

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 1249	Press <u>Mis</u>
<u>126-127</u>	
Dated 7 th May 1869	

Not to be folded or roughly handled*S*
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*Proceedings of the Madras Government, Revenue Department,
7th May 1869.*

No. 126. Read the following Circular from the Government of India, Public Works Department, (Revenue—Forests,) dated Fort William, 4th January 1869, No. 1:—

Trained Officers from Europe for the Forest Department in India—Proposed re-organization of the Department.

Read again:—

Replics of local Governments and Administrations to Public Works Department Circulars Nos. 6 and 10 F, dated 11th and 23rd April 1867.

Report by Inspector-General of Forests, dated 28th July 1868.

From the Government of India, to the Secretary of State for India, dated 19th September 1868, No. 10F.

We have now the honor to report the measures which appear to us necessary with regard to the suggestions made for our consideration in your Despatches, No. 63, of the 31st October 1866, and, No. 8, of the 23th February 1867, concerning a supply of young men specially trained for service in the Forest Department. In our Despatches, Nos. 10 and 11 R.—F., of the 11th and 17th April 1867, we reported that we thought it advisable, before coming to a decision on these proposals, to invite the opinions of the local Governments and Administrations, including the Governments of Madras and Bombay. An expression of these opinions has, after some delay, been received, and we now transmit, for your perusal, a printed copy of all communications from local Governments and Administrations on this subject. We also submit a report on the whole question by Mr. Brandis, our Inspector-General of Forests.

2. After mature consideration of this report, and of the views of the local authorities, we have come to the following conclusions, which we now beg to submit for the sanction of Her Majesty's Government.

We fully acknowledge the necessity of employing the agency of specially trained Officers in the administration of the forests in the different provinces of India. These forests, if managed according to a well-considered system, will, we trust, in course of time, come to be one of the most important sources of national wealth for the inhabitants of this country; whereas, if managed by persons ignorant of their profession, their ultimate ruin appears to us to be almost inevitable.

3. Hereafter we hope that it may be possible to establish a Forest School in India, where young men, natives of this country and others, may be instructed in the theory and practice of forestry, and be prepared for service in the department. Until the establishment of such a Forest School in India however, it appears to us that it will be necessary annually to select a limited number of young men in England, and to send them out after they have passed through a regular course of professional training, similar to that which has been arranged for the seven young men now under preparation in the Forest Schools of France and Germany.

4. For the present, we consider that it will be sufficient to send out four Probationers every year. This will probably not suffice to provide for all vacancies, but it seems right to reserve a number of appointments to be filled up by promotion from the Lower Establishments, either of Europeans or Natives of the country, and by occasionally appointing Officers of the Army or other gentlemen in this

country, who may possess such qualifications as may make it desirable to secure their services for the department. Of the specially trained Probationers, a few will, from time to time, be posted to the Presidencies of Madras and Bombay, as necessity may arise.

Further experience will show whether the number to be sent out annually should hereafter be increased or diminished.

5. If arrangements can be made early enough, we would request that candidates be at once invited this year in time to commence their course of instruction in March 1869, and to be sent out to India in the Autumn of 1871.

As a year has elapsed since the first selection was made, we would suggest that a larger number, not however exceeding eight, be selected this time.

If arrangements can conveniently be made, it appears to us desirable that about one-half of the candidates be sent to Germany, and the other half to France, for their instruction.

In the Notification inviting candidates, we think that great stress should be laid on active habits and a strong hardy constitution, and the medical examination should be strict, so as to exclude all those not likely to stand fatigue and exposure in the climate of India.

6. We further think that candidates should be selected by a competitive examination in the following branches of knowledge :—

- 1.—English writing from dictation and English composition.
- 2.—Arithmetic in all its branches.
- 3.—Algebra, elementary principles, simple and quadratic equations, ratios and proportion, logarithms, arithmetical and geometrical progression.
- 4.—Geometry (1st, 2nd, 3rd, 4th, and 6th books of Euclid), and plane trigonometry.
- 5.—Free hand and plan drawing.
- 6.—A good colloquial knowledge of either French or German, with the facility to read and translate the works of some classical writer in the language.

These six subjects should be compulsory, and proficiency up to a certain standard should be indispensable for admission. We consider that it will be better to select a smaller number of candidates than to be satisfied with an insufficient preparation, which would prevent their deriving the full benefit from the professional training at the Continental Forest Schools.

It might be useful to add the following branches of knowledge as optional, and to say that proficiency in these subjects would entitle candidates to preference :—

- 1.—Surveying and land measuring.
- 2.—The elements of any of the following natural sciences :—
Mechanical and Natural Philosophy.
Chemistry.
Botany.
Geology.

7. You will observe that we do not at present advocate the adoption of the plan sketched by Dr. Brandis in his letter to the Under Secretary of State for India of the 13th February 1867, received with your Despatch, No. 8, of the 23rd February 1867. This plan is doubtless more complete, but it appears to us preferable for the present to maintain the arrangements made for the training of the Probationers of 1867, which, if we may judge from the reports received from you regarding the studies of these young men, appear to us to give every promise of proving successful.

Hereafter, when the capabilities of the young men to be sent out by you for Forest Service in this country will have been tested, we shall better be able to appreciate, and to remedy any defects which the present arrangements may possess.

8. We would, therefore, suggest that, for the present, the candidates, whose qualifications shall have been tested in the manner indicated above, be sent to some of the Forest Schools, or other place of instruction on the Continent, for their professional training during a period of two years and a half. In addition to this, if it should be found practicable to send the young men to an approved Forester in Scotland for a few months before coming out to India, we should consider such an additional preparation as an advantage.

9. Having thus explained our views regarding the selection and training of Probationers to be sent out from England, we would draw your attention to another subject intimately connected with the first, and, in our opinion, of equal importance for a successful administration of the forests.

Most of the local authorities whom we have consulted concerning this matter, have urged the necessity of placing the Forest Department on a more satisfactory footing, so as to afford to all persons entering it fair, and, as far as practicable, uniform prospects of advancement.

10. Under the existing organization, Forest Officers entering the service have very unequal chances of promotion according to the vacancies which may happen to arise in the province in which they are serving. Transfers, it is true, have occasionally been made from one province to another, but the action in this respect of the Government of India has been necessarily limited by the rules for the management of forest business, which we issued in March 1864, and which were approved in your predecessor's Despatch, No. 16, of 9th June of that year.

Under those rules, the forests in the Bombay and Madras Presidencies, and in the Lieutenant-Governorships of Bengal, the Punjab, and the North-Western Provinces, were placed altogether under the management of their respective Governors and Lieutenant-Governors. All appointments and promotions of Forest Officers have accordingly been made by them without any reference to the Government of India.

11. This may have been the correct course to pursue at the outset, but it is now evident to us that the number of appointments in each province is far too small to make possible a satisfactory organization of separate departments in the different provinces. We would draw your attention to the data given in paragraphs 33 and 36 of Mr. Brandis's report regarding the number of Forest Officers in the different provinces, from which you will observe that they stand as follow :—

Burmah	has	...	...	...	...	...	12 Officers.
Madras	"	...	...	...	...	...	11 "
Bombay	"	...	...	...	...	...	11 "
Punjab	"	...	...	...	...	...	9 "
North-West	"	...	...	...	...	...	9 "
Central Provinces	"	...	...	...	...	...	7 "
Mysore and Coorg	"	...	...	...	...	...	4 "
Bengal	"	...	...	...	...	...	3 "
Oudh	"	...	...	...	...	...	3 "
Berar	"	...	...	...	...	...	2 "

12. Under these circumstances, it appears to us necessary to consolidate all appointments in the Bengal Presidency in one general list, which will not, however, include the Presidencies of Madras and Bombay. According to the scale of establishments as sanctioned at present, this list will comprise—

7 Conservators on salaries ranging from Rs 700 to Rs. 1,200 per mensem.

14 Deputy Conservators from .. 500 to .. 800 ..

28 Assistant 250 to .. 450 ..

And to these will be added by the end of 1869, seven Assistants now under training, on a salary of Rupees 250 per mensem. Total 56 Officers. In some provinces a few additional appointments will probably before long be required.

13. If the formation of a general list of Forest Officers for the Bengal Presidency is accepted, all first appointments will be made, either by the Home Government, in the case of the trained Officers to be sent out annually, or by the Government of India of suitable persons selected in this country.

All promotions from Assistant to Deputy Conservator, and from Deputy to Conservator, will be made by the Government of India on the recommendation of local Governments. The promotion of Conservators will be entirely in the hands of the Government of India.

The promotion of Assistant and Deputy Conservators from grade to grade within their respective classes, however, we propose to leave to local Governments, subject to certain rules, which, together with other arrangements of detail, will be considered after the whole scheme shall have received your sanction.

14. The grades and classes of these appointments, we propose to arrange in accordance with the following schedule, which, in this peculiar case, we have thought it best to submit for your sanction in this department:—

I.—Conservators.

1 First Class Conservator at	Rs 1,600 per mensem.
1 Second	.. 1,400 ..
2 Third	.. 1,200 ..
3 Fourth	.. 1,000 ..

At present the pay of these Officers, as shown above, ranges from Rupees 700 to Rupees 1,200. But the lower rates of pay at Rupees 700 and Rupees 800 can, we believe, hardly be considered adequate remuneration for the Heads of departments in their provinces, though they may suffice for the present, while these appointments are held by comparatively young Officers. It is, therefore, proposed, on the promotion of these Officers, to absorb the lowest class of Conservator on Rupees 700 and Rupees 800 per mensem.

And the pay of the first and second class has been fixed at Rupees 1,600 and Rupees 1,400, respectively, to hold out a suitable prospect of advancement for faithful and efficient service.

II.—Deputy Conservators.

First grade, at	Rupees 900 per mensem.
Second	.. 700 ..
Third	.. 500 ..

The number of Conservators is fixed, because one is required for each province. The number of Deputies is at present 14, but, as explained above, some additions may hereafter become necessary. The proportion of the different grades cannot be

determined without interfering with the right of promotion from grade to grade by local Governments, which it is proposed to give them. The pay of the first class has been raised from Rs. 800 per mensem to Rs. 900, with the view of affording a reasonable prospect of attaining a fair competency to such Officers who, either from scarcity of vacancies or for other reasons, cannot look forward to obtain an appointment of Conservator.

III.—Assistant Conservators.

	RS.
First grade at	450 per mensem.
Second .. at	350 ..
Third .. at	250 ..

These rates of pay are in accordance with existing arrangements. Young men will ordinarily enter the department at the lowest rate, and be promoted to the second grade on passing an examination in the languages, and on attaining a certain standard of efficiency.

Their promotion to the first grade would generally take place after three years' approved service in the next lower grade. Under these and similar rules, promotion from grade to grade would be left to local Governments. You will observe that, under these arrangements, the proportion of Assistants of the different grades cannot be fixed, sometimes there may be an excess in the upper, and sometimes in the lower grades. If it were decided to fix and determine the number of appointments of each grade, all promotions from grade to grade, as well as from class to class, would have to be made by the Government of India.

15. The adoption of the scheme here proposed will involve an additional expenditure of Rupees 63,800 per annum. This includes the estimated cost of training and sending out four Probationers annually, after deducting the share of this outlay to be borne by the Governments of Madras and Bombay. The details are shown in paragraph 48 of Mr. Brandis's Report submitted with this Despatch, and we need not here specially refer to them. Suffice it to say that this increased outlay will only be worked up to gradually, unless Forest Establishments should expand more rapidly than is anticipated at present.

This increase is considerable, but it appears necessary, and the examination of details will show that there has been no extravagance in the proposals. The additional expenditure, we feel assured, will be well laid out to secure an efficient administration of the forests, which will ultimately produce a steady and considerable growth of the revenue derived from them.

16. Nor do we think there need be any hesitation in accepting the present proposals on the score of over-centralization or interference with the control and patronage of local Governments.

This difficulty is not felt in the case of the Minor Administrations, in which the Government of India has always retained a power of control and patronage sufficient for the present objects. But the difficulty is felt as regards the Governments of Bengal, the Punjab, and the North-West Provinces, where all appointments and promotions have hitherto been in the hands of the Lieutenant-Governors.

