a livelihood. Those under training in the Institute receive instruction in designing, preparation, weaving, dyeing, block printing, hosiery, etc., as well as in sericultural operations, and they are in every way superior to the professional caste weavers in point of education, training, outlook, efficiency and moral stamina. An examination of the several causes, which have contributed to the closing of the handloom weaving factories started from time to time in Southern India, reveals that not the least important was that the small capitalists who embarked on the enterprise were to a great extent ignorant of the technique of the industry and were consequently entirely at the mercy of the not over-scrupulous caste weavers. The men trained at the Textile Institute, with their superior education, knowledge of the technique of the industry, and wider outlook should be able successfully to organize small weaving factories with a modest capital and the active intervention of the department in the development of the industry will be assisted by the fact that such men will always look to the Institute for inspiration and guidance in matters of organization and technique. The men turned out by the Institute will not compete to any great extent with the caste weavers as they will naturally adopt new lines of work in respect of which they have received instruction at the Institute and which have not been generally adopted by the caste weavers, and moreover if small organizations spring up as a result of the efforts of the men trained at the Institute, it is probable that a not inconsiderable proportion of the caste weavers will ultimately be brought within the orbit of such organizations to the advantage both of the industry and themselves. The very important question

of the development of co-operation amongst the weaving community, to which reference was made in last year's report, received further consideration, and Government, shortly before the close of the year, accorded their sanction to a proposal to attach an experienced officer of the Inspector grade in the Co-operative Department to the Department of Industries for the purpose of organizing new or re-organizing the existing co-operative societies.

64. The Textile Institute proper continued to be located in rented premises in Muker Nallamuthu Street, Georgetown, while the warp preparation, dyeing, block printing, silk filature reeling, power knitting and power loom weaving sections were accommodated in Washermanpet, some two miles away. The work of the Institute was therefore carried on under considerable difficulties, as apart from the distance between the two buildings, which renders supervision somewhat difficult, the building at Washermanpet leaves a great deal to be desired as it is provided only with a corrugated iron roof and the heat during the greater part of the day is intolerable rendering the sizing of yarns a matter of some difficulty. The building is also situated very close to the road, with the result that a considerable amount of dust is blown on to the machines. Again, the students complain bitterly of having to spend money for tram fare to attend the branch institute at Washermanpet and the attendance has consequently been unsatisfactory with the result that the students have done badly in their practical examinations. The provision of a permanent building to accommodate the increasing activities of the Institute is rapidly becoming a matter of urgency and it is hoped that now that Government have sanctioned its permanent retention they will be able to see their way to make some provision for the purpose in the next year's budget.

65. The following is a brief account of the working of the Institute during the year under the several heads:—

Technical training.—There were 21 students undergoing training in the Supervisor's course at the beginning of the year, but owing to sickness the number was reduced to 17 before the close of the year. Nine students received instruction in the Artisan course. The training given is of a thoroughly practical character as will be seen from the fact that before a candidate is permitted to sit for the final examination he is called upon to submit to the Principal a collection of twelve samples of cloth produced on different varieties of looms designed and woven by himself in the presence of the Lecturer in weaving. Such of the students as fail to reach the required standard of proficiency in practical and oral tests are not permitted to sit for the written examination.

66. *Manufacture and distribution of appliances.*—The manufacturing section of the Institute was fully occupied with the construction and supply of improved weaving appliances. The value of the appliances sold during the year amounted to the record figure of Rs. 12,825-10-0. The students were given training in carpentry in this section to the extent necessary to enable them to attend to simple repairs of weaving appliances. It was found, however, that the manufacture of weaving appliances greatly hampered the legitimate work of the Institute owing partly to the absence of proper workshop accommodation and partly to the time and attention which it required from the instructional staff of the Institute, and as a sufficient number of private contractors had been trained in the Institute in the manufacture of improved appliances, it was decided to abandon their manufacture departmentally from next year and to assist and encourage local contractors to carry on the work.

67. *Research and experiments.*—A number of specially designed weaving appliances were evolved during the year and these included a special cross border jacquard, rack and pinion multiple tape slay, fly shuttle cumbly loom, under pick automatic loom, special automatic loom fitted without tappets for shedding motion, sliding multiple box slay, cold air drying wooden sizing machine, coir spinning wheels, rope making machines, sectional warping mill for coir yarns, horizontal warping machine for the preparation of warps for woollen pile carpet, horizontal sectional warping mill for the preparation of warps for woollen cumbles and the application of wire healds and weaver's beams in the manufacture of Madras Handkerchiefs. The unique nature of the equipment of the Textile Institute has favourably impressed a number of visitors.

68. *Warp preparation section.*—The erection of and the preliminary trials conducted with the power driven warp preparation machinery were referred to in last year's report wherein it was stated that efforts, up to that time, had been confined mainly to the demonstration of the practicability of producing warps suitable in every way for the requirements of the handloom weavers and the training of a staff to operate the plant. The further experience gained in the running of the plant during the period under review showed conclusively that the quality of the warps turned out renders them in every way suitable for the requirements of the handloom weaving industry and that they are not surpassed by those produced by any other type of power driven sizing machine. As in the case of every other class of machinery, dresser sizing machines vary in construction and particularly in regard to the heating capacity according to the fineness of the yarn to be sized. Economy in the production of sized warps, therefore, depends largely upon the selection of the type of sizing machine suitable for a particular class of

work and it is not possible in the Institute to set up separate types of sizing machines to deal with counts, ranging from 12s to 20s. The Textile Expert, however, carried out several alterations to the plant and additional steam heaters were indented for in order to demonstrate the possibilities of sizing medium and fine counts on the same machine. The department has, of course, always recognized that the popular prejudice on the part of the weavers against the use of machine sized warps could only gradually be overcome as was the opposition in some quarters to the introduction of the fly shuttle slay. This prejudice, however, is bound to disappear in course of time and should not be regarded as an insuperable obstacle to success. There are considerable difficulties, however, in the way of marketing the sized warps turned out. Warp beams are made of 2,000 threads, 500 yards long with end-an-end leases at every 50 yards, but these beams cannot be sold to the weavers since different weavers require a different number of warp threads. Further, a weaver is not in a position to purchase a beam consisting of 500 yards of warp costing Rs. 75, and, owing to the daily fluctuation in the price of yarn, the weaver is also loth to purchase a beam of 500 yards which will last him for a period of about two months. Until, therefore, the formation of weavers' co-operative societies has proceeded much further, the necessary number of beams supplied to weavers will be limited and hence loose sized warps are supplied in ball form with lease at every 50 yards. The weaver is therefore able to group the required number of warp threads for the width of the fabric he desires to weave. The main difficulty, however, is in effecting cash sales of warp and it is for this reason that the plant is operated only for short periods in accordance with the demand for sized warps. The operation of the plant was not rendered any easier by the wide fluctuations in the yarn market, the price of 20s grey yarn, which stood at Rs. 10-8-0 per bundle of 10 lb. in the month of April 1925, gradually falling month by month until it reached Rs. 7-12-0 towards the close of the year. The difficulty was that while, owing to the small scale on which the plant was operating, the department could not place forward contracts for the supply of yarn in bulk, the weavers on the other hand were only willing to buy the warps on the basis of the ruling price of yarn in the local shandies.

69. *Hosiery*.—A regular course of training was provided in the Institute in the manufacture of socks and stockings from cotton, artificial silk and woollen yarn on circular and flat bar machinery and it is hoped that it will eventually be possible to introduce hosiery extensively as a home industry. Students were also trained in the working of the automatic power knitting machine. The number of persons, who received training in this section during the year, was 26.

The hosiery instructor visited the Mental Hospital, Good Shepherd Convent, and Women's Home of Service as well as a number of private parties for the purpose of giving instruction in knitting and explaining the working of the machines.

70. *Lace and embroidery*.—The lace instructor gave instruction in lace and embroidery work and dress-making in the homes of several families. The instructor also conducted classes in the Institute itself.

71. *Dyeing and cotton printing*.—A dyeing section has been attached to the Institute and equipped for laboratory and experimental purposes. In it students are given training in the printing of palampores with wooden blocks both with indigenous and synthetic dyes.

72. *Filature reeling and silk throwing*.—Practical training was given on various types of modern hand and power driven silk reeling machines. A small domestic silk filature plant with a portable furnace was constructed during the year and was found to be a great improvement on the Italian domestic plant. One of these plants was supplied during the year to the Director of Industries, Bengal.

73. *Textile testing*.—The Institute contains a set of yarn testing appliances suitable for the conduct of research, and yarns are tested for lengths contained in the hanks and for the ascertainment of the true counts. This section of the Institute, in addition to affording a valuable training for the students, serves a useful purpose as a testing laboratory and is occasionally resorted to for this purpose in connexion with disputes between importers and buyers.

74. *Textile publications*.—The Textile Expert conducted an intensive investigation into (i) the development of the cotton printing and painting industry in the Madras Presidency and (ii) the development of the *Madras Handkerchief* and *Lungie* industry. The results of these investigations, which were embodied in departmental bulletins, were published during the year.

75. *Miscellaneous*.—At the request of the Commonwealth Trust, Ltd., Calicut, the Textile Expert arranged for a practical demonstration of Madras Handkerchief weaving in their factory. Mr. Amalsad also prepared fresh detailed estimates for a cotton spinning mill in the Central Jail, Coimbatore, and also made necessary arrangements for the weaving of cumblies on the fly shuttle slay in the Central Jail, Bellary, as also for the installation in that jail of a woollen spinning plant.

SERICULTURE.

76. *Coonoor silk farm*.—The twelve acres of land on Tiger Hill, Coonoor, which had been planted with mulberry in August 1924, yielded leaves suitable for rearing worms early in the year under review. Ten thousand five hundred and ten layings of seed were

supplied from the Coonoor Farm to Kollegal and 2,845 layings to the newly started areas of the Presidency. Unfortunately, soon after the first crop in June, a white powdery fungus disease made its appearance on the plantation and affected the leaves thereby causing disaster to the silk worms fed with them. The supply of seeds from these cocoons had therefore to be stopped pending an improvement in the situation. The Government Mycologist, who was consulted in the matter, conducted several experiments with a view to the eradication of the disease, and by the end of November, by whole sale pruning of the plantation and the spraying of the stumps with lime sulphur, the disease was brought under control. The disease was identified by the Government Mycologist as powdery mildew caused by 'Phyllactinea Corylea'. The white growth of this fungus appears to be on the under surface of the mulberry leaves and it kills the leaves in about three weeks' time. The disease is understood to be prevalent in China and Burma. The bushes had grown to a height of $1\frac{1}{2}$ feet by the close of the year and the disease had not up to then reappeared although it has since. Consequent on the appearance and spread of this disease, the work and progress of the farm have been retarded and it was considered advisable to postpone the construction of the rearing house and quarters for the staff of the farm until it had been ascertained, whether the disease was likely to prove permanent. The rearing work accordingly continued to be carried on in a rented building during the year. The Sericultural Assistant continued to devote a good deal of attention to the conduct of research work and the results, as disclosed by the quality and output of the cocoons raised, went to show that univoltine worms could be reared successfully in the hill tracts of the Presidency. The work of hybridisation was also successfully undertaken by cross breeding the French and Mysore varieties.

77. *Peripatetic silk rearing party.*—The functions of the peripatetic rearing party were described in last year's report. The party continued to advise the rearers on the rational methods of rearing worms in cottages and to carry on the work of moth testing in the village of Kamakarai in the Kollegal taluk. The rearers are gradually becoming convinced of the superior qualities of tested seed and the greatly improved prospects of raising crops by the use of such seeds. Several microscopical tests were conducted by the party during the year under review.

78. *District sericultural work.*—The efforts of those who have already embarked on mulberry cultivation have so far been restricted to silk worm rearing only, which branch of work is under the control of the weaving superintendents assisted in each case by a practical sericulturist. The total area under mulberry cultivation in the several districts is 80 acres and 90 cents. The department is proceeding

cautiously in the matter of bringing additional areas under mulberry cultivation as the owners of the land naturally desire to ascertain whether mulberry cultivation will pay as well as food crops. In most of the centres, the land under mulberry has been less than half an acre and the income derived from such a small acreage is hardly likely to equal the expenditure incurred on the wages of a rearer for picking the leaves, rearing of worms, etc., which would be about the same for a larger farm of say 5 acres, which may be taken as the minimum economic unit. M.R.Ry. Chowdri Kuppuswami Nayudu Garu, M.L.C., of Chirala has extended his plantations in Audipudi from 1 to $6\frac{1}{2}$ acres and the quality of the cocoons and silk reeled has been very satisfactory.

79. *Silk filature reeling.*—Silk reeling is still carried on in Kollegal on crude country reels and the silk reeled on it is suitable only for local consumption as it is deficient in colour, cleanliness, uniformity of thickness and good winding qualities. With a view to reel silk of a higher quality, which will command more than a limited local market and realize a higher price, two domestic silk reeling machines of the Italian type were obtained for the purpose of demonstration and the training of operatives in the cocoon producing areas, as well as one steam tin basin filature for demonstration at the Textile Institute so as to enable instruction to be given in modern methods of reeling, throwing and preparation. One of the domestic filature reeling machines was put to work at Coonoor and the other at Audipudi, near Chirala in the Guntur district. The position is, however, that the cost of the domestic reeling machine, as also of the necessary microscope for testing the seeds, is beyond the purchasing capacity of the rearer, and the setting up of filatures in suitable areas can therefore only come through the enterprise of capitalists or by the formation of co-operative unions amongst the rearers.

V

80. Under the head of assistance intended principally for the benefit of agriculturists, the work of the engineering branch of the department, which will be discussed in the following paragraphs, is grouped. The work of this branch consists mainly of the investigation of new engineering projects, of the erection of new installations, the maintenance of pumping installations and industrial machinery already at work, the conduct of boring operations, the supply, erection and maintenance of pumps suitable for irrigation and the investigation of loans applied for under the Agriculturists' Loans Act.

81. *Staff.*—Mr. L. S. Pinto resumed charge of the appointment of Industrial Engineer on the 15th April 1925 on his return from deputation to Great Britain and United States of America to investigate the subject of modern boring practices and relieved

Mr. N. M. Adyanthayya, who reverted to his permanent post as Principal of the Madras Trades School. M.R.Ry. N. Ayyakannu Achari continued to act as Assistant Industrial Engineer and was in direct charge of the departmental engineering workshops at Madras. M.R.Ry. S. Rajagopal Nayudu was in charge of the Coimbatore division during the year under review except for a period of three months from the 30th June 1925 when he was on leave, and M.R.Ry. K. G. Menon, Supervisor, 1st grade, acted for him. M.R.Ry. P. K. S. Ramanujam Pillai and M.R.Ry. A. V. Varadaraja Mudaliyar were in charge of the Tanjore and Bezwada divisions, respectively throughout the year.