17. Nevertheless, we do not hesitate to propose the change, as we feel convinced that a satisfactory organization of a number of separate and small departments is impossible, and that we cannot hope to secure and retain the services of

competent men for the administration of the forests, without consolidating the service in the Bengal Presidency, and thus affording its Officers more certain and uniform prospects of promotion.

18. In adopting this course, and thus assuming a closer control over forest administration in the three Lieutenant-Governorships, we believe to act in accordance with the views expressed in your Despatch, No. 36, of the 16th December 1867, in which you suggest, with regard to the department of the North-West Provinces, whether it would not be expedient to consolidate it with that under the charge of our own Inspector-General of Forests, and add: "It might perhaps also tend to superior efficiency by affording facilities for selecting men of more experience, and affording them a greater field for promotion".

In this Despatch, indeed, you appear to assume that the management of forests under the Minor Administrations has been consolidated into one department under the Inspector-General of Forests. Such a measure has not been carried out, and is not at present contemplated; but so much is evident from your Despatch that you do not consider it necessary that all appointments and promotions in the Forest Department of the North-West Provinces should be made by the Lieutenant-Governor.

19. We have even considered the expediency of extending the scheme now proposed to the Presidencies of Madras and Bombay. We have no doubt that the administration of forests in the Minor Presidencies would benefit by such a measure; they cannot, we fear, make any satisfactory organization for themselves on account of the small number of offices which they have at their disposal. And we would strongly express our dissent from the opinions advanced by the Bombay Government and their Conservator of Forests, which amount to this, that, for the management of forests, special training is not ordinarily necessary. As long as such views are maintained, we believe that satisfactory progress in rational forest administration is impossible.

20. But considering all circumstances, we have come to the conclusion that it will be better at the outset to limit the new organization to the Bengal Presidency, and not to disturb the arrangements already established in Madras and Bombay.

As explained above, however, a proportion of the Probationers, specially trained in Europe for forest service in India, should always be available for employment in the Minor Presidencies.

Read also the following:—

From the Secretary of State for India, to the Government of India, dated 24th November 1868, No. 27.

I HAVE had under my consideration in Council the Despatch from your Excellency in Council, numbered 10, (Revenue—Forests), and dated the 19th of September, in which, in reply to my predecessor's Despatches, No. 63, of the 31st of October, 1866, and, No. 8, of the 28th of February, 1867, you communicate to me your views on the expediency of continuing the experiment of training young men on the Continent of Europe for the forest service in India, and on the other measures necessary for securing to the State an efficient establishment for the administration of the forests throughout India.

2. With your Despatch you have forwarded the opinions of the local authorities, whom you have previously informed me that it was your intention to consult on the question, and a very lucid report by Dr. Brandis, the Inspector-General of your Forests, containing a summary of these opinions, and recommendations as to the measures which should be adopted.

3. I have perused these documents with great interest, and, fully concurring with the opinions expressed in paragraph 2 of your Despatch, as to the necessity of employing specially trained Officers in the administration of the forests, and as to the good results which will follow in that case, and the ruin which, on the contrary, will fall on what you justly designate "one of the most important sources of national wealth" if the forests are left to ignorant persons, I am quite ready to accede to your proposal for continuing the experiment now being tried in France and Germany.

4. I shall, therefore, take measures for selecting eight young men to commence their training in March next, and, until some different arrangement is made, four in every subsequent year. Half of this number will, if suitable candidates can be found, be sent to Germany and half to France. These young men will be trained according to the arrangements made by Dr. Brandis when he was last in England, and on the same terms, with two exceptions:—

1.—That when their foreign studies are completed, they shall, if possible, spend a short time with an approved Wood Manager in Scotland before they go to India; and,

2.—That the stipend to be paid to such as shall be reported deserving of it during their training shall be £100, instead of £60 a-year.

5. I think that the first of these changes will be very desirable, provided that it can be managed so as still to get the young men out to India in December.

6. I approve also of the second suggestion, and shall alter the terms accordingly. But it occurs to me that if this is done, it will be proper to raise the stipends of the seven young men who are already studying in France and Germany to the same amount, during the last year of their residence abroad. After their exemplary conduct, it seems to me that it would be invidious to allot to them a smaller stipend than is to be given to the junior students.

7. The scheme proposed by Dr. Brandis, and forwarded for your opinion in February 1867, would have given, as you observe, a much more complete course of education than the one now proposed for adoption. Nevertheless, I think that this is the readiest and most expedient plan to adopt at present. I look forward, however, with you to the period when the Forest administration shall be sufficiently advanced to admit of the establishment of a Forest School for the training of young men in India itself; and although I am fully prepared to admit, with Dr. Brandis, that it must be some years before this desirable object can be achieved, still the present measure may be looked upon as a step to the introduction of that special training and knowledge, without which it could not be accomplished at all.

8. I am glad to perceive that Dr. Brandis, in his able report, appreciates the great importance of interesting and employing the Natives of India in Forest administration—a most important step, as he observes, to the stability of the measures taken with that view. It will gratify me much whenever Natives are found competent to fill these appointments with benefit to the State.

9. You have rightly considered that, if young men are to be attracted to the Forest service in India, they must have the prospect of sufficient maintenance in it, and if they are to remain in it, it must hold out to them expectations of advancement. The present constitution of the Forest Department does not appear to offer the requisite inducements, and the division of the department into many small services, under the different provinces, presents the chief obstacle to its being rendered more efficient; promotion in each instance being confined within a very narrow range. You have determined, therefore, to amalgamate all the departments, except those of Madras and Bombay, into one department, to be under the immediate supervision of your Government, although the promotions in the junior ranks are to be left, as now, in the hands of the Lieutenant-Governors. You justly conceive that this step will be sanctioned by me, as it was indeed suggested, as regards the North-West Provinces, in my Despatch, No. 36, of the 16th of December last.

10. At the same time you submit, for my sanction, an increase of salary for the different grades of appointments. The proposed remuneration for the several grades seems to me to have been, as you state, fixed, after careful consideration, with due regard to the duties to be discharged, and without being unnecessarily high in the details. It is true that, by these arrangements, the present expenditure will be raised by Rupees 63,800 a-year. But this increase will be gradual, and includes the outlay for the four probationers who are to be sent out annually, deducting the cost of one who is to be allotted in every alternate year to Madras and Bombay.

11. You do not hesitate to propose this change, under the conviction that, without it, a satisfactory organization of the department is impossible, and I agree with you in this opinion. It seems clear that this measure, while it gives to your Government a wider field for selecting the best men for the higher appointments, opens a much better prospect of promotion to the service in general. I accordingly sanction the additional expenditure, sharing the confident expectation which you express, that it will secure an efficient administration of the forests, which, in time, will result in a considerable increase of the revenue derived from them.

12. You inform me, moreover, that you have considered whether it would not have been expedient to extend this arrangement to the Presidencies of Madras and Bombay; but, considering all the circumstances, you have determined not to propose to include them in it. I approve your determination in this respect also. But the same reasons which have called for an improvement in the prospects of the Officers in other parts of India, will necessitate a similar concession to the departments of these Presidencies, including Scind, should the inducements now held out not be sufficient, as, by the report of the Forest Ranger in Scind, would appear to be the case at least in that Province. This may perhaps be obtained by increasing the salaries of Officers at certain periods of their service, provided always that the length and quality of their service has been such as to merit such an increase.

13. The contemplated visit of Dr. Brandis to Scind and Bombay, and his recent tour through the Madras forests, will give you the opportunity of forming a judgment of any proposals for this object which may be made to you by either of these Governments.

14. Before I close this review of this most important Despatch, I must observe, with reference to the 18th paragraph of it, in which you state that you do

not at present contemplate the consolidation of the "management of forests under the Minor Administrations" into one department, under the Inspector-General of Forests, that I think it very important that he should now possess the general direction and superintendence of the amalgamated department under your Government; and for this purpose it is necessary that the Conservators should keep thoroughly informed of all circumstances connected with the forests under their charge, otherwise I do not see how he can be in a position efficiently to advise your Excellency in Council on all points connected with the administration. And although the forests of Madras and Bombay are not under the Inspector-General's control, I think it very desirable that the Conservators of the forests of those Presidencies should freely interchange communications with him. Such an intercourse cannot but tend to an improved administration of the forests, and, in as far as is suitable to the condition of the several Presidencies, to a uniform system throughout all India.

Madras.
Bombay.
Bengal.
N.-W. Provinces.
Punjab.
Oudh.

Central Provinces.
Burmah.
Mysore.
Coorg.
Hyderabad.
Central India.

Rajpootana.

ORDER.—Ordered that a copy of these papers be forwarded to the local Governments and Administrations noted in the margin, with the remark that the Orders of the Government of India on the subject will follow.

(Signed) C. H. DICKENS, Colonel, R. A.,
Secy. to the Govt. of India.

No. 127.

ORDER THEREON, 7th May 1869, No. 1,249.

Forests No. 5.

ORDERED to be recorded.

(True Extract.)

(Signed) H. WELLESLEY,
Acting Under Secretary to Government.

Ed. F. R. Bantleman.

OPINIONS of Local Governments and Administrations on Dr. Brandis' Scheme for supplying the Forest Department in India with specially trained Assistants.

MADRAS.

No. 2179, dated 16th September, 1867.

From—W. HUDLESTON, Esq., Secy. to Govt. of Madras, in the Revenue Dept.,

To—Secretary to the Govt. of India, P. W. Dept.

With reference to the Circulars Nos. 6 and 10, dated 11th and 23rd April 1867, on Dr. Brandis' suggestion for training Assistants for the Forest Department, I am directed to forward, for the consideration of the Government of India, the papers noted in the margin, which include a Report by Dr. Cleghorn, and Minutes by the Members of Government, and to request that one of the trained Assistants who are expected to arrive at the end of 1869, or early in 1870, may be assigned to this Presidency.

2. It will be observed that His Excellency the Governor is of opinion that no more Staff Corps Officers should be admitted to the Department, but that Sir Thomas Pycroft and the Honorable Mr. Phillips are decidedly opposed to this view, and concur in thinking that an infusion of this element into the administration of the Department will always be very desirable, while the services of such Officers will be even more valuable than they have hitherto been when they shall have enjoyed the opportunities for improving their knowledge of Forest administration which the Secretary of State offers to Officers on leave.

No. 74, dated 12th June, 1867.

From—DR. H. CLEGHORN, Conservator of Forests, Madras,

To—Secretary to the Govt. of Madras, in the Revenue Dept.

I have the honour to acknowledge receipt of Proceedings of Government, as per margin in which I am requested to submit my views on the proposed system of training Assistants in Europe for the Forest Department in India.

27th April 1867, No. 950.
4th May " " 1010.

2. The letters from Dr. Brandis, Inspector-General of Forests, and the Despatches from the Secretary of State, which form enclosures to Government of India Circular No. 6, dated 11th April 1867, embrace four subjects; on three of these I shall offer a few remarks.

3. Dr. Brandis, after visiting the Forest schools in France and Germany, and seeing Forest work in Scotland and Corsica, records his opinion as to the professional training required for India.

4. He has paid great attention to this subject, and has spared no exertion to become acquainted with every system in Britain and the Continent. This has been acknowledged with strong commendation by the Secretary of State, and also by the Government of India.

5. Dr. Brandis arrived at the conclusion that an intimate acquaintance with the Continental system of Forestry is of the first importance to candidates for Indian service, and proposed to the Secretary of State that five young men should be trained *as an experiment*. This has been sanctioned, and he now sketches out a system of prospective training for those entering the Department.

6. It is not to be wondered at that the *prospectus* of Continental instruction should have excited some hostile criticism in British schools, especially in Scotland, which has long had the reputation of supplying gardeners and arboriculturists to India and the Colonies. The object of Dr. Brandis in his Report is to explain the reasons of his preference, and to refute the remarks of Dr. Balfour, Regius Professor of Botany in Edinburgh, read at the Botanical Society (page 7, paragraph 8 of Circular No. 10).

Printed Orders for the Forest Department
from the Government of India on 11th
Sept. 1867.