82. The following table shows the territorial jurisdictions of the executive staff as it stood on the 31st March 1926 :—

Districts comprising the division.	Name of sub-division in charge of supervisor.	Head-quarters of sub-division.	Supervisors.	Mechanics.	Boring masters.	Apprentices bearing masters.	Surveyors.	Remarks.
Industrial Engineering workshop.	Madras ..	Madras ..	1	..	..	..	..	
Drawing branch ..	Do. ..	Do. ..	1	1	..	..	..	
<i>Tanjore division.</i>								
South Arcot ..	Cuddalore ..	Cuddalore ..	1	3	3	..	..	
Tanjore ..	Tanjore ..	Tanjore ..	1	2	4	..	..	
Trichinopoly and Madurai.	Trichinopoly.	Trichinopoly.	1	8	3	..	..	
Ramnad and Tinnevely.	Tinnevely ..	Tinnevely ..	1	2	9	2	..	
<i>Coimbatore division.</i>								
Malabar, South Kanara and Angengo.	Calicut ..	Calicut ..	..	2	2	..	1	
Coimbatore, Nilgiris and Salem.	Coimbatore ..	Coimbatore ..	*2	4	7	4	1	*1 on probation.
North Arcot and Chittoor.	Vellore ..	Vellore ..	1	2	9	..	..	
<i>Bezwada division.</i>								
Ganjam, Vizagapatam and Godavari (East).	Vizagapatam.	Vizagapatam.	1	3	10	3	..	
Kistna and West Godavari.	Bezwada ..	Bezwada ..	..	2	9	1	..	
Guntur and Nellore.	Nellore ..	Nellore ..	..	1	5	..	..	
Bellary and Karnool.	Bellary ..	Bellary ..	1	3	3	..	..	
Cuddapah and Anantapur.	Cuddapah ..	Cuddapah ..	..	2	1	1	..	
<i>Madras sub-division.</i>								
Madras and Chingleput (under the control of the Industrial Engineer).	Madras ..	Madras ..	†3	3	10	2	..	†2 on probation.

83. *Information and advice.*—General information and advice on engineering questions is given free provided no local inspection is involved, and in cases where a local inspection is necessary a fee of Rs. 15 is payable, in return for which advice is given in regard to the selection of a suitable site for a mill, factory or installation and as to the most suitable type of machinery for the purpose. Shortly before the close of the year, Government issued orders to the effect that no fees should be levied for services rendered or supplies made by a department to other departments of Government except to a commercial department or to a Government commercial undertaking, but that for purposes of bringing out the true cost of the department, the value of such services or supplies as cannot be charged for under the rules should be shown in the administration report. This will be done in future reports. The following table shows the number of applications received for information and advice and disposed of during the year :—

Division.	Pending on 1st April 1925.	Received during the year.	Disposed of during the year.	Pending on 31st March 1926.
Tanjore ..	3	48	45	6
Coimbatore ..	20	39	40	19
Bezwada ..	3	43	44	2
Madras ..	..	10	6	4
Total ..	26	140	135	31

84. *New erections.*—The erection of machinery and plant continued to be undertaken for a nominal fee of 2½ per cent on the capital cost of the machinery installed. This service, while enabling the ryot or small factory owner to have his engine and pump or industrial machinery erected at the minimum cost, also ensures the engine being set up under proper technical supervision. The number of plants, erected during the year increased by 21 as compared with the previous period. The following table shows the number of plants erected in the various divisions :—

Division.	Applications pending on 1st April 1925.	Received during the year.	Erected during the year.	Pending on 31st March 1926.	Remarks.
Tanjore ..	8	31	35 (a)	4	(a) Twenty-seven industrial, seven pumping and one combined.
Coimbatore ..	..	31	31 (b)	..	(b) Seventeen industrial, 13 pumping and 1 combined.
Bezwada ..	7	6	10 (c)	3	(c) Six industrial, 3 pumping and 1 combined.
Madras ..	..	5	5 (d)	..	(d) Four pumping and 1 combined.
Total ..	15	73	81	7	

It may not be without interest to record the largest and the smallest plant erected during the year in each of the divisions :-

Division.	Largest plant.	Smallest plant.
Tanjore	60 B.H.P. oil engine.	6½ B.H.P. oil engine.
Coimbatore ..	26	7 .. gas ..
Bezwada	34	5 .. oil ..

The area brought or proposed to be brought under irrigation as a result of the pumping plants erected during the year, or pending erection at the close of the year, by the department was as follows :-

Division.	Area brought or to be brought under irrigation.	Approximate increased income accruing therefrom.
	ACS.	RS.
Tanjore	152	23,183
Coimbatore ..	202	36,850
Bezwada	55	12,000

85. *Compounding system.*—Under existing conditions in Southern India it is necessary to provide for the supervision and periodical inspection of the engines, pumps and industrial machinery installed. Under this system, for a fixed fee of Rs. 15 per annum, owners of private installations are entitled to have their plants inspected and overhauled three times a year, and also at other times if special requisitions are received, for which, however, extra fees are charged. The number of plants under maintenance by the department during the year increased to 414 as compared with 371 in the previous year and 383 in the year 1923-24. The following statement shows the number of plants under maintenance in the various divisions :-

Division.	Industrial plants.	Pumping plants.	Combined plants.	Total.
Tanjore	121	32	20	176
Coimbatore ..	50	52	6	108
Bezwada	50	27	6	83
Madras	12	32	3	47

86. *Loans sanctioned during the year.*—Loans under the Agriculturists' Loans Act are granted by Government on favourable conditions to ryots for the installation of pumping machinery. Five loans of an aggregate amount of Rs. 35,000 were sanctioned for disbursement during the year ended 31st March 1926. The amount actually disbursed was Rs. 42,506-13-4 of which loan sanctioned during the year under review accounted for Rs. 11,192-8-0 and loans sanctioned but not disbursed during the previous year, for the

balance. Of the five loans sanctioned during the year, three were in the Coimbatore division and one each in the Bezwada division and the Madras subdivision. The amounts disbursed in the three previous years were :-

	RS.	
1922-23	46,500	9 applicants.
1923-24	74,000	11 ..
1924-25	97,300	25 ..

The marked decrease in the number of loan applications sanctioned during the year, as compared with the previous year, is mainly attributable to the fact that owing to heavy rains in the Coimbatore division in the months of October, November and December the wells were full and no satisfactory and conclusive test of their capacity could be conducted till about the end of March with the result that several applications had to be kept in abeyance. In all such cases the requisite retests have since been conducted and six applications for an aggregate amount of Rs. 31,500 have been sanctioned, or were under the consideration of the Director, within the first two months of the current year.

87. Certain anomalies and difficulties in the working of the Agriculturists' Loans Act, which were experienced during the year under review, are worthy perhaps of a passing reference. A subterfuge, which was occasionally adopted, was to postpone cashing the cheques issued by the disbursing officer in order to prolong the date of the last debit as shown by the Treasury accounts. Yet another device adopted by some was to secure the loan amount, or an instalment of it, and to delay the application of the proceeds for the purpose for which it was sanctioned. The Accountant-General pointed out that loans under the Act should not be advanced to parties for expenditure to be incurred by them subsequently, but that payments should be made only against bills presented by them for work executed. The objection to the procedure suggested by the Accountant-General is that in many cases the borrowers would not get the full benefit of the loan as they would have to raise short-term loans at probably a high rate of interest. A case occurred during the year in which a party obtained payment of the loan by misrepresentation. Endeavours have been made to counter these difficulties by keeping a close watch on each case, by completing the work departmentally and debiting the expenditure to the party, by treating the date of the cheque as the date of last debit, and by inspecting the work and materials alleged to be completed or collected. The repayment of loans sanctioned under the Act appears generally to proceed satisfactorily. In one case the recipient of a State loan of Rs. 4,000 put in an insolvency petition for Rs. 37,000 and his whereabouts were not known. In view of this and of the fact that he had failed to

observe all the conditions on which the loan was granted, an order under rule XVI of the Special Loan Rules directing the recovery forthwith of the amount together with interest payable thereon and all costs relating thereto as an arrear of land revenue was issued and the Collector of the district was asked to take the requisite action under the provisions of the Madras Revenue Recovery Act, 1864. The amount due from the party is understood to have been recovered in full and credited to Government. In another case, it was discovered that the recipient of a loan of Rs. 6,500 did not apply the proceeds of the loan for the purpose for which it was sanctioned, viz., for the irrigation of the lands specified in the loan application, but had transferred the engine and pump purchased out of the loan amount to a third party. Rule XVI of the Special Loan Rules was put in motion and the full amount of the loan paid with interest was recovered from the party.

88. *Boring.*—The department maintained in operation during the year 6 power drills and 54 hand drills. In addition to these, the three power drills which had been ordered by the High Commissioner for India in London, in pursuance of the recommendations of the Industrial Engineer, were received during the year and by January had been assembled in the workshops. In G.O. Mis. No. 1742, Development, dated the 12th October 1925, Government sanctioned the entertainment of three drillers on Rs. 50—2½—75 and three assistant drillers on Rs. 35—1½—50 for the operation of the new drills and these men underwent the necessary training in the handling of the drills and their components. They were also given instruction in the tempering of steel bits with the tool-dressing machines for the sharpening of the bits which had been purchased with the drills. Shortly before the close of the year one of the new drills was set to work in Tondiarpet, Madras, and the daily outturn of work obtained from the drill compared very favourably with that of the old drills, seven to eight feet of hard rock having been bored through in a day of eight hours, whereas with the old departmental drills only from 6 to 24 inches could be drilled in rocky strata per day and slightly more in soft rock. A second drill was set to work in the compound of the industrial workshops for the purpose mainly of training the necessary staff and it has so far reached 150 feet in alluvial soil and 58 feet in hard rock.

89. The total depth bored during the year was 27,087 feet as against 28,841 feet in the previous year, the average depth of a boring working out to about 53·3 feet. It has been found necessary in some cases where borings have been put down in tracts where there is extreme scarcity of fresh water to test the water from the boreholes before pronouncing it as suitable for drinking or boiler feed purposes. In such cases, samples of the water drawn are sent

to the Leather Research Chemist for analysis and advice as to the method of treatment to be followed in cases where treatment is considered necessary. The following table exhibits the territorial distribution of the applications received for hand and power borings, the number of feet bored in each of the divisions and other relevant particulars :—

Division.		Applications pending on 1st April 1926.	Applications received or registered during 1925-26.	Applications disposed of during the year.	Pending disposal on 1st April 1926.	Total number of feet bored through.	Deepest boring put down.	Number of borings put down.	Number of successful borings.	Number of unsuccessful borings.
Tanjore		29	67	74	22	5,534	326	104	76	28
Coimbatore		50	47	80	17	3,860	81	121	60	61
Bezwada		67	169	179	57	13,747	225	219	182	37
Madras		5	39	36	8	3,946	170	64*	27	33
Total ..		152	321	369	104	27,087	..	508	345	159

* This includes 4 for cleaning boreholes.

90. The following is a condensed account of some of the more interesting features of the boring work carried out in the several divisions during the year :—

Tanjore division.—A boring was conducted at Kanadukathan to a depth of 229 feet in a well of 45 feet depth. The strata passed through were hard rock and special diamond chisels, that had recently been obtained from America, were employed to bore and the progress was, as expected, satisfactory. As no sub-artesian spring was met with, blastings were conducted to determine whether any fissures in the rocks exist. As no improvement was noticed and as the progress further down with a hand-boring set was very slow, the party was advised to hire a power drill. Thirteen trial ground borings were put down to a depth of 239 feet for the Director of Fisheries in connexion with the Tuticorin Pearl Fishery and fresh water was tapped in each case. Of the 13 borings, 6 boreholes were selected and these were lined and each fitted up with a pump and worked. The quality of the water forthcoming was good and the supply from all the boreholes amounted to about 25 gallons per minute. Water from these boreholes was supplied to the whole Pearl Fishery camp through a system of pipes thus ensuring for the first time in the history of the Pearl Fishery the purity of the drinking water available.

Coimbatore.—One of the borings put down in Gobichetti-palaiyam taluk of Coimbatore district met with a good subterranean spring sufficient to justify a pumping installation which the party proposes to set up with the aid of a loan under the Agriculturists' Loans Act. A pumping plant at Chendathur, North Arcot district, which was kept idle for want of sufficient water in the well is now working satisfactorily as a result of a boring put down in the well. A boring put down during the year at Ramachandrapuram was a great success and as a result the well which was supplying water for a 4-inch pump for one hour now supplies water for the same pump for four to six hours. In this case also, the party has been encouraged to apply for a loan under the Agriculturists' Loans Act to enable him to instal a suitable pumping plant.

Bezwada.—In the Bezwada division a boring was put down in a well 22 feet deep at Arikarevula, Yernagudem taluk, West Godavari district, as result of which a rise of 10 feet of water was forthcoming. It is understood that the ryot is getting an additional income of Rs. 1,000 as a result of this operation. A ground boring was put down at Dharmavaram, West Godavari district, and a sub-artesian current was tapped at a depth of 130 feet below ground level. It is proposed to construct a well in order to take advantage of the borehole supply, the water having risen to 5 feet below ground level. As a result of a boring put down in a well of 25 feet deep at Bezwada a strong fresh water current was tapped. The water level which was originally standing at 2 feet above the bed has been increased by an additional 9 feet and the party has been benefited to the extent of Rs. 800 owing to the enhanced income now derived from his lands. In a boring put down at Royyuru, Kistsna district, a strong sub-artesian supply was tapped and a yield of 24 feet of water in 10 hours is now obtained from the well, which, prior to the boring, was yielding only 28 feet of water in 72 hours. The original well supply was saline in character and the boring has improved considerably the quality of the water which is now drinkable. A boring put down at Jaggammampeta, Pithapuram taluk, West Godavari district, was carried to a depth of 88 feet below bed level. Formerly the well contained no water but as a result of the boring there is now a supply of 25 feet of water in the well. A ground boring put down at Jaggammampeta, Pithapuram taluk, was carried to a depth of 138 feet. A saline spring was first tapped at a depth of 64 feet below ground level. This was closed and the operations continued further down and a strong spring of fresh water was encountered at 138 feet below ground which rose almost to the ground level and the quality of the water has been greatly improved. This boring now yields 10 gallons of water per minute with a depression of 12 feet below ground and the original level is regained within half a

second from the suspension of baling. A boring was tried in a well of 38 feet depth in hard rock at Rofithippanapad, Cuddapah district. The boring was put down only to a depth of 10 feet at which level a spring was tapped and the water level rose up to 22 feet below ground. This well now irrigates 12 acres of land. A boring was conducted in a rocky well of 30 feet depth in a ginning factory at Tadpatri and a spring was tapped which now feeds a boiler supply pump. A similar boring was conducted at Kondapuram, Jammalamadugu taluk, Cuddapah district, to a depth of 16 feet 6 inches from the rocky bed. The supply obtained from the borehole is sufficient for the requirements of the factory, whereas before the boring was put down, water from a distant well had to be obtained to considerable cost and great inconvenience. A boring was tried in a well in a ginning factory at Vanganur, Cuddapah district, with a view to tap fresh water for boiler feed purposes. The boring was put down in a well 8 feet square and 20 feet deep containing 5 feet 6 inches of surface percolated water which was saline and impure, and the boring was taken to a depth of 92 feet at which fresh water spring was tapped. On account of an admixture with the surface supply, however, the water obtained from the borehole was found unsuitable for boiler use and hence it was found essential to cut off the surface supply altogether. For this purpose a hand pump was used to bale the water and the supply improved in quality to such an extent that it could safely be used for the boilers. As a result of this operation, the factory owner has been benefited to the extent of Rs. 300 per mensem which he was formerly spending to get water for his factory from a well situated at a distance of two miles. In Adoni, Bellary district, a boring was put down in a rocky well of 20 feet depth containing no water at all. A spring was tapped at a depth of 10 feet below the bed well which now yields water to the extent of 40 gallons per minute sufficient to maintain a mhoite in a well.

91. *Mapping of underground water-supplies.*—One of the surveyors employed during the year on the work of connecting levels of boreholes put down by the department with mean sea level concentrated his attention on the Coimbatore and Palladam taluks and took levels for a distance of $225\frac{1}{2}$ miles and connected 146 borings with mean sea level. The surveyor was also deputed during the year to take three special series of levels in connexion with the pumping schemes of the Zamindar of Kangundikuppam, Mr. Hajee Abdur Rahiman Sahib, Municipal Chairman, Vaniyambadi, and Timma Reddi of Mittur. Another surveyor was attached to the Tinnevely subdivision up to the 26th May 1925 and the number of borings connected by him was 41 and the number of levels taken was 65. When employed in the Madras subdivision, he was deputed to take levels of the Kadambattur electrical pumping scheme.

92. *Pumping sets*.—The department maintains a number of pumping plants comprising oil-engines and centrifugal pumps. These are two kinds: one is used for pumping water for irrigation purposes and the other for well-sinking. The former are maintained for the purpose of (i) demonstrating to the ryots the advantages of lifting water by mechanical power and (ii) watering crops to save them from withering pending the repair of an existing installation. The second type of plant is utilized in connexion with the construction and sinking of wells. As pointed out in previous administration reports, it has not been found possible for several years to comply with more than a proportion of the applications received for assistance. It is gratifying, therefore, to record that Government during the year under report were able to accord sanction to the purchase of twelve new pumping sets at a cost not exceeding Rs. 42,000, the indent for the supply of which has since been placed with the High Commissioner for India. The following statement shows the number of applications for pumping sets registered and disposed of during the year:—

Division.	Number of applications pending on 1st April 1925.	Number of applications registered during the year.	Number disposed of during the year	Number pending on 1st April 1926.
Tanjore	1	13	12	2
Coimbatore	1	14	13	2
Bezwada	2	18	18	2
Madras	1	16	14	3
Total ..	5	61	57	9

93. *Blasting*.—The torpedoing sets possessed by the department are used for blasting boreholes in rock in the hope of exposing the water-sources in the fissures caused by the explosion. Torpedoing is occasionally tried as a last resort when a bore through rock fails to find water. The following statement shows the number of applications registered and disposed of during the year:—

Division.	Application pending on 1st April 1925.	Registered during the year.	Disposed of during the year.	Number pending on 1st April 1926.
Tanjore	4	5	7	2
Coimbatore	4	9	9	4
Bezwada	1	2	3	..
Madras	..	1	1	..
Total ..	9	17	20	6

94. *Industrial Engineering Workshops*.—The value of the work turned out in the workshops during the year amounted to Rs. 88,499-9-5 against Rs. 89,882 in the previous year and the operations yielded a net profit of Rs. 9,000. The number of work orders executed during the year was 530. A considerable volume of repairs to parts of oil-engines and centrifugal pumps was done for ryots and factory owners. A number of machine parts was supplied to the Textile section of the department and a firebox for a silk-filature plant was also constructed. A plunger type borehole test pump to be operated by the power stroke of the percussion type drills was specially designed and was found to give a good discharge irrespective of the depth of the borehole from which water is pumped out. Experiments were also conducted at the workshops in connexion with the stopping of the rush of sand in boreholes. From the commencement of the year under report the workshop was in accordance with the provisions of G.O. No. 1, Development, dated 3rd January 1925, treated as a commercial concern and a commercial system of accounts on the lines drawn up by Messrs. Fraser & Ross has been maintained, a sum of Rs. 10,000 having been placed at the disposal of the Director of Industries as working capital for the concern.

95. *Receipts and Charges*.—The total receipts of the Engineering section of the department for the year under review, exclusive of workshop receipts, amounted to Rs. 61,856-9-0 against Rs. 1,02,158-1-3 in the previous year. Per contra, the charges decreased considerably from Rs. 2,37,808-15-9 in the previous year to Rs. 1,84,929-8-6 during the period under review. The value of the civil works executed by the Engineering section during the period under review amounted to Rs. 16,895.

INDUSTRIAL EDUCATION.

96. Mr. W. Fyfe continued to hold the appointment of Inspector of Industrial Schools throughout the year and also to function as controlling officer for the Madras Trades School. He spent 90 days on tour and, in addition to inspecting the aided industrial schools and the Madura Industrial Institute, visited during the course of his tours several of the principal jails. Mr. Fyfe continued to act as Secretary to the Board of Visitors of the Madura Industrial Institute and as a member of the Board of Examiners of the Government Fisheries Training Institute, Calicut.

97. *State Technical Scholarships*.—The two State technical scholarships referred to in the previous year's report as having fallen vacant consequent on the return to India, on the completion of their

respective courses of Messrs. P. P. Hayrambha and K. Adinarayana Rao, were awarded for a period of two years to Messrs. A. R. Sahasranam and P. T. Koman Nayar for the study in the United Kingdom of 'Dyeing and Colour Chemistry' and 'Saw Milling', respectively. The two selected candidates appeared to be well qualified for the study of their subjects, as the former had completed a four years course in Technical and Applied Chemistry at the Victoria Jubilee Technical Institute, Bombay, while Mr. Koman Nayar, after graduation, had obtained practical experience in saw milling and acted as a foreman in the Government Saw Mills, Chalayam. Mr. Sahasranam, who is a Sowrashtia and a nephew of a gentleman in Madura who carries on a dyestuffs business, was specially selected in consideration of the fact that he was likely to be able to utilize his training to advantage on his return to India after the completion of the course, and that the dyeing and colour industry in Madura would benefit by an influx of well educated scientifically trained men. Similarly in the case of Mr. Koman Nayar, the potential demand for trained saw millers, as the scientific exploitation of the forest resources of the country develops, was the chief factor in his selection. In addition to the two scholarships referred to above which were actually awarded during the year, two more vacancies were advertised towards the close of the year and applications invited from candidates to fill them. One of these vacancies was caused by the return to India in September 1925, on the completion of his course, of Mr. C. K. Taylor who was in 1923 nominated for a scholarship for the study of 'Paints and Varnishes', while the other vacancy was prospectively advertised in view of the impending termination, on the completion of his course, of the scholarship awarded in 1923 to Mr. D. Sundaravelu Pillai for the study of 'Ceramics'. The following statement shows the Madras technical scholars who were undergoing courses of training in the United Kingdom at the end of the year:—

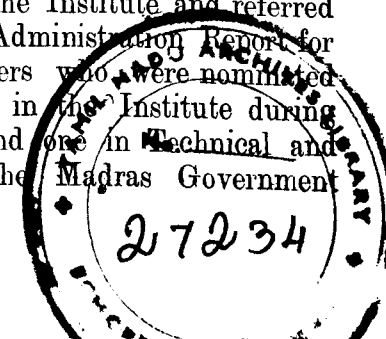
Number and name.	Subject for the study of which the scholarship was granted.
1. K. Venkataraman ..	Textile Chemistry with particular reference to bleaching and finishing cotton and silk fabrics.
2. D. Sundaravelu Pillai ..	Ceramics.
3. V. Subrahmanyam ..	Manufacture of standard food products.
4. S. Raja	Practice and Chemistry of leather manufacture.
5. C. K. Menon ...	Electro metallurgy, i.e., electro plating, electro refining, etc.
6. A. R. Sahasranam ..	Dyeing and colour chemistry.
7. P. T. Koman Nayar ..	Saw milling.

The scholarships of Nos. 1 and 2, which were awarded in the first instance for a period of two years, and which expired during the year, were both extended on the recommendation of the High Commissioner for India for further period of one year.

As the term of membership of the non-official members, of the Board of Selection for these scholarships would in the ordinary course have expired soon after the close of the year under review, Government in their Order Mis. No. 411, Development, dated 22nd March 1926, sanctioned the extension by six months of their term of office in order to enable them to complete the work which they had already taken up in connexion with the filling up of the two vacancies referred to above.

98. *Post-graduate scholarships.*—Three new scholarships tenable at the Indian Institute of Science, Bangalore, were awarded during the year bringing the total number of these scholarships up to fourteen at the end of the year. Of these, three were in the first, seven in the second and four in the third year of study. Six of the scholarships have been awarded for study in the department of Electrical Technology, six in the department of General and Organic Chemistry and two in that of Bio-chemistry. In the report of the previous year reference was made to the award to Mr. Yoganandam, for a period of one year from 1st July 1924, of a research scholarship tenable at the Leather Trades Institute, Madras. This scholarship having fallen vacant in June of the year under review, it was, with the sanction of Government, awarded for a similar period, from 1st July 1925, to Mr. N. Nagappan Nayar who had completed the course at the Institute, with a view to enable him to improve his specialized chemical knowledge as applied to the tanning industry.

99. *Scholarships tenable at the Victoria Jubilee Technical Institute, Bombay.*—Five new scholarships were awarded during the year under review, two for the study of Textile Manufacture, one for Technical and Applied Chemistry, one for Electrical Engineering and one for Sanitary Engineering and Plumbing. On behalf of these five, as also of the nine scholarship-holders nominated in the two preceding years, a sum of Rs. 2,800 was contributed to the funds of the Institute in accordance with the Priority Scheme propounded by the Board of Trustees of the Institute and referred to in some detail in paragraph 116 of the Administration Report for the year 1923-24. The scholarship-holders who were nominated in 1922 completed their course of study in the Institute during the year, two in Textile Manufacture and one in Technical and Applied Chemistry. Excluding these, the Madras Government



scholars who were undergoing courses of training in the Institute were distributed in the various departments of instruction, as shown below :—

Department of Textile Manufacture..	7
Department of Technical and Applied Chemistry ..	3
Department of Electrical Engineering ..	1
Department of Sanitary Engineering and Plumbing ..	3
Total ..	14

100. *Industrial school scholarship.*—Sixty new scholarships, tenable for a period of five years and ranging in value from Rs. 1-8-0 to Rs. 7-8-0 per mensem, were, as usual, awarded with effect from 1st July 1925 to pupils learning a trade in the various recognized industrial schools and works classes. In accordance with the provision of the notification printed as appendix to G.O. No. 1481, dated 12th August 1920, a bonus of Rs. 38 each was granted to 24 pupils who had been nominated for scholarships tenable for a period of five years with effect from 1st July 1920 and who had satisfactorily completed their course of study during the year under review. These industrial school scholarships are very popular with managers of schools as they offer a considerable inducement to the holders to remain on in the school and complete the pre-arranged course instead of leaving to earn a few annas a day before they have been properly trained.

MADRAS GOVERNMENT TRADES SCHOOL.

101. *Staff.*—Mr. N. M. Adyanthaya, the permanent Principal, was acting as Industrial Engineer up to 15th April, and was on leave from that date until 15th August 1925. In his absence M.R.Ry. M. V. Jagannatha Ayyangar acted as Principal from 15th April to 16th June and from 4th August 1925 to 15th August 1925 and M.R.Ry. N. S. Rajan from 17th June 1925 to 3rd August 1925. The school worked successfully during the year and the results obtained are largely due to the practical co-operation of the various employers in Madras and to the energy and ability with which the staff of full-time and visiting lecturers carried out their duties. A special word of praise is due to Mr. Adyanthaya, the permanent Principal.

102. *Equipment.*—Owing to considerable delay in the shipment of a major portion of the mechanical laboratory equipment, such as, steam engine, boiler, turbine, etc., the classes could not settle down to their normal work and the tuition of the senior students was somewhat hampered on that account. It is hoped, however, that during

the coming session it will be possible to erect these items of equipment and so enable the mechanical laboratory to be utilized to its full capacity.

103. *Admissions and number on the rolls.*—The number of fresh admissions during the year was 313, of which 50 took the mechanical engineering course and 49 the electrical engineering course, while the remainder received instruction in minor sanitary science, plumbing, vernacular drawing classes, etc. A noteworthy feature is the steady improvement yearly in the average educational qualification of the students who seek admission. This is probably attributable partly to the difficulty of obtaining suitable openings in clerical and other non-technical avocations and partly to the rising status of the school and its increased popularity among students of the High School standard. The total strength of the school on 31st March was 478.

104. *Classes and examinations.*—During the year under review, 74 students presented themselves for the examination conducted by outside examiners of whom 47 passed and became eligible for certificates. The school was again used as a centre for the City and Guilds of London Institute examinations. Thirty-nine candidates from various parts of the Presidency appeared for these examinations, of whom ten were successful. The Electric wiring examination for the grant of competency certificate in wiring was conducted by Messrs. K. Gordon, Manager of the English Electric Company, and L. Henshaw, Electrical Engineer to Government. Thirty-one candidates from outside and 21 from the school were examined, and seven outsiders and six students of the school were awarded competency certificates. The class in minor sanitary science for the benefit of Corporation overseers and inspectors was continued during the year. The Corporation officials concerned took a great interest in this class and their assistance and co-operation are of considerable value to the school.