1867-1868

1867

G. O. 7th May 1867, No. 1,923.

1867

7. The question raised by Dr. Balfour, an eminent Lecturer, is, whether "the studies should be confined to Germany and France to the exclusion of Britain." He considers that "ample opportunities exist in Britain." Dr. Brandis, on the other hand, maintains that the field is too small, and the instruction not so well adapted for India.

8. The larger field and more extended opportunities afforded in Germany must be admitted. I myself greatly regret not having had the opportunity of seeing the methodical way of treating forests practised in Germany, and I consider the facilities now offered to Forest Officers on leave to Europe an unquestionable benefit, for which we are indebted to Dr. Brandis. The Memorandum for their guidance has been most useful to two Madras Officers* (Captain Seaton and Lieutenant Stenhouse) who have been studying for a year the principles of Continental Forestry.

* Of the Forest Department in British Burmah.

9. The scheme now submitted embraces a curriculum, viz.,

	Years.	Months.
Part I. Science, Britain	1	6
Part II. Forest training, Germany	2	0
Total	3	6

10. On reviewing the whole question, the following conclusions may probably receive general assent:—

I. Continental forests are more analogous to those of India than Britain, both in extent and in the system of growing timber by natural re-production.

II. It is desirable that candidates should know the theory and details of Continental Forestry.

III. That the German Apprentice system is more suitable than the French Forest Academy with Military discipline.

IV. That in Scotland men are admirably trained in the theory and practice of arboriculture, and a large proportion of our best Forest Officers are at present from that country, yet there is no existing school for training candidates in the administrative branches.

11. Adverting to Dr. Brandis' tests in Natural Sciences, (Part I.) which have been generally approved at the India Office, the period of study need not, I think, be confined to one and a half or two years, and the place of learning need not be fixed, but the age and health of the candidate must be proved, and the examination should be an open one.

12. In fact, Dr. Brandis has viewed the question involuntarily too much with the Continental eye, though in the main his scheme is excellent. It would be a great matter to obtain Assistants who have resided the full period at one of the German schools. The only question is, shall residence for two years be imperative, and shall the candidates receive stipends during the course of their instruction? These are the points for the consideration of Government. I agree with Dr. Brandis that the period should not be too short. At the same time I cannot think that the term of two years in Germany is absolutely necessary, nor that it would be easy to induce the most promising candidates to incur the inconvenience of two years' residence abroad without the proposed stipend. A careful apprenticeship in Scotland, supplemented with one year in Germany, might be accepted. A thorough knowledge of the various systems of Forestry and Arboriculture must be insisted on, and this should be tested by a Committee or Board of Examiners appointed by the Secretary of State. If the formation of a satisfactory Board be found impracticable, then the joint approval of the Forest Director in Germany, and the Regius Professor of Botany at Kew or Edinburgh, would suffice.

13. A man of good general education, well grounded in Scotland, with practical experience in woodcraft, who finishes his training in Germany, and becomes acquainted with the Continental system, would probably be the most useful of all Assistants.

Languages.—The knowledge of French and German is of value in studying Forest literature; and for the superior grades, the knowledge of one of these languages might be required. The knowledge of any Oriental language might be considered a ground of preference. In this Department a colloquial knowledge of the vernacular is essential, and if not attained within a year, the Officer is liable to lose his appointment.

Grades.—I recommend the division of the Department into two grades, corresponding with the Engineer and Upper Subordinate Establishments in the Public Works Department—

- I.—Administrative.
- II.—Subordinate.

In that case, of course, there would be two standards of requirements; to the lower grade, the requirement of European languages and residence in Germany would not apply.

14. The second class should be trained in India, and should be drawn from the Natives of the country, with an admixture of Europeans and Eurasians.

15. The science and art of Forestry in India is in its first stage of development, and its principles and rules must be gradually worked out by men familiar with the climate, inhabitants, vegetation, and the practical requirements of Forest management, as they may from time to time manifest themselves. The arrival of one or two skilled Assistants will greatly contribute to this end. The assistance of scientific and practical authorities at home must also be secured by every available means.

16. Much can be done by freely inter-communicating the Forest Administration Reports, and other papers of professional interest, to men like Dr. Hooker, Professor Balfour, and others, and to the Heads of Forest Administrations in France, Austria, and Prussia. It may also be desirable to ask the opinion of experienced men in Europe on certain specific points.

17. With reference to Government of India Circular No. 10, Forest, paragraph 7, I beg to suggest that intimation be given to the Supreme Government that the Madras Government will take one of the five trained youths whose education is to be completed in 1869, and that provision be made for his salary (five months) in the Budget of 1869-70, at the rate of 250 Rupees per month.

18. Then, again, from time to time, we shall require men of the stamp of Mr. Ferguson, at Nellumboor; or Mr. Sinclair, in the Central Provinces. These are thorough practical Scotch Foresters, and are invaluable. Their employment would not require the training or administrative talent looked for in the highest grade.

19. Forest education must eventually be carried out in India, and Nellumboor is the best site in this Presidency, where plantations are being carried out on a large scale, and where the natural forest is being gradually brought into the state of an artificially regulated one.

Dated 25th August, 1867.

Minute by His Excellency the Governor of Fort St. George.

It is not necessary that I should make any remarks on the measures embraced by Her Majesty's Government in facilitating the study of Forestry abroad by gentlemen already connected with the Forest Department in India, or with reference to the education of a certain number of young men at once in the Continental schools of Forestry, who are destined to lead the van of a more numerous body to be formed there hereafter under permanent regulations. The course taken by Her Majesty's Government is no doubt liberal and judicious, and it will redound to the immediate benefit of India. I shall restrict my remarks to the general proposals for the selection and education of Forest Officers in Dr. Brandis' letter to the Under-Secretary of State for India, under date of February 13th, 1867. Dr. Brandis appears in this letter to have originally contemplated a plan under which the candidates for admission to the preliminary stage of the Indian Forest Department were to undergo a very simple examination on three subjects, viz.:—

- 1.—English writing and composition.
- 2.—Elementary Mathematics, including Plane Trigonometry.
- 3.—Either German or French.

To these he added two subjects not obligatory, but in which proficiency should be a title to preference:—

- 1.—Chemistry and Physics.
- 2.—Free hand and plan-drawing.

2. The candidates selected under this system were to be sent to Germany and France for their professional education, which would comprise the practical and natural sciences which are there associated with the study and administration of Forestry, a very large and important circle of study.

3. From this simple, and, as it seems to me, judicious proposal, Dr. Brandis appears to have been driven too easily into another scheme, by a diatribe levelled against him by Professor Balfour of Edinburgh, animated, I am afraid, by national jealousy. Influenced by the animadversion of the learned Scotchman, Dr. Brandis has abandoned his previous project, and has offered a second, under which a comprehensive scheme of scientific study would be imposed on the candidates at "any University, College, or other place of instruction in Great Britain" during the period of a year and a half. After such a course had been performed, and the prescribed examination undergone, the persons selected would be sent to the Continent for their professional instruction.

4. I confess that I prefer the original design of Dr. Brandis. I see no reason to divide the education of these young men into two periods: one scientific at home, the other practical and professional abroad. It is assumed that the young men *must* go abroad. They can get their scientific and practical education there at one and the same time.

5. Professor Balfour, indeed, intimates that they need not go abroad at all. His opinion is not shared by Her Majesty's Government, or by the Government of India. I cannot but think that it would be condemned by every one conversant with Scotland and the Continent who has been in India.

6. Dr. Brandis has justly remarked that, as a broad rule, the Scotch woods are either copsewoods or artificial plantations, and, as a rule, the Foreign woods are either copsewoods or natural self-reproducing forests. Now, it is in the latter school that the Indian Forester must study his art. Besides the vastness of the Foreign woods, their economical importance, and the broad masterly method with which they are managed (at least in Germany), offer analogies with the Indian forests, and patterns to the Indian Wood Officer, with which the British plantations have nothing comparable. I do not mean to say that the Indian forest can be reduced to the symmetry, neatness and order of the mountain tree gardens, for such they are, of Germany; licentious tropical vegetation will not be easily confined to such models, but I do say that it is to the German school that we must go for instruction, and it is to the German pattern that we must gradually approximate.

7. Assuming then, as I said before, that the Forest students must go abroad, it appears to me that they need not do so with such a provision of learning as Dr. Brandis contemplates in his second plan. We do not want men of high scientific education here. We want men of vigorous constitution, energy, honesty, thorough practical knowledge, and *some* knowledge of the sciences connected with their craft. Among many of that sort a few will have a love of scientific self-culture, which will lead them upwards, and be embodied in works which will do honour to India. But the first necessity is for a stout and stirring class of men, active on foot and horseback, not afraid of hardship and exertion, not afraid of disease and death itself, for all these will meet them in the Indian woods.

8. The sort of men I mean can be best got, and got most quickly, under Dr. Brandis' first plan. My notion would be this (I speak with hesitation, however).—I would select a certain number of candidates from the lower middle and middle orders, the sons of Farmers, Factors, Foresters, School-masters, Scotch Ministers, &c., &c., keeping in view prominently their physical constitution, and examine them in the following branches of education competitively:—

- 1.—English writing and composition.
- 2.—Arithmetic, Elementary Mathematics, &c., &c.
- 3.—Elementary Land Surveying.
- 4.—Botany, having regard particularly to trees.
- 5.—Geography, with commercial and industrial statistics, having in view India in particular.
- 6.—Free hand and Plan Drawing.
- 7.—The elements of German.

9. In addition to this examination, I would require from each candidate the exhibition of a certificate that he has served or studied for one year with an accredited Forester in Great Britain, or in one of the great nursery gardens for forest trees.

10. Having selected by competition the best candidates in the departments of knowledge above-mentioned, which can now be mastered without great pains or expense in any country-parish, with a finishing year at a cheap University, or under private tuition, I would send the students to Germany with the provision for their discipline and maintenance adverted to by Dr. Brandis. In a course of scientific and practical education at a German Forest College, they would in two years and a half acquire all that is necessary, and more than is necessary, for their Indian duties.

11. On returning to England at the termination of their studies in Germany, I would examine the students a second time, strike off those who had not made a proper use of their time and opportunities, and award from the first some advantage in salary to those who had attained extraordinary proficiency. Such a provision would, I think, have a great influence on the conduct and exertions of the students when abroad.

12. Taking the candidates from the class to which I have adverted, and imposing no difficult preliminary examination, I can scarcely doubt that a sufficient number of aspirants would be obtained; but in case this should not be the case, I would not hesitate to accept Germans. They would not have as much physical energy as the English, but they would have

a higher standard of education, and they would be sober, thrifty, submissive to orders, assiduous in their duties; they would soon acquire the English language, and they would perhaps learn the vernacular dialects of the country more rapidly. England would eventually supply the *élite* of the body, the combination of all necessary qualities being considered, but Germany would supply a better average.

13. It will be remarked that I have referred only to Germany in speaking of the education of the candidates abroad. It appears to me that there is nothing gained by dividing the young men between two countries. Germany is the original seat of Forest science, and there it is still best understood and practised. In Germany our candidates would find themselves in a more congenial society, and in a better moral atmosphere than in France.

14. They would be more conscientiously taught and controlled. They would find a much more general knowledge of English—a great advantage at the outset. The correspondence and management connected with the undertaking would be much simplified for the India Office by dealing with a single place and a single agency.

15. Dr. Brandis has stated in favor of a high standard of preliminary examination that, under the opposite system, the candidates would find themselves on their arrival behind their foreign fellow-students. This is undoubtedly true, but the English students would not exactly form part of the Forest school, and would not be brought into direct competition with their foreign comrades. They would be a class apart. If inferior to the Germans in book-learning, they would not be inferior in intelligence; they would be superior in activity and physical energy, if, as I have proposed, they had gone through a Forest apprenticeship at home, they would have a basis of practical knowledge. Above all, they would *not feel their inferiority*. On the other hand, the Germans are a discriminating people; they would do justice to the practical aptitudes and vigour of the English. They do not expect an Englishman to be well-informed; they would be surprised if he was.