105. *Printing classes.*—In G.O. No. 1248, Development, dated 26th August 1925, Government sanctioned the starting of classes in Printing for the benefit of the more intelligent of the young workmen and learners employed in the various presses throughout the city and these were opened in November. Out of 40 applicants from various printing establishments, 16 were selected for admission and classes were held twice a week. Since the classes have been in existence only for a short period, it is too early to judge the result of their working. It is hoped, however, that as the classes become better known they will become more popular and serve the purpose with which they were started.

106. *Careers of ex-students.*—All the Engineering students who passed during the year under review have secured suitable employment with well-recognized firms on starting salaries ranging from

Rs. 60 to Rs. 120 per mensem. The value of the training cannot better be illustrated than by quoting an extract from a letter received by the Principal of the School from Messrs. Alfred Dickinson & Co., Ltd., of Calcutta, who have in their employ two ex-students and who now require three more.

"We are in need of two or three Madrasees, age about 20 to 24, who have had a thorough training in Engineering, also fair theoretical experience, etc. * * * If you have any men in your school, will you kindly communicate with us and let us know if you could obtain three men early next month?"

107. *Sports*.—A sports club was organized during the year and the school participated in the Inter-Collegiate football and Badminton tournaments and won the Leather Trade Institute shield for Badminton.

108. *Perambur Railway School*.—The Railway branch of the Trades School at Perambur also experienced a very successful year, the number of fresh admissions being 118. The total number of students on the rolls on 31st March 1926 was 227, of whom 134 were engineering apprentices and 93 were workmen. During the year 29 students were examined and 22 passed and were awarded certificates. All the passed students are employed in the Railway workshops on salaries ranging from Rs. 40 to Rs. 100 per month. The success of the school is largely due to the interest taken by the railway officials in its working and the encouragement they give to passed students. An additional special course in drawing as applied to railway carriage building was introduced for the benefit of workmen employed in the carriage building and wagon shops, and was well attended, much interest and keenness being shown by the workmen in attendance. The success of this course resulted in a request from the foreman of the paint shop that a similar course in painting should be arranged for the benefit of his apprentices, and it is hoped that it will be possible to open a suitable class during the next session.

GOVERNMENT INDUSTRIAL INSTITUTE, MADURA.

109. *Staff*.—Rao Sahib C. S. Ramachandra Ayyar continued to act as Superintendent throughout the year except for a period of one month and 20 days from 5th June 1925 when he was on leave. Mr. V. Rama Rao, the Assistant Superintendent, acted for him for 13 days and Mr. M. V. Jagannatha Ayyangar of the Madras Trades School, for the remaining period.

110. *Buildings*.—The main building forming the central block was given up and the offices of the Weaving Superintendent, Deputy Director of Agriculture, Sixth Circle, Assistant and Deputy Registrars of Co-operative Societies, Madura, have been accommodated in it.

The construction of the Warden's quarters was completed during the year and the building has been handed over for occupation. A telephone connexion with the local Telephone Exchange was installed at the Institute during the year and the work of the Institute was greatly facilitated thereby.

111. *Admissions*.—Of the 42 pupils who applied for admission to the probationary class, 31 were admitted against the sanctioned strength of 18 so as to provide liberally for subsequent withdrawals. Of these, 16 only entered the first-year class on the results of a further examination held at the end of their probationary course in December 1925. The strength of the Institute at the beginning and end of the official year was as shown below:—

	Metal work.		Wood work.		Total.	
	1st April 1925.	1st April 1926.	1st April 1925.	1st April 1926.	1st April 1926.	1st April 1926.
Probationary	7	4	..	..	7	4
First year	16	11	4	5	20	16
Second year	8	15	3	5	11	20
Third year	12	9	6	4	18	13
Fourth year	13	11	3	4	16	15
Fifth year	12	9	2	3	14	12
Short course	1924-25 10,	1925-26 15.	* Excludes the two fourth-year apprentices who were promoted to fifth year on 8th July 1925.			

The first batch of long-term apprentices completed their five years course in accordance with the scheme laid down in G.O. No. 1390, Revenue (Special), dated 29th July 1920, and left the Institute in December 1925. Of the 16 apprentices who completed their course during the year, four secured employment in the Madura Mills, one is employed by the Madura Municipality, one as a turner in the Madura Drainage Division and one entered the service of the South Indian Railway as a stationary steam engine driver.

112. *Boards of Visitors and Examiners*.—The Board of Visitors met three times during the year and discussed several important subjects concerning the Institute. The Board of Examiners, which was constituted under the orders of Government during the year to test the progress of apprentices at the end of each year for promotion and award of certificates, met only once to decide upon the method of carrying out the examinations.

113. *Mechanical workshop*.—The number of orders pending execution in all sections on 1st April 1925 was 70 and the number of orders booked during the year under review was 1,100, of which 66 were

carried over to the current financial year. During the first half of the year, there was hardly enough work to keep all the apprentices fully engaged, but the lull was only temporary and during the latter half of the year there were more than sufficient orders in hand. The facilities afforded by the Institute for the execution of work are not availed of to the extent to which they might be by Government officers and departments in the southern districts. It would make for economy if more of the Government work could be diverted to the Institute, whilst on the other hand the larger the volume and the wider the range of work handled by the Institute, the better will be the training given to the apprentices.

114. *Motor section.*—This section of the Institute attracted 50 per cent more apprentices during the year, and almost all the 26 drivers trained found suitable employment. Proposals for increasing the efficiency of this section of the Institute in certain respects were under consideration at the close of the year.

115. *Accounts.*—The workshop attached to the Institute was treated as a commercial undertaking and brought under Chapter II of the Account Code with effect from 1st April 1925 and the accounts of the year will be audited by Messrs. Fraser and Ross. The total receipts for the year amounted to Rs. 37,161-9-2 or nearly Rs. 5,000 more than in the previous year, the total value of work turned out amounting to Rs. 42,298. The expenditure during the period under review amounted to Rs. 60,746-5-6 as against Rs. 72,666-14-4 in the previous year. A capital expenditure of Rs. 3,177-8-1 was also incurred in connexion with the improvement of sites and the provision of Warden's quarters and new kitchen and dining rooms. The Director of Commercial Audit with the Government of India visited the Institute during the year and examined the system of book-keeping in force as a result of which he was convinced that the deficit in running the Institution should be covered by a simple subsidy for education at so much per head of pupils on the rolls. Orders on this question have, since the close of the year, been passed in G.O. No. 1124, Development, dated 5th August 1926.

116. *Aided Industrial schools.*—The number of industrial schools recognized by the department on 31st March 1926 was 52, of which all except two were in receipt of grants-in-aid. At the close of the year there were 2,943 pupils under training, of whom 1,669 were Indian Christians, 545 non-Brahman Hindus, 313 Muhammadans, 238 from the depressed classes, 103 Brahmans and 75 Europeans and Anglo-Indians. An amount of Rs. 82,059 was distributed to these institutions in the form of maintenance grant-in-aid representing an

average of slightly under Rs. 31 per pupil per annum. A further amount of Rs. 14,999-7-0 was distributed as half grants for the purchase of equipment. A total of Rs. 40,600 was provided for building grants as follows:—

Serial number and name of school.	Amount of grant promised.	Amount of grant distributed.	Purpose for which the grant was utilized.
1. Anjuman Industrial School, Madras.	14,000	10,000	Construction of a hostel.
2. St. Francis Xavier's Industrial School, Tanjore.	40,474	11,500	Construction of a school house, etc.
3. S.P.G. Art Industrial School, Nazareth.	1,500	1,500	Construction of extensions to school buildings.
4. St. Mary's Industrial School, Kumbakonam.	11,200	11,200	Construction of extensions to school buildings such as show room, etc.
5. U.F.C.M. Agricultural School, Melrosapuram.	1,500	750	Construction of a cattle shed and store.
6. Raja's Industrial School, Parlakimedi.	4,000	2,400	Construction of extensions to existing school buildings.
7. Pasumalai Trade School, Pasumalai.	2,000	2,000	Do,
8. Anjuman Industrial School, Melvisharam.	1,250	1,250	Do,
Total ..	75,924	40,600	

The recognition accorded to the works classes attached to the Addison Printing Works was withdrawn during the year as it was considered that the pupils attending these classes could suitably in future attend the newly opened classes in printing at the Government Trades School, Madras. The management having decided to close the institution, the recognition accorded to St. Mary's Industrial School of Weaving, Vedakangulam, Tinnevely district, was also withdrawn during the year and the management undertook to transfer all the equipment, etc., to another recognised institution under their control located at Adeikelpuram in the same district. Three new recognitions were accorded during the year, the institutions concerned being (1) The Ramakrishna Students' Home Industrial School, Mylapore, (2) The London Mission Weaving School, Erode, and (3) The Borstal School, Tanjore. Short notes regarding Nos. 1 and 2 have been embodied in this report. No. 3 was recognised at the special request of the Inspector-General of Prisons and Superintendent of Reformatory Schools for inspection and certification purposes only. I give below short notes on a few of the Institutions.

117. *The Ramakrishna Mission Industrial School, Mylapore.*—This Industrial School was started by the mission as a necessary complement of their already large educational establishment with a view to providing a practical training parallel to and associated with

the ordinary high school course. At present instruction is given in wood work, cotton weaving, woollen carpet weaving and general educational subjects. There are about 20 boys on the roll and a good start has been made and considerable development may be looked for in the next few years.

118. *London Mission Boys' Weaving School, Erode.*—This school was started about the middle of 1925 with seven looms and some preparatory appliances. Forty-two boys are receiving instruction for about 2½ hours a day. The school took a little time to settle down but is now working well. The work undertaken is very varied, consisting as it does of making tape, towels, dusters, women's cloths, Turkish towels, jamkalams, veshtis and suitings. It is hoped in time to develop this institution into a training centre in practical work for village schoolmasters and a scheme for doubling the present accommodation has been prepared as a first step towards that end.

119. *The Commonwealth School of Embroidery, Calicut.*—This school had a very satisfactory year of work. The salary of the European Lady Principal is a heavy item of expenditure in connexion with this school and the scarcity of orders in recent years has tended to increase the financial difficulties. In the year under review a special effort was made to attract more orders, prices were reduced, and designs were revised, altered and considerably simplified. The increase in orders which resulted has enabled the Principal to increase the number of girls employed and under training and to keep them fully engaged without unduly increasing the stock of finished work on hand. Six of the students sat for the needle work and embroidery examination and all passed. Twenty-nine trained workers left during the year to be married or to take up other work, all of them were skilled in an industry which they will be able to make use of later as a subsidiary means of earning their livelihood.

120. *The Chengalvaroya Naicker's Technical Institute, Vepery.*—This, the largest aided industrial school, suffered during the early part of the year from changes in the staff. The new Superintendent Mr. K. S. Setty took charge in December and has since then been busy with minor details of organization. One hundred and six students were admitted during the year, 25 taking up mechanical engineering, 21 motor driving and the others being distributed amongst the various industrial classes. Five hundred and forty orders amounting in value to Rs. 10,040 were completed during the year. Classes in tailoring and rattan work were added early in 1926 but are still in the experimental stage.

121. *The St. Joseph's Industrial School, Gunadala, Bezwada.*—This new school was opened late in the year under review by the members of the St. Gabriel Fraternity whose headquarters is at Tindivanam. This brotherhood have a large training school and a very well conducted industrial school with a teacher's training section attached at Tindivanam as well as a European school at Yercaud and they are fortunate in having at their disposal the services of European, French and Indian lay brothers specially trained for the work they individually undertake. A European and an Indian brother have been transferred from Tindivanam to arrange for the starting of the new school and a commencement has been made. Government have provided funds for a building programme and there is every reason to hope that in the near future the fine school at Tindivanam will be duplicated at Bezwada.

122. In Appendices V and VI will be found a complete list of the recognized industrial schools in receipt of grants-in-aid from this department, with details of the number of pupils, subject in which instruction is provided and the grants paid during the year under review.

123. *Training of Mappillas.*—A reference was made in last year's report to the attempts of the Y.M.C.A. to improve the economic position of the Mappillas in the centre of what was once the rebel area. The scheme has been aided by Government to the extent of Rs. 2,000 during the last two years and the Y.M.C.A. now wish to continue certain of their activities in the form of a rural industrial school. The work carried on has so far consisted of weaving and cane work. The weaving classes have made substantial progress and, although the numbers under training are small, it is considered that the progress so far made is sufficient to justify the recognition by the department of the establishment as an industrial school of weaving under the newly issued Code of Regulations for Industrial Schools. The rattan or basket making class has not been so successful, as that in weaving, but is likely to develop if a suitable teacher can be secured. A small experiment has however been made in sericulture with fairly promising results. The local secretary of the Y.M.C.A. Rural Department at Areakode has been instructed to work out for the consideration of the department a detailed scheme in connexion with the proposed recognition of the classes.

124. *Code of Regulations.*—Government approved during the year the draft code of regulations for industrial schools embodying the regulations in regard to grant-in-aid and the conditions of training of the pupils and teachers and the code has since been brought into effect.

125. *Bulletin of specimen syllabus*.—One of the recommendations of the Committee on Technical and Industrial Education was that the drawing up of curricula for Government and aided institutions should be left to the officers of this department and the heads of institutions concerned, but that the curricula should as far as possible, be drawn up on the same lines for all schools and should, therefore be prescribed by Government. The question of drawing up suitable curricula was therefore taken up during the year. It was felt, however, that as conditions vary widely in different localities it would not be sound policy to lay down hard and fast curricula and that a more practicable policy would be to ask the management of the school to draw up the whole scheme for the school, including curricula, syllabuses, time-table, standard of admission, length of course, etc., and when the scheme is finally settled and approved by Inspector of Industrial Schools to work the school accordingly for a reasonable period. These views were placed before Government who agreed that one curriculum could not advantageously be imposed throughout the Presidency, and that all schools should work to schemes of work prearranged to suit the conditions obtaining in the locality concerned. They accordingly sanctioned the proposal that in lieu of standard curricula, specimen syllabuses should be laid down for each subject to serve as a guide for framing particular syllabuses suited to local conditions and circumstances. A departmental bulletin was drawn up in which 37 syllabuses were framed. The bulletin also contains a note on the establishment of industrial schools, on the methods of imparting instruction in cabinet-making, as well as a copy of the course of studies followed in the St. Joseph Industrial School, Tindivanam, and in the Teacher's Training section attached to it.

126. *Apprentice classes at Golden Rock*.—A recommendation of the Committee on Technical and Industrial Education, which was accepted by Government, was that consideration should be given to the possibility of opening Trade School classes at Trichinopoly after the opening of the new South Indian Railway Workshops there. This matter really dates back to 1917 when the Inspector of Industrial Schools in investigating a proposal that the District Board of Tanjore should open an industrial school at Negapatam formed the opinion, after discussion with Colonel Creighton, the then Loco. Superintendent at Negapatam, and Mr. Muirhead, the then Agent of the Railway, that any scheme of the kind contemplated should be associated with the South Indian Railway workshops organization. As it was then proposed to move the workshops to Trichinopoly the matter was allowed to lie over but was by no means lost sight of, and the question was further discussed by Mr. C. W. E. Cotton and Mr. Scott, the Agent, in 1922. Subsequently a conference

was held at Trichinopoly on 3rd August 1925 which was attended by the Agent, Chief Engineer and Architect of the South Indian Railway and the Director of Industries and the Inspector of Industrial Schools, and finally after further discussion and correspondence a tentative scheme to provide for the training of approximately 230 apprentices was drawn up and was under the consideration of the Agent at the end of the year.

LEATHER TRADES INSTITUTE.

127. *Staff*.—Mr. A. Guthrie, M.B.E., and M.R.Ry. P. K. Rajamanikkam Nayudu continued to hold the appointments of Principal and Vice-Principal respectively throughout the year. M.R.Ry. K. Seshachallam Nayudu, M.A., held the post of Leather Research Chemist throughout the period under review. M.R.Ry. E. Yoganandham, an ex-student of the Institute, was appointed with effect from 5th May 1925 to the post of Senior Assistant Chemist on Rs. 80—4—120, the creation of which had been sanctioned during the previous year in pursuance of a recommendation of the Leather Industry Committee.

128. *Buildings*.—The new laboratory buildings were completed during the year, but as the necessary funds for the equipment and apparatus required could not be provided during the year, the block was not handed over to the Leather Trades Institute although two of the rooms on the ground floor were taken over by the Industrial Institute (Ink Factory) towards the close of the period under review.

129. *Number of students on the rolls*.—The number of students on the rolls during the year was six, only two new students having joined the Institute when the new session opened. One of the two had subsequently to discontinue his studies owing to family circumstances. Two Muhammadan owners of tanneries, each sent one of their relatives to receive instruction in the tanning of special lots of hides with varying proportions of wattle bark as a substitute for the more expensive avaram bark. The number of applications for admission to the Institute has declined appreciably during the last three years and at present there are few, if any, signs of improvement, the fact being that in the present depressed condition of the leather industry openings for employment are too few to offer prospects of a successful career. The position of the instructional side of the Institute has accordingly been under review by Government during the year. It will be recalled that the Leather Industry Committee were satisfied with the adequacy of the instruction given in the Institute and considered that in view of the scope which exists for improving the status of the Madras tanning trade and the

difficulty experienced in securing facilities for the training of Indians in tanneries abroad, it was of great importance that the present standard of instruction should be maintained and in this view the Government agreed. In consequence of the subsequent decline in the number of students on the rolls this statement was thought to require some explanation, particularly in view of the fact that Madras tanners generally are fairly well conversant with existing tannery methods which they can get carried out by a maistri and unfortunately do not, as a rule, realize the desirability of acquiring more scientific methods. The Committee, however, looked forward to the time when, as a result of the experimental work conducted at the Institute, new tanstuffs and improved processes of tanning would be introduced in which event the continued provision of facilities for instruction at the Institute would be essential since it would obviously be of no use evolving improved methods and processes of tanning unless arrangements were made to train men as potential tanners to work the processes. The methods of the average Madras maistri, as is well known, are at present only suited to avaram tannage which unless the cost of the bark is materially reduced will almost certainly in course of time have to be replaced, at least partially, by other tanning materials. If as a result of a systematic research and investigation into the various tanning problems that await solution improved processes are introduced, a demand must, I consider, almost inevitably arise for a superior type of tanner such as that turned out by the Institute and the research and instructional side of the Institute must therefore be regarded as interdependent and complementary to one another. The Leather Industry Committee recommended that opportunities should be afforded in the Institute for the training of tannery operatives and that arrangements should be made to provide part-time training for working tanners and maistris of private tanneries in the methods and operations employed in modern tannery practice and this question was under consideration at the close of the year. Arrangements were made during the year for the conduct of an English lecture class on Madras methods of tanning for professional tanners and others interested in the trade and this gives promise of meeting a real need. Shortly after the close of the year a class for the training of maistris and tannery operatives was started at Pallavaram where the factory of the Chrome Leather Company is situated and there are a considerable number of private tanneries.

130. *Past students.*—The year under review was a bad one for the tanning and leather trade in India and owing to a number of tanneries having to close down, it was difficult to find suitable positions for students who had completed the course of training. So far as is known, however, only four ex-students of the Institute are at

present without employment and during the year eight ex-students obtained positions in the leather trade. Two secured positions in the Chrome Leather Company, one joined the Leather Tanning School, Nagpur, as tannery foreman, one obtained an appointment in the leather trade at Karachi, one obtained an appointment in the East Indian Tannin Extract Company, Ranegunge, Bengal, and one opened a small tannery at Chittagong. The other two were appointed to posts on the staff of the Leather Trades Institute.

131. *Examinations.*—As there were only two students in the final year class, no outside examiner was engaged, but papers were set and valued by the Principal and his assistants. The City and Guilds examinations are unfortunately held during the vacation so that it is often difficult for students coming from outside Madras who have left for their homes for the vacation to sit for them. Five students or ex-students of the Institute sat for the City and Guilds examination held during the year of which three obtained first class passes and one a second class while one failed. The fact that a first class was obtained in each of the subjects sat for goes to show that the training afforded in the Institute is of a satisfactory all round character. Satisfactory reports have been received from the Leather Sellers College, London, in regard to the work of S. Raja, an ex-student of the Institute, who was awarded a State Technical Scholarship in the year 1924.

132. *Manufacturing operations.*—As a result of an arrangement under which the Institute now retans and dresses leather for the Boot department of the Vellore Central Jail, the amount of leather that passed through the Institute tannery during the year exceeded that of any other period in the history of the Institute. The receipts for the leather produced and sold amounted to Rs. 12,000 against Rs. 7,302-7-0 in the previous year and a yearly average of about Rs. 6,000. The production account, worked out on the basis adopted by the Auditors, showed that the receipts from sale of leather almost equalled the expenditure on raw materials. An amount of Rs. 3,400 was realized from the sale of chrome kavalai hides, Rs. 2,700 from retanned sole leather, and Rs. 1,600 for work done on behalf of the Vellore jail. Horse hides have not, for various reasons, hitherto been tanned to any extent in this Presidency, but a number of these hides were tanned and finished during the year and a market has been found for them for suit and attache cases and for belts.

133. *Visits to tanneries and miscellaneous inquiries.*—One of the recommendations of the Leather Industry Committee was that an officer of the Institute with experience in modern methods of tanning should pay periodical visits to the tanning centres with a view to

suggest improvements and to demonstrate to the tanner the advantages of using improved methods or to carry out his present methods more intelligently. A circular was issued to tanners explaining that arrangements would gladly be made for officers of the Institute to visit tanneries without fee to advise in cases where difficulties have arisen or assistance can suitably be rendered and the Principal and Vice-Principal visited, at the request of the owners, tanneries at Trichinopoly, Kodambakkam, Madhavaram, Vaniyambadi, Tiruvalur, Pallavaram and Valathur. A number of enquiries were also received in regard to the introduction of new tanning processes and the difficulties experienced by tanners in their application, and in such cases the Principal and his staff gave all possible assistance. An inquiry was received from a firm with reference to the preparation of tanning extract from green gallnuts and information in regard to the manufacture of the product, as also estimates of the machinery required, were given though at the same time it was pointed out that the prospects of establishing the industry on a small scale were the reverse of hopeful.

134. *Analyses for the trade.*—The facilities afforded by the Institute in the matter of carrying out analyses of various descriptions for tanners, such as bark, leather, water, chrome, lime liquor, effluent, etc., are proving very popular and as they become more widely known are likely to be taken advantage of to an even greater extent, while another useful function of the Institute is to carry out the analysis of skins and hides sold for export in which adulteration by excessive use of epsom salts and other dopes with the object of giving the hide or skin additional weight is suspected. Forty-three analyses were carried out during the year of which fifteen were of water, seven chromium salts, seven bark, five leather, three tanning extract, three glycerine, and three of lime. Of these twenty-four were carried out for the public and nineteen for different sections of the department.

135. In G.O. Mis. No. 1498, Development, dated 19th October 1925, the following gentlemen were appointed to constitute a Board of Non-Official Visitors to the Leather Trades Institute :—

Mr. Rashid Ahmad Bahadur of the Madras Tanners Syndicate.

Mr. P. Ramaswami Ayyangar, Merchant, Madras and

Mr. A. H. Taylor of Messrs. Chambers & Co.

The term of appointment of each visitor is for three years from the date of the order. A visitors' book is maintained in the Principal's office in which visitors may enter any remarks about the work of the school. The three visitors evinced considerable interest in the working of the school during the year.

136. *Experiments.*—Apart from providing facilities for instruction in tanning and leather manufacture, the Leather Trades Institute carries on research in the practical field of experimental tanning as well as chemical research. In the tannery of the Institute, the experiment in the manufacture of sole leather by retanning dhori hides, to which reference was made in last year's report, was subject to a series of thorough practical tests and finally a suitable leather was produced on a small factory scale, a quantity of 6,000 lb. having been manufactured during the year. An account of the experiments on this class of leather has been prepared in the form of a bulletin which is now in the press. Several very good reports on the quality of this leather have been received from users and in all cases the purchaser has returned for further supplies. Another very important experiment which was in progress during the year was in connexion with the soaking process employed in tanning. The preliminary experiments have given very promising results and it is hoped that an improved method of soaking, which at present is one of the most difficult and least understood processes employed in tanning, will yield valuable results to the Madras tanning trade and enable considerable economies to be made in tanneries. Further experiments in this field of work were in progress at the close of the year. The Institute also manufactured, by both the bark and chrome process, an easily marketable leather from local horse hides which formerly, as already stated, were not utilized. An investigation was carried out in regard to the re-leaching of barks used in the tanning yard and a short note on the subject has been embodied in the bulletin on 'Retannage of Dhori Hides.' As a result of the study by the Vice-Principal of the latest tanning methods and practice in England, a range of experiments was conducted on dope finishing on different classes of leather with the principal dopes available and useful work has also been done on pigment finishes which have been demonstrated to interested parties. A series of experiments on the use of artificial bates under Indian conditions with a view to obtaining a better feel and colour on the various leathers were carried out but further experiments on these lines are necessary before conclusive results can be expected. The price of avaram has been rising consistently for some time owing to the large amount of labour involved in the collection and stripping of the twigs of the plant, and unless the cost of the bark is materially reduced, it will necessarily have in course of time to be replaced at least to some extent by other tanning materials. The price of the bark is the largest item in the cost of tanning and a number of local tanners are therefore now using wattle bark as a substitute. In the Institute a number of hides were tanned with varying proportions of wattle and by different methods and the local tanners were shown how to apply the bark so as to obtain the best quality. The experimental

work carried on in the Institute, of which examples have been given, proceeds *pari passu* with the training of the students, and if it yields results which can be translated into practice under commercial conditions, the time may not be far distant when a demand will arise for a superior type of tanner such as that turned out by the Institute at present.

137. *Chemical research.*—The Leather Research Chemist continued during the year to be engaged on his researches on the study of the fermentation of divi divi liquor. The results so far obtained were incorporated in a paper entitled “Fermentation of Divi Divi Liquor, II Acidity of Divi Divi Liquor” which was read by Mr. Seshachallam at the 13th Session of the Indian Science Congress and was subsequently published in the Journal of the International Society of Leather Trade Chemists. In the experiments carried on in the laboratory it was found possible to prevent to a great extent the fermentation and consequential losses which result from it and experiments are now in progress with a view to testing these conclusions on a larger scale as also to devise other methods of overcoming the difficulty. The destructive changes that occur during fermentation are chemical and biological in character. The study of the chemical portion of the subject has been carried to a considerable length although it has not been fully completed. On the other hand the biological aspect has yet to be studied and in the absence of the requisite facilities at the Leather Trades Institute arrangements have been made for Mr. Seshachallam to work at the Indian Institute of Science, Bangalore. A reference was made in the last year’s report to the initiation of a comparative study of South Indian tanning materials and the results obtained were embodied in a paper “South Indian Tanning Materials—A Comparative Study” which was read by the Leather Research Chemist at the 13th Session of the Indian Science Congress and was subsequently published in the Journal of the International Society of Leather Trade Chemists. It is not the amount of tannin alone that determines the value of a tanning material for modern research has shown that other and more important factors have to be taken into consideration in determining the value of a tanning agent. These include the quantity and quality of substances present other than tannins, the losses due to fermentation on keeping, the speed of penetration and cost. Of the South Indian tanning materials, wattle, divi divi and myrabolams are the richest in tannin content, wattle and divi divi in fact being twice as rich as avaram. As far as the fermentative losses are concerned, divi divi and myrabolams show the greatest loss and wattle and avaram the lowest. The Leather Research Chemist also continued to be engaged in studying the effect of different kinds of water on the quality and quantity of extractable matter from avaram,

and the conduct of research in regard to the action of various impurities in water on avaram tannage with a view to stop or reduce the great wastage of tannin that takes place in the ordinary Madras tannages, and samples of the bark of different ages were obtained from different parts of the Presidency and analysed. The result of the analyses of a number of samples went to show that the tannin present varies from 15 to 17 per cent.