16. I observe that my colleagues have expressed the desire that the Forest Department, under this new constitution, should not be closed against the Officers of the Staff Corps. With all the respect due to an opinion which is so natural, I do not think that on examination it can be justified. The Officers who enter the Forest Department are young men who are tired of the tedium of Military life, or who are fond of adventure or field sports, or who have some taste for Natural History, or who are, perhaps, merely discontented, or in difficulty. The Department does not offer any high prospect of emolument or advancement such as is afforded by their original profession, which they do not leave. From such a source we shall never obtain a good basis of technical knowledge, nor a secure and permanent devotion to the Department. In saying this, I do not wish to disparage the merits of individuals now serving in the Department; these are undeniable; but in laying the basis of a new branch of the public service, I think that we ought to give it a character of stability and homogeneity. I fear that if Officers of the Staff Corps should be admitted, they would not harmonize with their fellow-workmen, who would belong to a different order; and I apprehend that the admission and promotion of Staff Corps Officers would create jealousies, and perhaps open a door to favoritism, or at least to the imputation of it. In my humble judgment, no more Staff Corps Officers should be taken in, but every encouragement should be continued to those who have previously joined this laborious branch of the public service, and have performed their duty to the satisfaction of Government.

17. In conclusion, I have only to reiterate my decided opinion that this new profession should not be made one for English gentlemen by birth, or for young men from any class of high scientific acquirements. The former class would probably become discontented and look for openings beyond; the latter would desert to the Bar, to the Department of Public Works, to the Railways, to the Industrial Companies. We want young men of a hardy, frugal training, who will be satisfied to pass a life, with rare exceptions, of laborious, useful, honourable mediocrity. Above all, I would not open the first nominations to *general* competition. Such a course would exclude a comparison in qualities the most essential to success. The course here suggested will no doubt throw the responsibility of conscientious selection on the India Office, or on those whom the India Office may employ in this business, but it may be hoped that the selection would really be made under a sense of public duty. The greatest regard ought to be had to the moral character of the young men, and to that of the families from which they are selected. The position in which they will be placed in India is one which will expose them to considerable pecuniary temptations,—temptations which even Englishmen of the present day are not always able to resist.

Dated 5th September, 1867.

Minute by the Hon'ble Sir T. PICTOET, K. C. S. I.

I concur in the views expressed by His Excellency the President in his Minute, as to the course to be followed in the selection and training of Forest Officers for the higher posts in that Department in India, but with the following qualifications:—

2. I would not limit the candidates for the service to young men from the lower middle, and middle orders, and from such classes as those which His Lordship has specified. Such a limitation would be invidious, would be difficult practically to maintain, would tend to exclude good men from the Department, and to lower its tone. Now that all professions in England are over-stocked, the gentleman's son and man of high birth has to fight his way in the world as best he may, and as a settler in Australia or New Zealand, or in the many other occupations in India and elsewhere to which he has to betake himself, has to rough it, and does rough it, as well as the man more humbly born. A good physical constitution is of course a *sine qua non*; but with that condition let there be "a clear stage and no favour," and "let the best man win." I would have the new system, on its first inauguration, no less than subsequently, one of pure, open competition, patent to all whose physique comes up to the mark. It is the only course to elicit and secure merit.

3. Of the subjects of the first examination, as proposed by His Lordship, I should be inclined to omit the fifth, *viz.*, "Geography, with Commercial and Industrial Statistics." It is desirable that the examination should not embrace too many subjects, and the above is, as it seems to me, scarcely necessary.

4. For the seventh, or rather sixth subject, I would propose the elements of German or of French. From this it will be seen that I do not concur in Lord Napier's suggestion, that the training of the successful candidates in practical Forestry should be carried out in Germany only. The reasons which His Lordship has advanced for this restriction are, I admit, of weight; but, in the first place, as an elementary knowledge of German is much less common among young men in England, than a similar acquaintance with French, to require even a moderate proficiency in the former language would have the effect of limiting competition; and, in the second, it might be useful to have in the Department persons conversant with the French as well as with the German school of Forestry. There is probably something valuable to be learnt in the former school, no less than in the latter.

5. The requisition of a certificate of one year's service, or study, with an accredited Forester in Great Britain, which I observe does not form a part of either of Dr. Brandis' plans, seems to me objectionable, as narrowing the number of candidates. It would, however, be desirable that the successful competitors should, as proposed in Dr. Brandis' original scheme, serve a two months' apprenticeship with an approved Forester or Wood Manager in Scotland, that they might gain some acquaintance with practical Forestry before proceeding to study in the Continent.

6. I am disposed to doubt, with Dr. Cleghorn, whether the term of two years' (as proposed by Dr. Brandis, or two and a half as proposed by His Lordship) study in Germany (or France) is absolutely necessary, and am inclined to agree with him that "a careful apprenticeship in Scotland, supplemented by one year in Germany (or France), might be accepted." It is evident that any reduction in the period of Continental study, which would not affect the efficiency of the scheme, would render the service more popular, increase competition, as well as diminish the expense to Government.

7. As stated by the President, I would not hesitate to accept Germans for employment in the Indian Forest Department, if a sufficient number of aspirants could not be obtained from England; but this I do not anticipate.

8. With all deference to His Lordship, and allowing that there is force in the reasons which have led him to the opinion that the Forest Department, under its new constitution, should not continue open to Officers of the Indian Army, I must adhere to the contrary view which I have expressed in my Note on the Revenue Secretary's Memorandum. In the present plethora of Indian Officers, Staff Corps and Local, and the enforced inactivity and uselessness of many of them, it is desirable, both for their own good and that of the Service, as well as for the relief of the Indian revenue, that employment should, as far as possible, be found in the various departments of the State for all who are fitted for it. And if in scientific attainments, and acquaintance with Continental systems of Forestry, they may not, even if admitted to the benefits so liberally afforded by the Secretary of State to Officers now in the Department, be equal to the men to be trained under the proposed new system, they will, on the other hand, possess the great advantage of a knowledge of the Native languages and of the people, while their association in the Department cannot but raise its tone and character.

Dated — September, 1867.

Minute by the Hon'ble H. D. PHILLIPS

The adoption, as a whole, of Dr. Brandis' plans, would supply learned young men, who, for the first few years of their service here, would be of little practical use. I should prefer paying the expenses to Europe of a few young Officers of the Staff Corps, who would be willing to go home and qualify for the Forest Department, to receiving raw Germans or inexperienced but scientific Frenchmen.

2. I am far from raising objections to the introduction, as members of this Department, of men of the class pointed to in His Lordship's Minute, after they have acquired a scientific knowledge of Forestry, and I feel satisfied that His Lordship's opinion, that Germany should be selected as the theatre of their studies, is the proper one; but we shall make small progress, I think, without an addition of gentlemen Military Officers, knowing something of India when they enter the Department; and when reporting on the subject to the Secretary of State, I would advocate the admixture of that with the purely scientific class.

No. 2178, dated 16th September, 1867.

Order thereon by Govt. of Madras, Rev. Dept.

ORDER.—Ordered, that copy of Dr. Cleghorn's letter, and of the above Minutes by the Members of Government, be forwarded to the Government of India, with reference to their Circular letters on Dr. Brandis' scheme for training men for the Forest Department, and with the request that one of the trained Assistants who are expected to reach India at the end of 1869, or early in 1870, may be assigned for service in this Presidency. The necessary provision will be made by the Conservator of Forests for his salary, at Rupees 250 monthly, for five months, in the Budget for 1869-70.

BOMBAY AND SINDEH.

No. 4104, dated 26th November, 1867.

From—E. W. RAVENSCHROFT, Esq., Acting Chief Secy. to Govt. of Bombay, in the Rev. Dept.,

To—Secretary to the Govt. of India, P. W. Dept.

I am directed to submit copies of the papers noted in the margin, on the subject of

1. Report from the Conservator of Forests, No. 229 B, dated May 1867.
2. Report from the Commissioner in Sindh, No. 1344, dated 12th June 1867, forwarding copy of one from the Forest Ranger in that Province.

trained Assistants for the Forest Department in India, discussed in the Proceedings of the Government of India dated 11th April last.

3. The Government of Bombay does not consider that it is desirable to attempt to replace the present Forest Officers by a special trained agency in every district, but thinks that in this Presidency two or three trained Assistants might, with great advantage, be employed in districts where the re-production of timber by systematic plantation is to be undertaken on a large scale.

3. On the subject of the salary to be allowed, the Government of Bombay concurs in the opinion of Mr. Dalzell, the Conservator, and Mr. Fenner, the Forest Ranger in Sindh, that it is essential that the Forest Assistants should have some better prospects of promotion and of progressive increase to their salaries than they have now.

No. 229 B, dated — May 1867.

From—N. A. DALZELL, Esq., Conservator of Forests, Bombay,

To—Under-Secretary to Government of Bombay, in the Revenue Department.

I have the honour to acknowledge the receipt of Government Resolution No. 1640, dated 29th ultimo, with accompaniments as per margin, and, according to the instructions therein conveyed, to make the following remarks:—

2. In the 27th paragraph of his letter noted in the margin, Dr. Brandis states that the elaborate working plans of the French and German forests cannot at present be imitated in India.

3. This opinion corresponds with that expressed by me in the 60th paragraph of my "Observations on the general principles of Forest management" published in 1863, where I stated that the minute and complicated details of European systems of management are not suitable for this country.

4. Dr. Brandis, in the same paragraph of the letter referred to, appears to reduce the results of Continental Forest training (such as could be useful in any climate) to "a knowledge of the fundamental laws of vegetation, nutrition, growth, disease, &c." but this kind of knowledge is certainly not confined to France and Germany, but can be as easily and thoroughly acquired in England as on the Continent, and thus the waste of time employed in first studying a foreign language (useless to the Indian Forest Officer) is avoided.

5. I am, therefore, respectfully of opinion that Continental training in Forestry will be of no service to Forest Officers employed in India.

6. At the same time, I highly approve of Dr. Brandis' scheme, in as far as it provides candidates for the Forest Department duly qualified by special studies, in addition to the usual branches of a liberal education.

7. The special study which I consider indispensable is that branch of Botany called *Vegetable Physiology*, involving not only a fair knowledge of Chemistry and Meteorology, but also all those general scientific principles which will form a correct guide to Forest practice under all circumstances and in all climates.

8. In this view of the question, I would not recommend that Government should undertake the special training of candidates, but that when opportunities offer of making appointments in the Forest Department, candidates should undergo an examination by properly constituted examiners, in those special branches of service, a knowledge of which will materially contribute to their efficiency as Forest Officers in India.

9. Great dissatisfaction might arise if young men who had been encouraged to enter upon a special course of study should afterwards find that they had to wait an indefinite time until a vacancy had occurred in the Forest Department.

10. With regard to the salary proposed by Dr. Brandis, I would beg to observe that £300 a year may be sufficient remuneration for the first few years of service; but that in order to keep alive the zeal and energy of Forest Officers, the sure prospect of a regular and progressive increase of salary appears to be absolutely necessary.

No. 240, dated 7th June, 1867.

From—W. FENNER, Esq., Forest Ranger in Sindh,
To—The Assistant Commissioner in Charge, Sindh.

With reference to your endorsement No. 1062, dated 7th May last, I regret the delay that has occurred in replying to the same; but as the subject had been before referred to in my letter No. 160, dated 9th April 1867, I was under the impression, from the wording of your endorsement, that no further discussion of the subject was required as far as this Office was concerned.

2. The points required to be noted on—

I.—Certain special appointments of trained Forest Officers from Europe, recommended by the Government of India on Dr. Brandis' suggestion, and sanctioned by the Secretary of State.

This subject has been disposed of by the Government of India, and therefore requires no further notice here.

That Forestry, like other professional callings, requires special study and training, there can be but little doubt, and I feel sanguine that the proposition, if practically carried out, will end in the very best results, because it is only by observing and studying systematic Forestry where practised on an extensive and scientific basis that we can hope to obtain any fair measure of success in India, by the application of such methods as long practice and experience has brought into a high state of economic conservancy as seen in the forests of France and Germany.

In respect to this proposition, it will, I think, require to be very tentatively introduced, for it must be borne in mind that young men who have received such education as the scheme involves will hardly be content to work on for years, unless provided with some regulated system of advancement greater than the Forest Department, as now constituted, can hope to give. The Forest Officers in this Province are fitting examples of the number of years men may toil on without chance of promotion or recognition of their services, except, perhaps, by escaping from the Department in which the best years of their lives have been passed to some other branch of the service, a system to be deprecated, in every way alike prejudicial to the best interests of the State and to the individuals themselves. Soldiers and sailors cannot change places with impunity: the interests of their several responsibilities must of necessity suffer in a greater or less degree.