138. An important question which received consideration during the year was that of the cancellation of the present import duty on wattle bark in respect of which a representation was addressed to the Government of India in the Commerce Department by the South India Skin and Hide Merchants Association. The price of avaram bark is, as already stated, steadily increasing. In fact, it is at present the largest item in the cost of tanning and as Madras half-tans depend (and never more so than at the present time) for their market on their cheapness as compared with other leathers with which they had to compete, the importance of taking measures to stimulate the production of, and to introduce satisfactory substitutes for, avaram cannot be overrated. The future of the tanning industry in Southern India depends on the tanner being able to sell his tanned hides at a price below that of his competitors and as the Madras tanner has to pay world prices for his raw hides and to sell in competition with leather tanned elsewhere, he cannot obviously afford to pay in excess of world prices for his tanning materials. When the price of avaram rises to Rs. 45, as it not infrequently does, the price of tannage is above the world price and the result is that the tanner worked at a loss. Of the possible substitutes for avaram, *Accacia decurrens* is easily the most important for although no suitable material which is capable of entirely replacing avaram has been found, wattle has proved invaluable as a partial substitute. The advisability, or rather the necessity, of doing everything possible to stimulate the use of *Accacia decurrens* as a substitute for *Cassia auriculata* being obvious, it was considered that it would be to the advantage of the tanning industry in the difficult time it is now passing through, if the present import duty of 15 per cent was cancelled, particularly as, after careful examination, it was considered that the abolition of duty would not react unfavourably on the local cultivation of wattle, which potentially is of high economic importance to the tanning industry of the Presidency, since Nilgiri wattle is of greater strength and lower in price than the imported bark. Accordingly the representation of the South India Skin and Hide Merchants Association in favour of the cancellation of the duty was strongly supported by the department. The Government of India, however, was unable to see their way to put forward the proposal for the approval of the Legislature during the year under

review, though they intimated their willingness to consider the matter this year if the Association remained of the opinion that the import duty on wattle bark should be abolished and made a further representation.

SCHOOL OF ARTS AND CRAFTS.

139. *Staff*.—Mr. W. S. Hadaway and Rao Sahib N. R. Balakrishna Mudaliyar held the appointments of Superintendent and Assistant Superintendent respectively throughout the year. I regret to have to record the death during the year of Messrs. K. Ganapathy Butter, Senior Assistant, Metalwork department, after a meritorious service in the school extending over a period of 22 years, and of M.R.Ry. C. R. Krishnaswami Ayyar, Junior Assistant, Wood Carving department, after an approved service of 15 years.

140. *Strength and attendance*.—The number of pupils on the rolls on the 31st March 1926 was 494 of whom 10 were females. The average attendance during the year was 265 and the average number of the rolls was 509. The figures for the three previous years were—

Year.	Average number on the rolls.	Average attendance.
1922-23	259	191
1923-24	337	240
1924-25	443	235

It will be observed that the school again increased considerably in numbers during the year. The average attendance declined from 55 per cent in the previous year to 53 per cent during the year under review. The falling off in the average attendance is attributed by the Superintendent mainly to the poor attendance at the part-time classes. It would seem advisable therefore that separate returns for the attendance at the full and part-time classes should be maintained hereafter as otherwise the percentage of average attendance is apt to convey a misleading impression.

141. *Departments and scholarships*.—Appendix I shows the distribution of students according to the different departments in which they worked and the community to which they belong. The percentage of artisans under training declined from 55 per cent in the previous year to 49 per cent during the year under review though the number of artisans increased from 226 to 239. The work turned out in the various departments does not call for any special comment. Appendix II gives a list of students who left the school during the year and the appointments they have obtained.

142. *Financial statement*.—This is given in Appendix II. The expenditure for the year amounted to Rs. 66,411-14-4 as against Rs. 65,277-11-5 in the previous year. The receipts from sales which amounted to Rs. 9,329-13-0, showed a satisfactory increase of Rs. 2,849 as compared with the previous year. The accounts of the school were, as usual, audited by the Accountant-General.

143. *Library and Museum*.—A number of new books were added to the library during the year and it is now a very representative one. There were 29 articles added to the Museum during the year. The Museum, in which a full range of articles turned out by the school are attractively displayed, is not so well known to the people of and visitors to Madras as it should be, and it is proposed to advertise its existence with a view to attracting visitors and increasing the sales of the articles manufactured in the school. In this way it is hoped that the articles produced will be turned over more rapidly.

144. *Examinations*.—Appendix IV exhibits the results of the various Government Technical Examinations. The figures for the last three years have been as follows:—

Year.	Number appeared.	Number passed.	Percentage.
1923-24	196	133	68
1924-25	104	72	70
1925-26	85	60	70

It will be seen that the number of students appearing for the technical examinations has shown a decrease in recent years though the percentage of passes has been maintained. A satisfactory feature was the fact that in the higher grade examinations 50 per cent of the students who sat for the examinations were successful as compared with only 15 per cent during the previous year.

145. *Board of Visitors*.—Mrs. Cornish visited the school on the 10th March 1925 and again on the 18th August 1925. None of the other official visitors called to inspect the work of the school.

GENERAL.

146. The year has not been characterized by any special development or by any marked change of policy, but, as, it is hoped, the foregoing report will show, the development of the departmental activities has proceeded in a satisfactory manner, and there has been no falling off from the standard established in recent years. With the prospect of increased funds becoming available, it will be reasonable to expect the department's varied activities to show more rapid progress during the next few years. As, however, this report is a record of the activities of the year, it would not be in place to discuss here, in any detail, the future policy of the department

147. The following statement compares the receipts and expenditure of the department during the years 1924-25 and 1925-26. Details of the receipts and expenditure of the department for the year under review are exhibited in Appendix VII :—

* The figures in this column are exclusive of those relating to the Kerala Soap Institute.

It will be seen that while the total receipts and expenditure during the year under review decreased as compared with those of the previous year, there was an increase in the net cost of the department. The figures are not comparable, however, with those of the preceding year owing to the fact that the Government Industrial Institute, Madura (workshop), Government Industrial Institute, Madras, and the Industrial Engineering Workshop, Madras, were brought, with effect from 1st April 1925, under Chapter II of the Account Code and operated on a fixed working capital. This accounts mainly for the decrease under both expenditure and receipts. There were decreases under weaving and other miscellaneous receipts which were only partly set off by increased receipts under the School of Arts and Crafts and the Pallapalayam Sugar Factory. The decrease in expenditure was partly set off by an increased outlay under the heads (iii) Industrial Schools—Grants-in-aid, (iv) Scholarships, (vi) Madras Trades School, and to the debiting to the department of the expenditure incurred on the extensions to the Leather Trades Institute.

School of Arts and Crafts, Madras.

Classification of pupils in the several departments of the school according to the occupation of parents or guardians.

Departments.	Officials.	Inferior servants.	Traders	Landholders.	Artizans.	Coolies.	Mendicants.	Others.	Total.
Wood-work	17	19	21	5	101	14	..	..	177
Carpet-weaving	..	..	1	..	2	..	..	..	3
Metal work	1	1	1	2	14	1	..	..	20
Jewellery	2	2	3	..	13	1	..	..	21
Modelling	..	..	2	..	1	..	..	..	3
Engraving	16	29	12	9	56	2	..	..	124
Lacquer work	16	17	18	9	46	..	..	..	106
Special painting	15	3	5	1	6	..	..	..	30
Total ..	67	71	63	26	239	18	..	..	484

APPENDIX II.

School of Arts and Crafts, Madras.

Students who left the school in 1925-26 and have secured employment.

Name.	Highest examinations passed.	Period spent in the school.	Present employment.	Salary.
1. N. Murugayya Maistri ..	Nil.	Y. 2 M. 3	Carpenter, Wrenn Benrrett & Co., Madras.	Rs. A. P. 0 8 0 per day.
2. M. Kochummi ..	Nil.	2 0	Designer, Chrome Leather & Co., Chromepet, Pallavaram, Madras.	40 0 0 per mensem.
3. V. E. Narayana Ayyar ..		1 3	Artist's, A. W. Hawks & Sons, Pioneer Painting Co., Rangoon.	60 0 0 per mensem.
4. Murugayya Joseph ..	Nil.	0 9	Oil-painter and enlarger, Doss and Bros., Photographer, Madras.	25 0 0 per mensem.
5. Elumalai Nayakar ..	Nil.	5 0	Carpenter, Addison & Co., Madras ..	0 12 0 per day.
6. Ekambara Nayakar ..	Nil.	4 0	Do.	0 12 0 per day.
7. Shaik Abdul Azeiz Khan ..	Freehand Outline Drawing—Intermediate ; Geometrical ; Drawing—Elementary ; Freehand Outline Drawing—Intermediate ; Freehand Outline Drawing—Lower : Geometrical Drawing—Elementary ; Teachers' Training in Freehand Outline Drawing—Intermediate.	1 6	Drawingmaster, Muslims' High School, Triplicane, Madras.	40 0 0 per mensem.
C. Rajagopal Chetti ..	Design—Elementary ; Freehand Outline Drawing—Intermediate ; Wood-carving—Elementary ; Teachers' Training in Cabinet-making—Elementary.	4 6	Permanent Junior Assistant Maistri, School of Arts and Crafts, Madras.	30 0 0 per mensem.
9. Sundararamanjulu Nayudu ..	Nil.	6 0	Carpenter, Perambur Workshops, Madras.	0 12 0 per day.
10. K. Balaguru Chetti ..		7 6	Permanent Junior Assistant Maistri, School of Arts and Crafts, Madras.	30 0 0 per mensem.

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Students who left the school in 1925-26 and have secured employment—cont.

Name.	Highest examinations passed.	Period spent in the school.	Present employment.	Salary.
11. I. Kanakasabapathi Nayakar ..	Metal work—Advanced ; Design—Elementary.	Y. 6 M. 0	Permanent Junior Assistant Maistri, School of Arts and Crafts, Madras.	Rs. A. P. .. 0 12 0 per day.
12. Syed Abdul Aziz Khan ..	Freehand Outline Drawing—Elementary.	5 6	Carpenter, School of Arts and Crafts, Madras.	0 14 0 per day.
13. A. Balakrishnan ..	Freehand Outline Drawing—Intermediate ; Painting—Intermediate ; Design—Elementary.	5 0	Lacquer workman, School of Arts and Crafts, Madras.	60 0 0 per mensem.
14. Muhammad Yuscof ..	Group Certificate in Drawing ; Carpet-weaving—Intermediate.	..	Foreman, Carpet-weaving Section, Central Jail, Vellore.	0 12 0 per day.
15. N. Rangabashyam Nayudu ..	Engraving—Advanced ; Painting—Intermediate ; Design—Intermediate ; Freehand Outline Drawing—Intermediate.	5 8	Engraver, School of Arts and Crafts, Madras.	0 12 0 per day.

APPENDIX V.

Statistics relating to Industrial Schools for 1925-26.

District.	Name of the institution.	Boys or girls.	Number on rolls on 31st March		Draw- ing.				Mechanical Engi- neering.				Civil Engineering.	Draughtsman course.	Carpentry and cabinet making and general wood work.	Metal work.	Weav- ing.		Needle crafts.			Agriculture and allied trades	(21)
			1925.	1926.	Free hand out- line.	Technical.	Fitter's work.	Blacksmith's work.	Other branches.	Cotton.	Carpet.	Lace making.					Embroidery.	Other branches.					
																			(1)	(2)	(3)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)			
	GOVERNMENT INSTITUTIONS.																						
Madras	Government Industrial Institute, Madras.	Boys.	96	88	..	..	..	..	..	..	..	19	57	..	..	..	..	..	..	..	..	..	
Madras	Leather Trades Institute, Madras.	Do.	10	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Do. ..	Government Trades School (including Perambur branch).	Do.	530	705	..	250	..	..	249	..	..	..	..	..	..	..	..	..	..	..	..	..	
Do. ..	School of Arts and Crafts, Madras.	Boys and girls.	443	494	..	..	..	..	3	..	..	177	20	..	3	..	..	..	..	..	..	..	
Do. ..	Government Textile Insti- tute, Madras.	Boys.	24	21	..	..	..	..	..	..	..	..	..	..	21	..	..	..	..	..	..	..	
	Total ..	..	1,103	1,313	..	250	..	..	252	..	..	196	77	21	3	..	..	..	..	..	..	..	
	AIDED INSTITUTIONS.																						
Coimbatore	St. Joseph's Industrial School, Coimbatore.	Boys.	107	130	..	..	30	..	..	..	..	100	..	..	..	..	..	..	..	..	..	11	
Madras	C.N.T. Institute, Vepery, Madras.	Do.	239	216	..	..	29	..	82	..	..	51	..	22	..	..	..	..	..	..	..	..	
Trichinopoly	Wesleyan Mission Industrial School, Karur.	Do.	69	59	..	..	..	3	..	..	..	30	..	15	..	..	..	..	..	..	..	..	
Do. ..	St. Joseph's Industrial School, Trichinopoly.	Do.	28	35	..	..	..	1	..	..	..	27	7	..	..	..	..	..	..	..	..	..	
Madras	Anjuman-i-Ahla-i-Islam, Madras.	Do.	78	86	..	..	..	..	..	..	..	52	..	34	..	..	..	..	..	..	..	..	

APPENDIX V—cont.

Statistics relating to Industrial Schools for 1925-26—cont.

District.	Name of the institution.	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)
	GOVERNMENT INSTITUTIONS— —cont.																		
Madura	Government Industrial Institute, Madura.	..	..	8	..	..	5	..	..	..	..	..	..	..	..	..	..	..	4
Madras	Leather Trades Institute, Madras.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do.	Government Trades School (including Perambur branch).	..	23	..	..	..	..	80	..	..	..	..	21	106	40	16	..	87	..
Do.	School of Arts and Crafts, Madras.	..	..	..	..	..	..	..	..	124	..	..	..	..	..	..	..	..	..
Do.	Government Textile Institute, Madras.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total ..	..	23	8	..	..	5	80	..	124	..	..	21	106	40	16	..	87	4
	AIDED INSTITUTIONS—cont.																		
Coimbatore	St. Joseph's Industrial School, Coimbatore.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madras	C.N.T. Institute, Vepery, Madras.	..	..	12	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..
Trichinopoly	Wesleyan Mission Industrial School, Karur.	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do.	St. Joseph's Industrial School, Trichinopoly.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madras	Anjuman-i-Ahla-i-Islam, Madras.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

APPENDIX V—cont.
Statistics relating to Industrial Schools for 1925-26—cont.