The fourth proposition is involved in the third, and I have little more to add than above stated, except to submit that some system of classification of Forest Officers for the higher posts might perhaps be instituted so as to ensure promotion at stated periods of service, and the retention of those men in the Department for which they have at some cost to the State been specially trained. Indian Forest service, it must be borne in mind, is a peculiar one; in fact, as Dr. Brandis himself states, "we require pre-eminently picked men of great tact and temper," and having procured such men, the means of recognising faithful services should also, I think, be made apparent.

IV.—A general scheme proposed by Dr. Brandis for permanently improving the administration of the Forest Department of India by sending out trained men from Europe.

No. 1344, dated 12th June, 1867.

Endorsed by Assistant Commissioner in Charge, Sindh.

Copy submitted to Government, in reference to Resolution No. 1640, dated 29th April 1867.

2. The Assistant Commissioner in charge concurs generally in the Forest Ranger's remarks, and invites particular attention to those which bear upon the remuneration of Officers of the Forest Department, and the inducement at present offered to persons to join the Department.

3. If specially trained young men are sent out to the Department, a progressive scale of adequate salaries should be drawn up as an inducement to remain and rise in their profession.

BENGAL.

No. 915 T, dated 27th September, 1867.

From—H. BEVERLEY Esq., Offg. Under-Secy. to Govt. of Bengal,
To—The Secretary to the Govt. of India, P. W. Dept.

With reference to the Circular Order of the Government of India, in the Public Works Department, No. 6 F, dated the 11th April last, calling for an expression of the Lieutenant-Governor's opinion regarding a scheme proposed by Dr. Brandis for improving the administration of the Forest Department of India, by sending out trained Officers from Europe, I am directed to forward for submission to His Excellency the Governor-General in Council, the accompanying copy of a letter No. 234, dated the 3rd instant, from the Conservator of Forests, L. P., and to state that the Lieutenant-Governor concurs with Dr. Anderson in approving Dr. Brandis' scheme.

No. 234, dated 3rd September, 1867.

From—DR. T. ANDERSON, Conservator of Forests, L. P.,
To—The Offg. Secretary to the Govt. of Bengal.

In compliance with the orders contained in the letter No. 1740 of the 27th April 1867, calling for a report on the scheme proposed by Dr. Brandis for permanently improving the administration of the Forest Department of India by sending out trained men from Europe, I have the honour to submit the following remarks:—

2. Dr. Brandis' proposal will, in my opinion, greatly advance the management and preservation of the forests of India. At present it is impossible to obtain any one in India who is qualified for the higher appointments of the Department, and accordingly almost the only qualifications that can be looked for in Officers entering the Forest Department in India are, a sound constitution and a knowledge of a Native language. The very useful qualification of a knowledge of Botany is seldom to be found. The training of such persons to forest work is effected slowly and with great difficulty, and tolerable efficiency is probably eventually acquired at a considerable loss to Government, by the commission of serious blunders during the early period of these Officers' service in the Department. The ease with which professionally well-educated gardeners, who have an elementary knowledge of Vegetable Physiology, Land Surveying, and Book-keeping, can be trained to be useful Foresters, leaves no doubt on my mind that the greatest benefit will result from the opening of higher Forest appointments in India to men specially trained in the State forests of Europe.

3. My experience in the cultivation of Cinchona, for which department I have, during the last few years, secured the services of seven gardeners from the Royal Gardens of Kew, and the Botanical Gardens, Edinburgh, convinces me that, for the formation and management of plantations of timber trees, no better class of men than gardeners can be got. They are accustomed to the collecting of seeds, and the raising of young plants, and to the treatment of young trees; while from their practical acquaintance with plants generally, they readily

perceive the peculiar treatment necessary to the healthy growth of any species they may be required to cultivate. Their social position, and want of general education, however, render it inadvisable to train such men in India for the higher Forest appointments.

4. The course of special instruction proposed by Dr. Brandis for candidates for Indian Forest appointments will, I am certain, secure for India a class of men possessing attainments which no one in India can be expected to have acquired. It would, I think, be very desirable if, in addition to the special training which persons selected for the Forest Department have received after a special course of instruction in Forestry in Europe, an opportunity could be given them of devoting a few months, after their arrival in India, to the study of the language of the province to which they are posted, and also of attending a short course of lectures on Indian forest trees.

5. The study of the language should be confined to learning it colloquially. The course of lectures should consist of practical instruction in the appearance of Indian timber trees in all their stages of growth, and of all the parts of the tree. The character of the natural orders to which the most valuable Indian timber trees belong should be dwelt on. The geographical distribution of these trees should also be taught. The course should also give instruction in the characteristics of the best Indian timbers in the rough state, and when smoothed and polished. The specific gravity, hardness, breaking and crushing weights, illustrating the strength of the timber, and the uses and value of each species, should be pointed out in such a course of lectures. This most valuable information might be conveyed in a course of 20 or 25 lectures, to be fully illustrated by specimens. At the end of three months, the Officers' knowledge of the language should be tested by a colloquial examination, and of the subjects treated of in the lectures by a practical examination conducted orally. Without such special instruction, the newly appointed Officers will be sent to their work ignorant of the language of the workmen under them, and utter strangers to the very appearance of the trees in the forest they are expected to manage. Certainly a Forest Officer in Europe who did not know an Oak from a Beech would be considered unfit to be trusted with the management of forests. The knowledge of Indian forest trees cannot be acquired in Europe, as, for obvious reasons, natural orders of tropical trees cannot there be illustrated in lectures on Botany.

6. I think useful Native subordinates might be obtained for the Forest Department from the classes from which Sub-Assistant Surgeons are drawn, if a course of instruction could be indicated to be followed by a competitive examination.

7. Some of the lectures, attendance on which would be required, are now delivered in the Presidency College, or in the Engineering College, and also at Agra. Probably lectures on some of the special branches of Forestry could be undertaken by some of the newly appointed Forest Officers from Europe, as Dr. Brandis suggests. Such a scheme would probably require the amalgamation of the minor Forest Departments of the Bengal Presidency into one Department, in order to attract Natives to study for Forest appointments.

N. W. PROVINCES.

No. 96 ^F/_C, dated 6th September, 1867.

From—Col. W. E. MORTON, R. E., Secy. to the Govt. of the N. W. P., in the P. W. Dept.
To—Secretary to the Government of India, P. W. Dept.

With reference to Public Works Circulars Nos. 6 F and 10 F, dated the 11th and 23rd April last, respectively, I am directed to submit, for the information of the Government of India, copies of the Reports noted in the margin, on the subject of the supply of trained Assistants for the Forest Department of India.

2. No reply has yet been received from the Commissioner of Meerut, but it will be forwarded separately when submitted, if deemed of sufficient importance.

3. I am to observe that, in the opinion of His Honour the Lieutenant Governor, it is by no means expedient to depend on the French and German Schools for a supply of Forest Officers for India. The objections to this course are forcibly put by the Commissioner of Kumaon and the Collector of Bijnour. It may do good, in the first instance, to import from the Continent a few Officers of special scientific attainments in Forestry, but the main supply should, His Honour considers, be procured on the spot, or obtained from England.

4. The proposal made some time ago to establish a Forest Chair in the Roorkee College, seems to the Lieutenant Governor to be one well worthy of careful consideration. The Professor might, at any rate on first appointment, be a man educated in one of the best Continental Schools. But the Forest Class to be taught by him should be chiefly composed of Englishmen, young men sent out from Home, or selected in this country, who would obtain their appointments ultimately, subject to undergoing certain tests, and then be placed as probationers under the Forest Conservators. The higher appointments would, of course, be reserved for those who made the greatest progress subsequently both in practical forestry and in collateral science.

5. Such a scheme, His Honour considers, would be far preferable to one which has for its basis the employment of Foreigners to the almost entire exclusion of Englishmen. That there would be practically such exclusion is scarcely to be doubted, for it can scarcely be expected that people in England would send their sons abroad to acquire a special training on the mere chance of its leading to Forest employment in this country, while there was the fact, on the other hand, that failure would strand the candidate without the prospect of earning a future livelihood.

6. I am also to remark that the creation of distinct departments in this country is not favourable to good or economical administration. As regards the forests in these Provinces especially, the management can be more cheaply, and in every respect more efficiently conducted through the Local Revenue Officers, if they have a few competent Assistants, than by a distinct and costly establishment, which would be without local influence, and very possibly in opposition to other Departments. The arrangements for enabling Officers on leave to acquire a knowledge of the Continental systems, and the supply of properly trained Assistants already provided, ought, it is considered, with a special course for education in Forestry at Roorkee, to suffice for the wants of the Forest Department for many years to come.

No. 149, dated 11th May, 1867.

From—LIEUT.-COL. B. P. LLOYD, Commissioner of Jhansie Division,
To—Secretary to the Government of the N. W. P., in the P. W. Dept.

Referring to G. O. (Public Works Department) No. 109 F, dated 30th ultimo, I have the honour to state that, in my opinion, it is necessary, in order to secure really efficient Forest management, that trained Officers should be provided.

2. So far as I am able to form an opinion on a subject of which I have no special knowledge, the proposals of Dr. Brandis, in regard to training and supplying Officers to the Department, seem very judicious; but I am inclined to doubt whether the salary proposed will be found sufficiently remunerative to tempt men possessing qualifications of the high standard required.

No. 62, dated 5th July, 1867.

From—J. INGLIS, Esq., Commissioner of Rohilkund Division,
To—Secretary to the Government of the N. W. P., in the P. W. Dept.

I have the honour to acknowledge the receipt of your letter No. 108 F, dated 30th April 1867, calling for an opinion on the proposals made by Dr. Brandis for providing the Forest Department in India with Officers trained on the French and German systems.

2. I beg to enclose copies of letters on this subject from the Collectors of Bareilly and Bijnour, the only Districts in this Division in which there are any Government forests.

3. Instead of offering the appointments to men from Germany and France, I think it would be far better to establish a class in the Roorkee College, where Officers, who have already resided some time in this country, might, if they desire it, qualify themselves for employment in the Forest Department.

No. 233, dated 17th May, 1867.

From—G. PALMER, Esq., Collector of Bijnour,
To—Commissioner of the Rohilkund Division.

I have the honor to acknowledge receipt of your Office Memorandum of the 10th current, forwarding, for perusal, Circular No. 6, dated 11th April 1867, from the Government of India, Public Works Department (Forest Branch), with its annexures, and desiring my opinion on Dr. Brandis' scheme for providing the Forest Department of this country with Officers trained in Europe on the French or German systems.

2. It is doubtless of very great importance in India, as elsewhere, that the chief Forest Officers should be men who have had the advantage of a scientific study of Forestry, as well as personal experience of practical Forest working. Without such scientific knowledge, their administration can have no sound basis, and at best can be little more than a series of fortunate experiments.

3. In this view, it seems to me that the promise (held out by Sir James Fergusson's letter of the 19th October last) of encouragement and assistance to Indian Officers anxious to study Forestal science in Europe, is dictated by a wise policy; and in the present embryo state of our Indian Forest Administration, I think the importation of a few Forest Officers, trained on the Continental system, cannot fail to be beneficial, both as an experiment, which will enable the Government to test the practical value in India of such training, and as being likely to direct the attention of Indian Forest Officers generally to the value of a scientific study of Forestry.

4. But I think it is by no means certain that Dr. Brandis' proposal to provide the Indian Forest Department with a regular supply of young men trained in the Forest Schools of France and Germany, could be adopted with equal advantage.

5. In the first place, it is obvious that the mode by which the regular supply is to be secured, viz., by giving certificated candidates a preferential claim to Indian Forest appointments as vacancies occur, must necessarily tend to discourage all other candidates, and thus to render the Department mainly dependent on this source of supply. This result in itself might be productive of serious inconvenience; for, if it induced the Forest Officers to feel themselves indispensable to the Government, it would reverse the natural order of things, and in the event of any unexpected interruption of the arrangements contemplated by Dr. Brandis, it would become far more difficult to procure qualified candidates on the spot than it is at present.

6. Again, if our Forest Officers are systematically drawn from the French and German Forest Schools, it may fairly be expected that the majority of those Officers will be French or Germans. The mere fact of young men being educated in those Schools with a view to employment in India, will necessarily direct attention in France and Germany to the character and value of the Indian Forest appointments, and I am inclined to think that these appointments will prove far more attractive to Frenchmen and Germans of the stamp required, than to Englishmen of a corresponding class.

7. Amongst the upper classes in England, the advantages of an Indian Forest appointment will scarcely be so highly prized as to induce many men to send their sons abroad for special education, and to incur the expense of a voyage to India, on the chance of such an appointment being possibly obtainable afterwards. On the other hand, the attractiveness of those appointments to the best students in the Continental Forest Schools may be measured by a comparison of the salaries attached to them with those received by the higher Forest Officers in France. According to the detail of the French establishments given by Dr. Brandis, a Forest Officer of the highest rank under the French Government, (i. e., a "Conservateur") receives a salary of 12,000 francs, or £480 per annum. This is exactly half the salary (Rs. 800 per mensem, or £960 per annum) of an Indian Deputy Conservator; and Officers of the 2nd grade receive only 6,000 francs, or £240 per annum, i. e., less by one-fourth than the sum which Dr. Brandis proposes should be the initial salary of the young Forest Officers whom he is now going to train for India.

8. It cannot, I think, be expedient that any Department of the Indian Government should fall into the hands of a particular class, and still less that it should be administered almost exclusively by the agency of foreigners.

9. Further, there remains to be considered the possible contingency of war between Great Britain and the countries on which, under Dr. Brandis' plan, the Indian Government would be dependent for the training of its Forest Officers. Such an event would, for a time, effectually cut off the main source from which the supply of candidates had been previously derived, and as in the nature of things it would occur unexpectedly, no provision could be made beforehand to obviate the embarrassment which would necessarily ensue.

10. For the reasons stated above, I should be inclined to advocate the provision in India of the means of scientific education for our Forest Officers, and from this point of view, I think that the creation of a Professorship of Forestal Science, in connection with the Roorkee Engineering College, would provide for the wants of the Forest Department more satisfactorily in every respect, and with less contingent probability of future difficulty, than the scheme proposed by Dr. Brandis.

11. The present organization of the Roorkee College is admirably adapted for the reception of students, both of the higher and of the lower class; and the convenient vicinity of the forests of Rohilkund, Meerut, and Kumaon, would materially facilitate the combination of scientific study with its illustration in practical forestry.

12. And if a suitable salary were attached to the Professorship, I can scarcely suppose that there would be any serious difficulty in filling it satisfactorily. Dr. Brandis is himself an example to prove that men who combine scientific knowledge of the laws of vegetation with thorough practical experience of forestry, can be found in India; and even if this were not so, assuming Dr. Brandis' enumeration of the French scale of Forest salaries to indicate the standard of remuneration for such qualifications on the Continent of Europe, I feel assured that a salary of Rs. 1,000 or Rs. 1,500 per mensem, added to the official rank and social position which the Forest Chair would carry with it, should suffice to attract candidates for the Professorship from among the very best Forest Officers, and the most distinguished students of Forestal Science in France, Prussia, or Bavaria.

No. 291, dated 22nd May, 1867.

From—E. COLVIN, Esq., Offg. Collector of Bareilly,

To—Commissioner of Rohilkund Division.

I have the honour to acknowledge the receipt of your Office Memorandum, dated 10th instant, and its enclosures, and in reply to report as follows:—

2. The printed papers are returned as directed.

3. The proposition is to improve the administration of the Forest Department in India by sending out trained men from Europe.

4. It appears that the object is to establish, in India, a system of Forest management founded on principles generally acknowledged to be the best and soundest in Europe.

These principles must be adapted to the local exigencies and requirements of the Forest Districts to which they are extended.

6. Men who have some knowledge of the people they have to deal with, and the language in which they will have to transact much of their business, would be, in my opinion, more able to do so than persons not possessing these advantages.

7. It would be preferable if persons having these advantages could be instructed in India, instead of persons not so favourably circumstanced being taught in Germany or France.

8. It does not follow that persons who have a thorough practical knowledge of forests in France would gain much by that in India. To take an analogous case, the principles of Civil Engineering are the same, but the opinions of good and experienced and practical Officers in Bengal and Madras vary very much regarding the proper method of constructing irrigation works.

9. The Civil Engineering College at Roorkee has been the means of instructing and giving many valuable Officers to the Public Works Department; a Branch in the Forest Department might be added to that Institution. Teachers might be brought from Germany or France, and those wishing to enter that Department would be able to study the principles of their profession, and see those practically applied and worked in the neighbouring forests.

10. There would be no difficulty in procuring competent candidates for a Department which is so generally popular in India.

No. 227, dated 8th July 1867.

From—COLONEL H. RAMSAY, C. B., Commissioner of Kumaon,

To—Secretary to the Government of the N. W. P., in the P. W. Dept.

I have the honour to acknowledge the printed correspondence forwarded under the Assistant Secretary's docket No. 110 F, dated the 30th of April last, on the subject of "general training of Forest Officers for India," &c.

2. The proposals of Dr. Brandis for the organization of a general Forest Department throughout the Presidency of Bengal and Provinces under the immediate administration of the Government of India, are believed to contemplate the extension of his system to the Province of Kumaon.

3. Before sanction is given to a measure which is calculated to introduce changes of such magnitude, it seems desirable that the Government of India should be made acquainted with the circumstances connected with the forests in this Division, and should be placed in possession of the information requisite to enable it to decide whether the proposed outlay is necessary.

4. It is gathered from Dr. Brandis' Reports that the object he seeks is to obtain the largest possible return on timbers from a given area of Forest land, and to ensure that this return shall be maintained in future years by ensuring a succession of young trees. With this aim he would procure the services of gentlemen who have been specially educated in the Forest Department of the Prussian Government, and who are to be required to possess a competent knowledge of the "fundamental laws of vegetation," that is, of re-production by seed or from stools, of nutrition, growth, disease, and death; they are also to understand the principles of Forest legislation; to be conversant with elementary and applied Mathematics; and to possess some acquaintance with Zoology, Botany, Natural History, Mineralogy, and Geology, as well as with Surveying and Road-making.

5. It is not to be questioned that Officers possessing such varied and useful information would be valuable aid in developing the resources of this country, but it is doubtful if the forests of Kumaon afford an adequate field for their profitable employment. These forests are at present limited to the lower hills and slopes producing valuable timber such as Sâl, Sissoo, and Toon; the vast mountains in the interior, which are well stocked with Pine, are as yet practically inaccessible, and many years must elapse before the cost of constructing a cart-road to them would be re-paid by the value of the timber conveyed to the plains. Limiting, then, the consideration of Forest conservation to the Sâl tracts, it is found that this tree re-produces itself most abundantly, and young trees are always to be found which will attain their full maturity without any other aid than protection from wilful or accidental damage.

6. Before the introduction of the system of conservation which is now in force, the Sâl forests were the grazing ground of large herds of cattle which pastured on the grass which grows there luxuriantly. As the dry season advances, this grass takes fire and burns very readily; and when once, by design or by accident, the grass is lighted, the result is an extensive conflagration in which thousands of young trees perish; the few that survive throw out young shoots before the grass comes up, and these are nipped off by cattle, thus the few that escape the fire are ruined by the cattle.

7. The exclusion of cattle from reserved forests has been to a great extent accomplished, and the great difficulty is to protect them from fire in dry seasons; the only other precaution necessary is, the prevention of injury by unauthorized felling of young trees. The Conservation Establishment which was sanctioned three years ago, have already done a good deal; to a great extent cultivation and cattle have been removed from within, or the vicinity of reserved tracts, and in many parts we have succeeded, simply by protection, in getting a fine growth of young Sâl trees. As soon as we can manage to keep out fires, every hill-side that ever supplied good Sâl timber will be covered with young Sâl trees; there are hollow and young trees in abundance to shed seed.

8. The fundamental principle enunciated by Dr. Brandis, "not to cut more in one year than is produced within the same time," is fully understood; and as no necessity exists for the elaborate plans of France or Germany, which Dr. Brandis admits cannot be imitated in India, while all that is sought to be attained by these plans is already secured by allowing the natural process of re-production to take effect without hindrance, it seems superfluous to assign to highly accomplished and liberally paid German gentlemen the duty of superintending that which requires no other superintendence than to protect it from interference and injury by fire. So far, then, as the provision of an endless succession of young timber trees is concerned, nothing more is needed in Kumaon than to protect the forests from fire and trespass.

9. Although nature has secured the re-production of Sâl where her operations are protected from interference, the utilization of the timber requires the supervision of an Officer of sound judgment, and possessing local experience. The chief difficulties of Forest supervision may be held to commence after the trees are felled. Unless the timber cut each year be removed most judiciously with reference to the difficulties of the ground in the most economical manner, unless all arrangements for sawing, bringing down from the hill-sides, and carting the timber to Depôts are carried out with great care, a knowledge which can only be acquired by experience; and unless all the spontaneous products of the forest are advantageously allowed to be exported, the operations of the Department, in my opinion, fail to secure the object for which it was organized. The details connected with these operations require little or no scientific attainments, but they demand considerable local knowledge, and without this local knowledge, scientific attainments would be comparatively of little value.

10. If, then, Dr. Brandis' scheme is carried into effect, and the whole of the forests brought under one Department, so as to throw open the higher appointments to all its Officers by seniority, it would result that promotion would entail transfer ordinarily to another Province, and an Officer who had acquired local experience in Burmah or the Central Provinces might be sent to take charge of the Kumaon Forests, when, as I have endeavoured to show, his special scientific training would be thrown away, while the experience gained in Burmah would prove of little service in enabling him to deal with the questions which occupy his chief attention in Kumaon.

No. 411½, dated 13th July, 1867.

Memo. from—LIEUT.-COL. J. H. DYAS, R. E., Chief Engr., Irrign. Works, N. W. P.,

To—Secretary to the Government of the N. W. P., in the P. W. Dept.

In reply to Secretary's Memorandum No. 46 F—C, dated 5th instant, requesting expression of opinion regarding Dr. Brandis' proposals for supplying trained Foresters to the Forest Department in India, Chief Engineer begs to say that, hitherto, Dr. Brandis' proposals were well calculated to secure the object in view.

2. For Canal plantations, Chief Engineer thinks three measures are essential:—

1st.—The training of Canal Officers, in turn, by permitting them to spend a short time with a professional Forester on actual work in India.

2nd.—The supply of Native Subordinates instructed on actual work under professional Foresters.

3rd.—The periodical inspection of the Canal plantations by a professional Forester, who should report to his own Department, sending a copy of his report to the Chief Engineer, Irrigation Works.

No. 86, dated 23rd July, 1867.

From—A. SHAKESPEAR, Esq., Commissioner of the 5th Division, Benares,

To—Secretary to the Government of the N. W. P., in the P. W. Dept.

With reference to the enclosures of your docket No. 106 F, dated 30th April last, respecting trained Assistants for the Forest Department of India, I have the honor to remark as follows.

2. The employment in the Forest Department in this country, of Officers trained in the manner, and to the extent, proposed by Dr. Brandis, would unquestionably be of great advantage, not only to Forest conservancy, but to India generally, as we should thus obtain a class of men specially qualified to observe and record many matters of interest tending to the development of the resources of the country. The valuable services in this direction, which might be rendered by men passing the greater portion of their time in comparatively wild and unknown parts of the country, and taking an intelligent interest in the branches of natural science referred to by Dr. Brandis, can hardly be over-estimated.

3. The question, however, is not whether the presence of Officers so educated would be advantageous or not, but whether such inducements can be held out as shall encourage men to enter the Forest Department as a profession, and on this point I beg to refer to the last four paras. of the Rules proposed for the selection of candidates, and to record my opinion that, until this line of the public service holds out a far better promise of advancement than it appears to do at present, we cannot hope to secure the class of men looked for by Dr. Brandis.

No. 242 F, dated 26th September, 1867.