District.	Name of the institution.	Boys or girls.	Number on rolls on 31st March		Draw- ing.		Mechanical Engi- neering.			Civil Engineering.	Draughtsman course.	Carpentry and Cabinet making and general wood work.	Metal work.	Weav- ing.		Needle crafts.			Agriculture and allied trades.	(21)
			1925.	1926.	Free-hand out- line.	Technical.	Fitter's work.	Blacksmith's work.	Other bran- ches.					Cotton.	Carpet.	Lace making.	Embroidery.	Other bran- ches.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
AIDED INSTITUTIONS—cont.																				
North Arcot ..	A.A.M. Industrial School, Katpadi.	Boys.	104	109	..	..	..	10	..	..	..	88	..	..	..	..	..	..	..	..
South Arcot ..	St. Joseph's Industrial School, Tindivanam.	Do.	69	76	..	..	..	2	..	..	..	74	..	..	..	..	..	..	..	..
Tanjore ..	St. Francis Xavier's Industrial School, Tanjore.	Do.	59	70	..	..	..	..	..	..	..	27	..	43	..	..	..	..	..	..
Tinnevely ..	S.F.G. Art Industrial School, Nazareth.	Do.	85	95	..	..	..	15	..	..	..	60	..	20	..	..	..	..	..	..
Vizagapatam.	St. Aloysius' Industrial School, Vizagapatam.	Do.	20	20	..	..	20	..	..	..	..	..	..	..	..	..	..	..	..	..
Kurnool ..	Cole's Vocational Middle School, Kurnool.	Do.	42	53	..	..	..	..	..	..	..	23	..	30	..	..	..	..	..	..
Trichinopoly ..	All Saints Boys' Industrial School, Puttur.	Do.	42	26	..	..	..	..	..	..	..	26	..	..	..	..	..	..	..	..
Tanjore ..	St. Mary's Industrial School, Kumbakonam.	Do.	55	60	..	..	..	5	..	..	..	55	..	..	..	..	..	..	..	..
North Arcot ..	Anjuman-i-Isha-a-Thul Hasanath, Vellore.	Do.	49	47	..	..	..	..	..	..	..	47	..	..	..	..	..	..	..	..
Chingleput ..	U.F.C.M. Agricultural School, Chingleput.	Do.	49	49	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Arcot ..	Anjuman-i-Mufidul-Islam Muhammadan Orphanage, Melvisharam.	Do.	24	34	..	..	..	..	..	..	..	34	..	..	..	..	..	..	..	..

APPENDIX V—cont.
Statistics relating to Industrial Schools for 1925-26—cont.

District.	Name of the institution.	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	
		Rattan work.	Plumbing and Minor Sanitary Science.	Motor-car driving and repairs work.	Mat r. aking.	Basket making.	Chemistry of leather manufacture.	Electric wiring.	Railway apprentices.	Engraving.	General education.	Scientific instrument making.	Goldsmith's work.	Lacquer work.	Special painting.	Printing and allied trades.	Shoe and shoe-making.	Electrical engineering.	Probationer's course.	
AIDED INSTITUTIONS—cont.																				
North Arcot ..	A. A. M. Industrial School, Katpadi.	..	..	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
South Arcot ..	St. Joseph's Industrial School, Tindivanam.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Tanjore ..	St. Francis Xavier's Industrial School, Tanjore.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Tinnevely ..	S. F. G. Art Industrial School, Nazareth.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Vizagapatam.	St. Aloysius' Industrial School, Vizagapatam.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Kurnool ..	Cole's Vocational Middle School, Kurnool.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Trichinopoly ..	All Saints Boys' Industrial School, Puttur.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Tanjore ..	St. Mary's Industrial School, Kumbakonam.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
North Arcot ..	Anjuman-i-Isha-a-Thul Hasanath, Vellore.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Chingleput ..	U. F. C. M. Agricultural School, Chingleput.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
North Arcot ..	Anjuman-i-Mufidul-Islam Muhammadan Orphanage, Melvisharam.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	

APPENDIX V—cont.

Statistics relating to Industrial Schools for 1925-26—cont.

District.	Name of the institution.	Boys or girls.	Number on rolls on 31st March		Training.		Mechanical Engi- neering.			Civil Engineering.	Draughtsmen course.	Carpentry and cabinet making and general wood work.	Metal work.	Weav- ing.		Needle crafts.			Agriculture and allied trades.	Oil-engine driving.	
			1925.	1926.	Free hand out- line.	Technical.	Fitter's work.	Blacksmith's work.	Other bran- ches.					Lace making.	Embroidery.	Other bran- ches.					
																	(4)	(5)			(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	
AIDED INSTITUTIONS—cont.																					
South Arcot	Danish Mission Industrial School, Panruti.	Boys.	82	104	..	..	..	..	..	..	..	75	..	29	..	..	..	..	..	..	
Tinnevelly	The Weaving Institute, Alwartirunagari.	Do.	15	13	..	..	..	..	..	..	..	..	..	13	..	..	..	..	..	..	
Ganjam	Raja's Industrial School, Parlakimedi.	Do.	40	43	..	..	..	..	..	..	..	18	..	25	..	..	..	..	..	..	
Chingleput	A.A.M. Industrial School, Saidapet.	Do.	21	38	..	..	..	..	..	..	..	16	..	..	..	..	..	..	..	..	
Madras	The Orr Assisted Industries School, Madras.	Do.	24	28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
South Kanara	The Commonwealth Trust Engineering Classes, Mangalore	Do.	12	9	..	..	9	..	..	..	..	..	..	..	..	..	..	..	..	..	
Madura	The Pasumalai Trades School, Pasumalai.	Do.	43	44	..	..	4	3	..	..	..	28	..	..	..	..	..	..	..	..	
Tinnevelly	St. Joseph's Industrial School, Adaikalapuram.	Do.	34	31	..	..	..	..	..	..	..	18	..	13	..	..	..	..	..	..	
Bellary	Board Panchama School, Yemmiganur.	Do	14	26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Godavari	C.B.M. Industrial School, Cocanada.	Do.	15	18	..	..	..	..	..	..	..	18	..	..	..	..	..	..	..	..	
Madras	Sri Ram Motor School, Madras.	Do.	54	80	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	

APPENDIX V—cont.

Statistics relating to Industrial Schools for 1925-26—cont.

District.	Name of the institution.	Rattan work.	Plumbing and minor sanitary science.	Motor-car driving and repairs work.	Mat making.	Basket making.	Chemistry of leather manufacture.	Electric wiring.	Railway apprentices.	Engraving.	General education.	Scientific instrument making.	Goldsmith's work.	Lacquers work.	Special painting.	Printing and allied trades.	Boot and shoe making.	Electrical engineering.	Probationer's course.
		(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)
South Arcot	Aided Institutions—cont.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tinnevely	Danish Mission Industrial School, Panruti.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ganjam	The Weaving Institute, Alwartirunagari.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chingleput	Raja's Industrial School, Parlakimedi.	..	..	12	..	..	..	..	..	..	..	..	..	..	..	10	..	..	..
Madras	A.A.M. Industrial School, Saidapet.	..	..	..	..	..	..	..	..	..	..	28	..	..	..	..	26	..	..
South Kanara	The Orr Assisted Industries School, Madras.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madura	The Commonwealth Trust Engineering Works Classes, Mangalore.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tinnevely	The Pasumalai Trades School, Pasumalai.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bellary	St. Joseph's Industrial School, Adaikalapuram.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Godavari	Board Panchama School, Yemmiganur.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madras	C.B.M. Industrial School, Cocanada.	..	..	80	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madras	Sri Ram Motor School, Madras.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

APPENDIX V—cont.

Statistics relating to Industrial Schools for 1925-26—cont.

District.	Name of the institution.	Boys or girls.	Number on rolls on 31st March		Draw- ing		Mechanical engi- neering.			Civil engineering.	Draughtsman course.	Carpentry and cabinet making and general wood work.	Metal work.	Weav- ing.		Needle crafts.			Agriculture and allied trades.	Oil-engine driving.
			1925.	1926.	Free hand out- line.	Technical.	Fitter's work.	Blacksmith's work.	Other bran- ches.					Lace making.	Embroidery.	Other bran- ches.				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
AIDED INSTITUTIONS—cont.																				
Tinnevely	C.M.S. Industrial School for Blind, Palamcottah.	Boys and girls.	63	62	..	..	..	..	..	..	..	..	..	40	..	..	..	..	..	..
Madras	Ramakrishna Students' Home Industrial School, Mylapore.	Boys.	Newly recog- nized.	19	..	..	..	..	..	..	10	..	9	..	..	..	..	..	..	..
Coimbatore	L. M. Weaving School, Erode.	Do.	Do.	52	..	..	..	..	..	..	..	..	52	..	..	..	..	30	..	..
Tanjore	The Tanjore Borsal School, Tanjore.	Do.	Do.	207	..	..	..	..	..	..	80	..	97	..	..	..	..	..	..	..
Kistna	St. Joseph Industrial School, Gundakla.	Do.	Do.	7	..	..	..	..	..	..	7	..	..	..	..	..	..	..	..	..
Chingleput	Total ..	..	1527	1,946	..	..	92	39	82	..	964	7	408	34	..	..	..	30	49	11
Madras	U.F.C.M. Lace School, Chingleput.	Girls.	58	50	..	..	..	..	..	..	..	..	..	..	..	50	..	..	..	..
South Arcot	C.B.M. Girls' Industrial School, Kilpauk.	Do.	69	77	..	..	..	..	..	..	..	..	..	..	..	28	49	..	..	..
Trichinopoly	D.M. Girls' Industrial School, Keelur.	Do.	45	45	..	..	..	..	..	..	..	..	..	..	..	21	24	..	..	..
	Wesleyan Mission Lace School, Karur.	Do.	18	26	..	..	..	..	..	..	..	..	..	..	..	16	..	..	..	..

APPENDIX V—cont.

Statistics relating to Industrial Schools for 1925-26—cont.

District.	Name of the institution.	(22)	Rattan work.	(23)	Plumbing and minor sanitary science.	(24)	Motor-car driving and repairs work.	(25)	Mat making.	(26)	Basket making.	(27)	Chemistry of leather manufacture.	(28)	Electric wiring.	(29)	Railway apprentices.	(30)	Engraving.	(31)	General education.	(32)	Scientific instrument making.	(33)	Goldsmith's work.	(34)	Lacquer work.	(35)	Special painting.	(36)	Printing and allied trades.	(37)	Boot and shoe making.	(38)	Electrical engineering.	(39)	Probationer's course.	
AIDED INSTITUTIONS—cont.																																						
Tinnevely ..	C.M.S. Industrial School for Blind, Palamcottah.	22																																				
Madras ..	Ramakrishna Students, Home Industrial School, Mylapore.	..																																				
Coimbatore ..	L.M. Weaving School, Erode.	..																																				
Tanjore ..	The Tanjore Borstal School, Tanjore.	..																																				
Kistna ..	St. Joseph Industrial Sch'ol, Gundala.	..																																				
	Total ..	33		..		115								1								28								19	26	8						
Chingleput ..	U.F.C.M. Lace School, Chingleput.	..																																				
Madras ..	C.S.M. Girls' Industrial School, Kilpauk.	..																																				
South Arcot ..	D.M. Girls' Industrial School, Keelur.	..																																				
Trichinopoly ..	Wesleyan Mission Lace School, Karur.	..																																				

APPENDIX V—cont.

Statistics relating to Industrial Schools for 1925-26—cont.

District.	Name of the institution.	Boys or girls.	Number on rolls on 31st March		Draw- ing.		Mechanical engi- neering.			Civil engineering.	Draughtsman course.	Carpentry and cabinet making and general wood work.	Metal work.	Weav- ing.		Needle crafts.			Agriculture and allied trades.	Oil- engine driving.
			1925.	1926.	Free hand cut- line.	Technical.	Welder's work.	Blacksmith's work.	Other bran- ches.					Lace making.	Embroidery.	Other bran- ches.				
										(4)	(5)	(6)	(7)				(8)	(9)	(10)	(11)
AIDED INSTITUTIONS—cont.																				
Madura	St. Joseph's Convent Indus- trial School, Madura.	Girls.	94	94	..	..	..	..	..	..	..	..	..	..	..	70	24	..	..	..
Tinnevely	S.P.G. Lace School, Ida- yangudi.	Do.	29	26	..	..	..	..	..	..	..	..	..	..	26	..	..	..	..	..
Do.	S.P.G. Lace School, Kudan- gulam.	Do.	24	22	..	..	..	..	..	..	..	..	..	..	22	..	..	..	..	..
Bellary	St. Joseph Girls' Industrial School, Bellary.	Do.	54	69	..	..	..	..	..	..	..	..	..	..	11	..	58	..	..	..
Tinnevely	R.C. Lace School, Vedakan- gulam.	Do.	83	90	..	..	..	..	..	..	..	..	..	..	90	..	..	..	..	..
Do.	Hindu Girls' Industrial School, Kudangulam.	Do.	23	29	..	..	..	..	..	..	..	..	..	..	29	..	..	..	..	..
Anjengo	The Sacred Heart Con- vent Industrial School, Anjengo.	Do.	24	21	..	..	..	..	..	..	..	..	..	..	21	..	..	..	..	..
Nellore	O.E.L.M. Girls' Industrial School, Gudur.	Do.	34	26	..	..	..	..	..	..	..	..	..	..	26	..	..	..	..	..
Chingleput	Wesleyan Mission Industrial School, Ikkadu.	Do.	71	94	..	..	..	..	..	..	..	..	..	6	79	18	..	..	..	..
Malabar	Commonwealth Embroidery School, Calicut.	Do.	63	67	..	..	..	..	..	..	..	..	..	..	..	67	..	..	..	..
Trichinopoly	Holy Cross Convent Indus- trial School, Trichinopoly.	Do.	61	66	..	..	..	..	..	..	..	..	..	..	..	40	26	..	..	..

APPENDIX V—cont.

Statistics relating to Industrial Schools for 1925-26—cont.

District.	Name of the institution.	(22) Rattan work.	(23) Plumbing and minor sanitary science.	(24) Motor-car driving and repair work.	(25) Mat making.	(26) Basket making.	(27) (Chemistry of leather manufacture.	(28) Electric wiring.	(29) Railway apprentices.	(30) Engraving.	(31) (General education.	(32) Scientific instrument making.	(33) Goldsmith's work.	(34) Laquer work.	(35) Special painting.	(36) Printing and allied trades.	(37) Boot and shoe making.	(38) Electrical engineering.	(39) Probationer's course.
AIDED INSTITUTIONS—cont.																			
Madura	St. Joseph's Convent Indus- trial School, Madura.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tinnevely	S.P.G. Lace School, Ida- yangudi.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do.	S.P.G. Lace School, Kudan- gulam.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bellary	St. Joseph Girls' Industrial School, Bellary.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tinnevely	R. C. Lace School, Vedakan- gulam.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do.	Hindu Girls' Industrial School, Kudangulam.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anjengo	The Sacred Heart Con- vent Industrial School, Anjengo.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nellore	O.E.L.M. Girls' Industrial School, Gudur.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chingleput	Wesleyan Mission Industrial School, Ikkadu.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Malabar	Commonwealth Embroidery School, Calicut.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Trichinopoly	Holy Cross Convent Indus- trial School, Trichinopoly.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

APPENDIX V—*cont.*

Statistics relating to Industrial Schools for 1925-26—cont.

District.	Name of the institution.	Boys or girls.	Number on rolls on 31st March		Draw- ing.		Mechanical engi- neering.			Civil engineering.	Draughtsman course.	Carpentry and cabinet making and general wood work.	Metal work.	Weav- ing.		Needle crafts.		Agriculture and allied trades.	Oil engine driving.	
			1925.	1926.	Free hand out- line.	Technical.	Turner's work.	Blacksmith's work.	Other bran- ches.					Lace making.	Embroidery.	Other bran- ches.				
										(1)	(2)	(3)	(4)				(5)	(6)	(7)	(8)
	AIRED INSTITUTIONS—cont.																			
Tanjore	C.S.M. Women's Indus- trial School, Mayavaram.	Girls.	74	54	..	..	..	..	..	..	..	..	..	30	..	..	21	..	..	
Chittoor	A.A.M. Women's Industrial School, Palmaner.	Do.	42	36	..	..	..	..	..	..	..	..	..	..	..	20	16	..	..	
Guntur	A.B.M. Girls' Industrial School, Ongole.	Do.	18	16	..	..	..	..	..	..	..	..	..	..	..	16	..	..	..	
Coimbatore	L.M. Girls' Industrial School, Erode.	Do.	42	49	..	..	..	..	..	..	..	..	..	7	..	..	..	..	..	
Madras	The Women's Home of Service, Mylapore.	Do.	78	50	..	..	..	..	..	..	..	..	..	10	..	15	..	..	..	
	Total ..	..	1,004	997	..	..	..	..	..	..	..	..	..	53	..	461	299	129	..	
	Grand Total ..	..	3,634	4,256	..	250	92	39	384	..	1,160	84	482	37	299	461	299	159	49	11

APPENDIX V --cont.

Statistics relating to Industrial Schools for 1925-26—*cont.*

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APPENDIX VI.

Statistics relating to Industrial Schools for 1920-21.

District and name of the institution.	Boys or girls.	Number on rolls on 31st March 1926.	Receipts.				Public funds.	Management's contribution.	Total receipts (equal expenditure).
			Miscellaneous receipts including sale-proceeds of manufactured articles.	Fees.	Teaching and special grants.	Building and equipment grants.			
GOVERNMENT INSTITUTIONS.			RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
	Madura—	88	..	..	..	..	60,746 5 6	..	60,746 5 6
	Government Industrial Institute, Madura.								
	Madras—	5	..	750 0 0	..	..	56,229 10 1	..	56,979 10 1
	Leather Trades Institute, Madras.						50,751 14 4	..	50,751 14 4
	Government Trades School, (including Perambur Branch), Madras.	705	..	..	..	..	66,411 14 4	..	66,411 14 4
AIDED INSTITUTIONS.	Boys and girls.	494	..	..	..	..	36,922 15 4	..	36,922 15 4
	Government Textile Institute, Madras.	21	..	..	..	..	..	..	..
	Total ..	1,313	..	750 0 0	..	..	2,71,062 11 7	..	2,71,812 11 7
	Coimbatore—								
St. Joseph's Industrial School, Coimbatore.	Boys.	130	71,324 5 1	262 0 0	2,900 0 0	800 0 0	..	..	75,286 5 1
Madras—									
C.N.T. Institute, Vepery Madras.	Do.	216	13,800 12 7	6,746 7 8	10,500 0 0	1,000 0 0	..	9,137 3 11	41,184 8 2

Trichinopoly—	Do.	59	21,000 0 0	..	3,312 0 0	1,000 0 0	..	5,062 3 5	30,364 3 5
Wesleyan Mission Industrial School, Karur.	Do.	35	84,998 12 0	..	1,800 0 0	775 0 0	..	1,937 11 5	39,511 7 5
St. Joseph's Industrial School, Trichinopoly.	Do.	86	8,621 2 1	..	5,000 0 0	*10,000 0 0	..	12,122 5 0	35,743 7 1
Madras—									
Anjuman-i-Ahla-i-Islam, Madras.	Do.	109	2,02,519 3 2	..	4,000 0 0	2,000 0 0	..	23,382 12 6	2,31,901 15 8
North Arcot—									
A.A.M. Industrial School, Katpadi.	Do.	76	17,802 2 6	..	5,200 0 0	950 0 0	..	..	23,952 2 6
South Arcot—									
St. Joseph's Industrial School, Tindivanam.	Do.	70	17,851 7 1	..	2,500 0 0	*11,632 0 0	..	11,500 0 0	43,483 7 1
Tanjore—									
St. Francis Xavier's Industrial School, Tanjore.	Do.	95	18,676 10 9	..	4,000 0 0	*1,500 0 0	..	3,393 3 6	27,569 14 3
Tinnevely—									
S.P.G. Art Industrial School, Nazareth.	Do.	20	68,126 0 0	..	3,000 0 0	104 0 0	..	..	71,230 0 0
Vizagapatam—									
St. Aloysius' Industrial School, Vizagapatam.	Do.	53	9,794 0 7	151 0 0	3,000 0 0	900 0 0	..	21,112 5 11	34,957 6 6
Kurnool—									
Coles' Vocational Middle School, Kurnool.	Do.	26	9,103 8 6	..	1,650 0 0	400 0 0	..	162 15 3	11,319 7 9
Trichinopoly—									
All Saints' Boys' Industrial School, Puttur.	Do.	60	16,654 14 9	..	2,750 0 0	*12,200 0 0	..	13,141 7 8	44,746 6 0
Tanjore—									
St. Mary's Industrial School, Kumbakonam.	Do.	47	37,961 8 1	..	1,400 0 0	520 8 0	..	1,803 7 6	40,785 7 7
North Arcot—									
Anjuman-i-Isha-a-Thal Hassanath, Vellore.	Do.	49	2,409 9 0	..	1,000 0 0	† 750 0 0	..	2,453 2 9	6,612 11 9
Chingleput—									
U.P.C.M. Agricultural School, Chingleput.	Do.			..			..		

* Building grant.

† Rs. 11,500 Building grant.

APPENDIX VI—cont.
Statistics relating to Industrial Schools for 1925-26—cont.

District and name of the institution.	Boys or girls.	Number on rolls on 31st March 1926.	Receipts.				Public funds.	Management's contribution.	Total receipts (equal expenditure).
			Miscellaneous receipts including sale-proceeds of manufactured articles.	Fees.	Teaching and special grants.	Building and equipment grants.			
			RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.
AIDED INSTITUTIONS—cont.									
North Arcot—									
Anjuman-i-Mufidul-Islam Mohamadan Orphanage, Melvisharam.	Boys.	34	946 11 9	..	1,950 0 0	1,500 0 0	..	8,211 5 5	12,608 1 2
South Arcot—									
J.M. Industrial School, Panruti.	Do.	104	28,583 5 11	..	4,300 0 0	675 0 0	..	27,239 4 11	80,757 10 10
Tinnevely—									
The Weaving Institute, Alwairunagari.	Do.	13	3,053 6 3	..	500 0 0	..	..	380 15 3	3,944 5 6
Ganjam—									
Raja's Industrial School, Parlakimedi.	Do.	43	4,567 10 3	..	1,050 0 0	2,705 0 0	..	2,666 4 9	11,088 15 0
Chingleput—									
A.A.M. Industrial School, Saidapet.	Do.	38	1,043 14 0	297 14 0	600 0 0	..	..	2,000 0 0	3,941 12 0
Madras—									
The Orr Assisted Industries School, Madras.	Do.	28	..	..	4,294 0 0	..	..	4,274 14 0	8,568 14 0
South Kanara—									
The Commonweath Trust Engineering Classes, Mangalore.	Do.	9	..	..	400 0 0	..	..	457 11 3	857 11
Madura—									
The Pasumalai Trades School, Pasumalai.	Do.	44	10,200 0 0	..	1,200 0 0	2,500 0 0	..	21,817 2 8	36,717 2 8

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Tinnevely—									
St. Joseph's Industrial School, Adikalapuram.	Do.	31	2,278 2 2	..	1,000 0 0	..	..	1,100 0 0	4,578 2 2
Bellary—									
Board Panchama School, Yemmiganur.	Do.	26	42 10 0	..	300 0 0	73 0 0	..	253 11 0	669 5 0
Godavari—									
The C.B.M. Industrial School, Cocanada.	Do.	18	1,100 0 0	..	1,000 0 0	1,000 0 0	..	4,960 0 0	8,060 0 0
Madras—									
Sri Ram Motor School, Madras.	Do.	80	..	8,500 0 0	..	..	..	3,000 0 0	11,500 0 0
Tinnevely—									
C.M.S. Industrial School for the Blind, Palamcottah.	Boys and girls.	62	8,291 0 0	..	1,700 0 0	164 0 0	..	866 0 0	10,011 0 0
Madras—									
Ramakrishna Students' Home Industrial School, Mylapore.	Boys.	19	..	27 0 0	1,100 0 0	175 0 0	..	1,972 2 11	3,274 2 11
Coimbatore—									
L.M. Weaving School, Erode.	Do.	52	2,449 7 6	..	400 0 0	..	..	2,513 12 10	5,363 4 4
Tanjore—									
The Tanjore Borstal School, Tanjore.	Do.	207	..	..	..	..	..	..	..
Kistna—									
St. Joseph Industrial School, Gnadala.	Do.	7	..	..	700 0 0	285 0 0	..	6,000 0 0	6,985 0 0
Total ..		1,946	6,12,413 4 0	15,984 5 8	72,506 0 0	54,608 8 0	..	1,92,902 3 5	9,48,414 5 1
Chingleput—									
U.F.C.M. Lace School, Chingleput.	Girls.	50	2,745 2 2	..	400 0 0	25 0 0	..	1,477 11 3	4,667 13 5
Madras—									
Q.S.M. Girls' Industrial School, Kilpauk.	Do.	77	1,822 7 6	..	700 0 0	..	..	143 0 11	2,665 8 5

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* Rs. 1,250 Building grants. † Rs. 2,400 Building grants. ‡ Rs. 2,000 Building grant.
§ Recognized but not aided. || Expenditure shown in the returns of the Jail Department.

APPENDIX VI—cont.
Statistics relating to Industrial Schools for 1925-26—cont.

District and name of the institution.	Boys or girls.	Number on rolls on 31st March 1926.	Receipts.				Public funds.	Management's contribution.	Total receipts (equal expenditure).
			Miscellaneous receipts including sale-proceeds of manufactured articles.	Fees.	Teaching and special grants.	Building and equipment grants.			
AIDED INSTITUTIONS—cont.									
South Arcot— D.M. Girls' Industrial School, Keelur.	Girls.	45	Rs. A. P. 3,608 3 11	..	Rs. A. P. 400 0 0	..	Rs. A. P. ..	Rs. A. P. 1,117 0 0	Rs. A. P. 5,125 3 11
Trichinopoly— Wesleyan Mission Lace School, Karur.	Do.	16	400 4 8	..	200 0 0	..	..	47 15 4	648 4 0
Madura— St. Joseph's Convent Industrial School, Madura.	Do.	94	3,369 4 0	..	700 0 0	30 0 0	..	1,028 5 6	5,127 9 8
Tinnevely— S.P.G. Lace School, Edaiyangudi.	Do.	26	522 14 0	..	250 0 0	..	..	78 11 9	851 9 9
S.P.G. Lace School, Kudan- gulam.	Do.	22	324 4 0	..	250 0 0	..	..	..	574 4 0
Bellary— St. Joseph's Girls' Industrial School, Bellary.	Do.	69	390 0 0	..	550 0 0	50 0 0	..	1,300 0 0	2,290 0 0
Tinnevely— R.C. Lace School, Vedakangulam.	Do.	90	305 1 4	..	600 0 0	..	..	372 8 9	1,277 10 1
Hindu Girls' Industrial School, Kudangulam.	Do.	29	300 0 0	..	150 0 0	60 0 0	..	829 0 0	1,339 0 0
Anjengo— The Sacred Heart Convent Industrial School, Anjengo.	Do.	21	108 0 0	..	150 0 0	..	..	612 9 0	870 9 0
93									
Nellore— O.E.L.M. Girls' Industrial School, Gudur.	Do.	26	990 0 0	..	275 0 0	..	..	1,000 0 0	2,265 0 0
Chingleput— Wesleyan Mission Industrial School, Ikkaadu.	Do.	94	9,808 9 0	..	650 0 0	125 0 0	..	3,878 6 7	14,461 15 7
Malabar— Commonwealth Embroidery School, Calicut.	Do.	67	4,800 0 0	..	600 0 0	..	..	1,200 0 0	6,600 0 0
Trichinopoly— Holy Cross Convent Industrial School, Trichinopoly.	Do.	66	3,750 8 0	..	350 0 0	360 8 0	..	2,413 11 0	6,874 11 0
Tanjore— C.S.M. Women's Industrial School, Mayavaram.	Do.	54	1,300 0 0	..	525 0 0	260 0 0	..	1,110 0 0	3,195 0 0
Chittoor— A.A.M. Women's Industrial School, Palmaner.	Do.	36	2,000 0 0	..	350 0 0	..	..	2,300 0 0	4,650 0 0
Guntur— A.P.M. Girls' Industrial School, Ongole.	Do.	16	756 0 0	..	225 0 0	..	..	100 0 0	1,081 0 0
Coimbatore— L.M. Girls' Industrial School, Erode.	Do.	43	238 7 1	..	250 0 0	50 0 0	..	200 0 0	738 7 1
Madras— The Women's Home of Service, Mylapore.	Do.	50	100 0 0	..	550 0 0	50 0 0	..	1,200 0 0	1,900 0 0
Total ..	..	997	37,679 1 8	..	8,125 0 0	990 8 0	..	20,409 0 1	67,203 9 9
Grand Total ..	..	4,556	1,650,092 5 8	16,734 8 8	80,631 0 0	55,599 0 0	2,71,062 11 7	2,13,311 3 6	12,87,430 10 5