Extract from the Proceedings of the Hon'ble the Lieutenant Governor, N. W. P., in the P. W. Dept.

No. 43, dated 26th August, 1867.

From—F. WILLIAMS, Esq., Commissioner of Meerut Division,

To—The Secretary to the Government of the N. W. P., in the P. W. Dept.

With reference to the orders noted in the margin, calling for my opinion as to the proposal for supplying the Forest Department with specially trained Assistants, I can only say that at present I should prefer Officers trained practically to work in India,—men like those by whom I am ably assisted—men who can manage Natives and look properly after them, and get work out of them—men who can, and will, and do, turn their hands to any thing and do it, notwithstanding circumstances are against them, in heat and cold, in rain and malaria. I should prefer such an Assistant to one who, however highly trained in German or French Forestry he might be, would

le for a long time totally useless in an Indian forest, under Indian laws, in an Indian climate with Indian trees, and the vernacular languages of India the only means of communicating with those he had to work with.

Of course in time the Assistants trained in Germany and France would become, many of them, very valuable Forest Officers after training in India.

I believe that Dr. Jamieson could give to a set of Assistants much more useful training in a year in India than they could ever get in France or Germany;—I mean, of course, for work in India.

Endorsed by the Govt. of the N. W. P.

ORDER.—Ordered, that a copy of the foregoing be forwarded to the Secretary to the Government of India, in the Public Works Department, in continuation of No. 96 F, dated 6th instant.

No. 316 F, dated 20th September, 1867.

From—COLONEL C. H. DICKENS, R. A., Secy. to the Govt. of India, P. W. Dept.,
To—Secretary to the Govt. of the N. W. P., in the P. W. Dept.

I have the honour to acknowledge your letter No. 96 F, dated 6th instant, submitting the opinion of His Honor the Lieutenant Governor on the proposals made in Circulars Nos. 6 F and 10 F of the 11th and 23rd April last, for securing a permanent supply of trained Officers for the Forest Department. I am directed to notice a serious misconception of these proposals by the North-Western Government and the Local Officers.

2. In your letter it is stated that the system proposed has, for its basis, the employment of Foreigners to the almost entire exclusion of Englishmen, and that the main supply of Officers should be procured on the spot, or obtained from England. These views seem to be based on a misapprehension of the suggestion made by the Home Government on this subject. From the beginning it appears to have been the intention of Her Majesty's Secretary of State that, with the exception of special cases, the candidates for Forest appointments in India should be Englishmen, and that they should be sent abroad for their studies, because there is no Forest School in Great Britain. In the paper of particulars proposed to be issued to invite candidates for Forest appointments, which was appended to Circular No. 10 F, dated 23rd April, it was distinctly said "candidates must be British subjects." The seven young men who were selected in the beginning of this year by Her Majesty's Secretary of State, as stated in his Despatch of the 28th February, were all British subjects, though one of them was a Native of India. And in the papers circulated there are numerous passages from which the intention of the Home Government clearly appears.

3. It would almost seem as if a portion only of the papers had been read by the North-Western Government. In the 3rd para. of your letter, it is said "it can scarcely be expected that people in England would send their sons abroad to acquire a special training on the mere chance of its leading to Forest employment in this country." This idea is apparently gathered from the first proposals made by Dr. Brandis in September 1866, when it was suggested that candidates should go out at their own expense on the chance of being employed by one of the Local Governments; but as the further plans were matured, this idea was abandoned, and in the amended proposal of 13th February last, it is provided that candidates are to sign a covenant with Her Majesty's Secretary of State, that their pay will commence from the date of their covenant, and that their passage to India will be paid.

4. The opinions submitted by the different Local Officers also seem to be based on a knowledge of the previous papers only which accompanied Circular No. 6 F, dated 11th April.

5. Should the second Circular (No. 10 F, dated 23rd April) not yet have been communicated to Local Officers, I am directed to request that this may now be done, and that special attention may be given to the proposed arrangements for the training of Forest Officers, which you will find detailed in Dr. Brandis' letter to the Under-Secretary of State for India, dated London, the 13th February 1867.

6. In your letter, the attention of the Government of India is specially drawn to the objection raised by the Commissioner of Kumaon and the Collector of Bijnour. Mr. Palmer, in the 8th para. of his letter, says—*It cannot, I think, be expedient that a Department of the Indian Government should be administered almost exclusively by the agency of Foreigners.* This, and other expressions in these two letters, seem to indicate that the above-mentioned misconception regarding the proposals of the Home Government has gained ground, not only with the North Western Government, but also with a number of the chief Civil Officers. It seems right to His Excellency in Council that this misconception should be effectually removed, and I am directed to request that this letter be circulated without delay to all Officers in the Civil, Public Works, and Forest Departments of the North Western Provinces, and that a fresh expression of opinion from the North Western Government and chief Local Officers be submitted.

No. 43 F, dated 24th February, 1868.

From—LIEUT.-COL. C. J. HODGSON, R. E., Secy. to the Govt. of the N. W. P., in the P. W. Dept.,
To—Secretary to the Government of India, P. W. Dept.

In reply to your letter No. 316 F, dated the 20th September last, calling for a further

No. 136, dated 29th Oct. 1867, from Commissioner, Benares.
" 426, dated 13th Dec. 1867, from Commissioner, Jhansie.
" 1244, dated 20th Jan. 1868, from Chief Engr., Irrign. Works.
" 2, dated 29th Jan. 1868, from Commissioner, Meerut.
" 11, dated 31st Jan. 1868, from Commissioner, Rohilkund.
" 21, dated 12th Feb. 1868, from Commissioner, Kumaon.

expression of opinion, by this Government, on the subject of securing a permanent supply of trained Officers for the Forest Department, I am directed to forward copies of communications as in margin from the various

Officers in those Provinces connected with Forest operations, and to express the regret of the Lieutenant-Governor at the delay which has occurred in consequence of the late receipt of replies from some of the Officers consulted.

2. These papers for the most part support the opinion previously expressed that, although the importation of a certain number of trained scientific Officers, having a practical acquaintance with European systems of Forestry, would, in the first instance, be very beneficial, yet that the main supply of subordinates for Forest work should be secured on the spot, and that the means of scientific instruction should be provided by the establishment of a Forest Chair at the Thomason College, Roorkee, for the training of both European and Native candidates for employment.

To this opinion the Lieutenant-Governor, after full consideration, adheres.* He is of opinion that, for practical purposes, it is safer and better to select a tried man on the spot than to procure men from England at a great expense, whose health may fail almost immediately.

3. The Lieutenant-Governor is far from under-rating the value of scientific acquirements, but he is satisfied that local experience, and ability to be out at all seasons, is of greater importance in the natural forests in these Provinces.

4. A first-rate Professor of Forestry at Roorkee would sufficiently supply the scientific element, and provide a more efficient body of men, both Native and European, for Forest work than could be procured from Home, and with much greater economy; and, under the existing circumstances of these Provinces, the appointment of such a Professor would be of much greater real value to the Government than that of a separate Conservator.

No. 136, dated 29th October, 1867.

From—A. SHAKESPEAR, Esq., Commissioner, Benares Division,
To—Secretary to the Government of the N. W. P., in the P. W. Dept.

With reference to your Endorsement No. 277 F, dated 25th instant, calling for a fresh expression of opinion on the scheme for the supply of trained Officers for the Forest Department in India, I beg to refer to my letter No. 86, dated 23rd July last, which was written after receipt of Circular No. 10 F, and conveyed my deliberate opinion on the subject.

2. The difficulty I anticipate is based on the insufficiency of the inducement held out at present to young men to enter on a special course of training for a Department which does not appear to possess any special advantages over other professions, for advancement in which no such protracted training or difficulties in connection with examinations are to be found.

3. It would, I think, be desirable to explain more precisely than is done in the last para. of the paper respecting the selection of candidates, what the rights and privileges as to pay and promotion are to which young men entering the Forest Department may look forward.

4. As I have remarked in my former letter on this subject, the presence in India of men trained and educated to the full extent contemplated by the rules will be of great value; but I think that such men would be entitled to especial advantages to induce them to undergo three and a half years of preparation, and I do not believe that, until all uncertainty is removed as to their future prospects, and the benefits to be obtained are clearly defined, we can hope to see the Forest Department of India officered in the manner detailed in Dr. Brandis' proposed scheme.

No. 426, dated 13th December, 1867.

Memo. from—LIEUT.-COL. B. P. LLOYD, Commissioner of Jhansie Division,
To—Secretary to the Government of the N. W. P., in the P. W. Dept.

With reference to General Order No. 278 F, dated 25th October last, states that he has nothing to add to his opinion expressed in No. 149, dated 11th May 1867, and submits in original a letter received from the Deputy Commissioner of Lullutpoor on the subject.

No. 120, dated 18th November, 1867.

From—MAJOR J. DAVIDSON, Deputy Commissioner, Lullutpoor,

To—Secretary to the Government of the N. W. P., in the P. W. Dept.

I have the honour to acknowledge the receipt of your Circular docket No. 24, dated 30th ultimo, with copies of Government of India letter No. 316 F, dated 20th September, and of Circulars Nos. 6 F and 10 F, calling upon me for an expression of opinion on the subject of a proposed scheme for supplying trained Assistants for the Forest Department.

2. In reply, I beg to state that it appears to me that, in this matter, the great experience and thorough practical knowledge of the subject in all its details of Dr. Brandis are such, that his opinion and recommendations should be adopted without hesitation.

3. The objections to the proposed scheme raised by some of the Authorities at Home appear utterly groundless. It is evident that no amount of mere scientific and botanical knowledge would qualify men for Indian Forest work without some such practical training as is afforded only by the systems pursued in France and Germany.

4. The great object is, if I am not mistaken, to effect a permanent improvement in the system of Indian Forest administration, not so much by keeping up a supply of men trained on the Continent, as by establishing, as soon as may be practicable, a local School for the purpose in this country.

5. It appears to me that this portion of the scheme should be borne in mind from the very outset; for, without local knowledge and experience, together with an intimate knowledge of the Native language of the District, and of the peculiarities of the climate and people, the scientific Forest training would be of comparatively little value.

6. The papers now received seem to show throughout that the system of training in Europe is not intended as a permanent measure, but merely as a preliminary to forming a Forest School in India; and as such, Dr. Brandis' scheme for supplying this country with trained men, who would at no distant period themselves become instructors, appears most admirable, and one certain to succeed.

No. 1244, dated 23rd January, 1868.

From—E. CLAXTON, Esq., for Chief Engineer, Irrigation Works, N. W. P.,

To—Secretary to the Government of the N. W. P., in the P. W. Dept.

With reference to Assistant Secretary's No. 279 F, dated 25th October 1867, and annexure, intimates that the misconception mentioned in the 6th para of Government of India's No. 316 F of the 30th September last, never occurred to the Chief Engineer, and that he has nothing to add to this Office No. 411½, dated 13th July last, on this subject. The Superintending Engineers of both Circles of the Irrigation Branch agree with him.

No. 2, dated 23rd January, 1868.

From—F. WILLIAMS, Esq., Commissioner of Merut Division,

To—Secretary to the Government of the N. W. P., in the P. W. Dept.

In compliance with your endorsement dated 4th instant, No. 5 F of 1868, and in answer to the letter referred to therein, No. 274 of 25th October last, I have the honour to state that I understood from the first that Englishmen were to be trained in France and Germany. I must say that I consider the time and money spent in France and Germany would be better spent in India in studying enough of the Botany of the country to know every thing that would be met in the Forests, in getting used to the climate and the Natives, and the work.

2. I believe the best supply of Forest Officers would be secured by taking advantage of both sources, that is, getting a few educated in Scotland, France, and Germany, but getting most in India, there regularly trained as apprentices.

No. 11, dated 31st January, 1868.

From—R. DRUMMOND, Esq., Commissioner of the Rohilkund Division,

To—Secretary to the Government of the N. W. P., in the P. W. Dept.

I have the honour to acknowledge Mr. Assistant Secretary Moss' endorsement No. 275 F, dated 25th October last, requesting a fresh expression of opinion on the proposed scheme for securing a permanent supply of trained Officers for the Forest Department.

2. In reply, I beg to submit the enclosed copy of a letter No. 34, dated 14th instant, from the Collector of Bijpore, advocating the provision in India of the means of scientific education for Forest Officers.

PUNJAB.

No. 3080 C, dated 5th October, 1867.

From—COLONEL R. MACLAGAN, R. E., Secretary to the Govt. of Punjab, in the P. W. Dept.,

To—Secretary to the Govt. of India, P. W. Dept.

With reference to your No. 5 F of the 26th July last, I am desired by the Hon'ble the Lieutenant-Governor to forward copy of letter No. 254 of the 16th September, from the Conservator of Forests, Punjab, submitting his remarks on Dr. Brandis' proposal for supplying the Forest Department with specially trained Assistants.

2. In regard to Officers on leave, His Honor concurs in the opinion expressed by Dr. Stewart that, when these Officers devote some months to special study, it will be proper to extend the leave for the reasons stated.

3. His Honor also considers that it would be well, with reference to the point adverted to in Dr. Stewart's 4th para., to name some proportion of the Forest Officers who should be appointed from Europe, leaving sufficient means of promoting the junior Officers entertained in this country.

No. 254, dated 16th September, 1867.

Memo. from—DR. J. L. STEWART, Conservator of Forests, Punjab,

To—Secretary to the Govt. of Punjab, in the P. W. Dept.

With reference to No. 833C, dated 17th August, has the honor to submit the following remarks on Dr. Brandis' proposals as contained in the papers forwarded with Public Works Department Circulars No. 6 of 11th April and 10 of 23rd April 1867. With respect to Forest Officers on leave in Europe studying Forestry, believes that no one with an ordinary amount of zeal will neglect to take advantage of whatever opportunities in this way may be readily available to him; at the same time considers it quite possible to make the rule on this head too inelastic. And, judging from his own feelings, believes that, if seven months is laid down as the period for study, the mere payment of fees and travelling expenses would, in many cases, be insufficient to induce one who had been many years in India to dedicate that length of time, out of, say, 20 months' leave, to a specific course of study at a distance from home and friends.

2. As regards Dr. Brandis' proposals for ensuring a supply of trained Assistants for the Forest Department, the undersigned for the most part agrees with the scheme detailed in the Inspector-General's letter of 13th February to the Under-Secretary of State for India, but is somewhat at a loss as to the points on which his views are wanted.

3. It appears to him that any such continuous scheme can hardly be perfected until the Forest Department in India is more assimilated and amalgamated than at present. But even as things are, occasional supplies of trained young men might, with advantage, be got in this way. At present, young men get into the Department somehow, and have for the most part to pick up their knowledge as they go. And an infusion of well-trained men would be of immense advantage, in order that some benefit may be derived from the experience of countries where much attention has been for long directed to Forestry, and where it has now attained the rank of a scientific profession.

4. The first thing to be done appears to be, to settle how many trained young men could from time to time be utilized in India. But it seems doubtful if it would be advisable to fill up all vacancies in the way proposed. The undersigned would rather be inclined to leave room for some of the subordinates to move into the higher grades, or these will be apt to degenerate into a class of men inferior to the duties of their position, in the Punjab at least.

5. It will probably not be difficult to get candidates on terms similar to those proposed, but it would be well that they should not be allowed to deceive themselves as to their probable position and prospects in India while the Department remains in its present condition.

6. The undersigned is incompetent to deal with all the educational details of the scheme; but so far as his knowledge goes, he conceives it to be very complete and suitable. And he perfectly agrees with Dr. Brandis that, although much may be learned from attention to the systems of Forestry (not merely gardening) of Great Britain, a great preponderance ought, in any such scheme, to be given to study in the Forest schools and forests of France and Germany.

BRITISH BURMAH.

No. 296—14 F, dated 10th June, 1867.

*From—H. PRINCE, Esq., C. E., Offg. Secy. to Chief Commr., British Burmah, in the P. W. Dept.,**To—Secretary to the Govt. of India, P. W. Dept.*

I am directed by the Chief Commissioner, British Burmah, to transmit the accompanying letter,* in original, from the Conservator of Forests, British Burmah, commenting on the proposals made by Dr. Brandis relative to improvements in the administration of the Forest Department throughout India, embodied in Forest Circular No. 6, dated 11th April 1867.

2. The Chief Commissioner has no special remarks to offer on the various remarks made by Dr. Brandis. At the same time, he desires me to say that many of Mr. Leeds' proposals commend themselves to him, and appear worthy of the consideration of the Government of India.

No. 21A, dated 4th June, 1867.

*From—H. LEEDS, Esq., Conservator of Forests, British Burmah,**To—The Secretary to Chief Commissioner of British Burmah, in the P. W. Dept.*

I have the honour to comply with the request contained in your Proceedings No. 16, dated 10th May 1867, by making some remarks on the printed correspondence furnished to me regarding the proposed plan of training Forest Officers for India.

2. The plan contains two proposals:—

The first refers to Forest Officers on leave in Europe employing a part of their leave to improve their knowledge of Forestry in European schools.

The second refers to training young men in Europe for the Indian Forest Department.

3. As regards the first of these proposals, the plan sketched by the Inspector-General is of great value, and all Forest Officers in this country are greatly indebted to him for the trouble he has taken to show them how they can, at small cost, when on leave, secure the advantages to be derived from personal inspection of the best European systems of Forestry in all their variety. Already trained in this country, and acquainted with the appliances at their disposal, a comparatively short time will suffice to enable them to acquire a large fund of very valuable information, such as greatly to enhance the value of their services, and to assist them on their return to India. There can be no doubt that the facilities offered to them will be eagerly and gratefully accepted by all Forest Officers who take an interest in their profession, than which there is none more interesting.

4. As regards the second proposal, however, that is, the training of young men in Europe preparatory to their coming out to this country, the plan contains, I fear, some drawbacks which would materially interfere with its success.

5. One of several objections which at once suggest themselves on reading the plan, is mentioned in paragraph 7 of Dr. Brandis' letter dated 24th September 1866, to the Secretary to the Government of India.

For the most part, the Forest Departments of India are now officered, and it is not likely that very many appointments will become vacant or be created such as to give young men any great prospects either of promotion or employment. Looking at this plan from the point of view of a father would take who wished to send his son to seek his fortune in India, or of that of a young Englishman who was anxious to strike out for himself an advantageous career, it would, I think, be a mistake for any young man to spend his time and money in the training proposed; and with such a field as presents itself for honorable employment in India, he had better go out at once and take the chance of what offers.

6. The list of subjects included in the course of education to be pursued is a large one, and I fear that only a superficial knowledge of them could be acquired without previous end.

A degree taken at one of our Universities, which would cost no more either in time or money, would be far more valuable. Everything is open to the Collegian who has taken a degree; only a few poorly-paid Forest appointments are open to the Forester, who will have to live a hard life, and be very trying to health.

7. Other objections present themselves, such as the young men trained not knowing in the least to what they are committing themselves, and thus, after arrival in India, perhaps

finding out that they have made a great mistake, from which, however, they could not retreat without losing the time and money employed in their special training.

Further, how well soever they might be qualified as regards their studies, it might be found that, by temper and disposition, after joining, some of them were very ill-calculated to manage the Natives of India, on which much of their success and usefulness depends; added to which, for two or three years they would, while they adapted themselves to the country, and learned the language in use, be of little assistance in the Department they joined, but would nevertheless be in receipt of comparatively high pay.

8. The remarks I have here made leave me to suggest a scheme which I have often advocated, but which was incomplete without the information derived from the papers now before me, and the knowledge that Government would go any way towards meeting some of the expenses which would have to be incurred.

I make the suggestion with much diffidence, but also with a hope that, possibly, it may give rise to some modification of the plan so ably drawn up by the Inspector-General as shall take from it some of the drawbacks it appears to contain.

9. Instead of choosing young men from Home for the training proposed, why not select the most intelligent, zealous and fit Officers from the Forest Staff now working in India for the special training desired?

The advantages of such a course seem numerous even at the first glance. They know the life which is before them. Take from among them such as have had two or three years' training in India, they will acquire the European systems, and apply them in a very much shorter time than young men chosen at Home.

Select only such Officers as are recommended by Conservators of Divisions, and are considered to possess qualities worth the proposed cultivation, and who could manage Natives and speak the language of the country.

It would be a valuable boon held out to a class of educated men who are often over-worked, though not overpaid, to feel and know that, in case of loss of health, if they had shown themselves worthy, they would get their expenses paid and a trip to Europe. It would restore health, without which no man can work. It would not cost much to Government, and there would be no risk attending the success of the scheme.

All might be arranged under a few rules setting forth how many should be allowed leave, and the details of what Government proposed to grant.

10. Vacancies can easily be filled up from men to be found in the country. There are now in India a daily increasing number of young men of position and education, from whom the ranks of the Forest Department can easily and advantageously be recruited, and who would, I believe, as a rule, turn out much more valuable as Forest Officers than men untried and chosen at Home.

11. A good and valuable Forest Officer need not, of necessity, be learned in Botany, Chemistry, Geology, Natural Philosophy, Zoology, &c., &c., though a fair knowledge of some of these is by no means to be lightly estimated. I feel convinced that men who are students of these subjects, and who pursue them as their chief delight, (and unless they do this, the knowledge they acquire is not of the standard required) are not the men likely to be most fitted for Forest Officers; on the contrary, I think men of a different stamp are required; such as have travelled about in the world; are possessed of good sound common sense and experience with which to overcome difficulties; and who are able to do all those things which men of action and spirit are always found to delight in and to do well.

As part of this scheme, instead of every Forest Officer being a partial student of all the 'ologies, a really scientific man, learned in Botany and all the attendant sciences, might be attached on proportionate pay to the Inspector-General's Office, to be deputed, as necessity arose, to report on all that was required.

ODDH.

No. 2061, dated 3rd December, 1867.

*From—LIEUT.-COL. C. A. HUTCHINSON, R. E., Secy. to Chief Commr. of Oudh, in the P. W. Dept.,**To—Secy. to the Govt. of India, P. W. Dept.*

With reference to my letter to your address of the 18th May, and in reply to your second Circular No. 10, dated 23rd April, on the subject of permanently improving the administration of the forests in this country, by securing a constant supply of specially trained Officers, I am directed to submit the following remarks

2. The objects which Dr. Brandis has in view seem to the Chief Commissioner to be of the highest importance, and he believes it to be certain that, until we obtain men who have been specially educated for the purpose, the management of our Indian forests will never be satisfactory. Up to the present time, the Officers of the Forest Department in India have, as a general rule, possessed hardly any of the special qualifications which are actually required.

3. There being no forests of importance in their own country, Englishmen commonly know nothing upon the subject. They are for the most part ignorant even of the existence of the scientific system of management which has grown up on the Continent of Europe, the success of which has been proved by long experience to be complete, and without which, it may be confidently asserted, the destruction of every forest is a mere question of time. In spite of all that has been done, there is probably no Indian forest which is not at the present time in course of destruction. The wanton ruin of the forests which formerly went on has doubtless been checked, but beyond this there has been little real progress. It is doubtful whether there is a forest, at least on this side of India, in which even an attempt has been made to carry out what Dr. Brandis calls "the plain fundamental principles of Forestry, not to cut more within one year on a given area than is produced within the same time, either by natural growth or by planting." The common objections that are often heard, that the system which has proved so successful in Europe is not applicable to India, have their origin in ignorance alone. The fact evidently is that, without special education, a man can no more learn to manage a forest, than he can learn to be an Engineer, or a Lawyer, and until this truth is recognized, we shall never have an efficient system of Forest management in India.

4. In all essential respects, Dr. Brandis' recommendations seem to the Chief Commissioner to be excellent, but he doubts whether, under existing circumstances, there would be much probability of our obtaining a supply of properly qualified candidates to carry out the scheme which has been suggested. To ensure this supply being forthcoming, considerable changes in the management of the Forest Department in this country would apparently be necessary. Dr. Brandis has referred to this part of the subject in paras. 6 and 7 of his letter dated 24th September 1866, and in paras. 23 and 24 of his letter dated 6th October 1866, but he has not made any specific propositions regarding it.

5. The present system appears to the Chief Commissioner to labour under two serious difficulties:—

1st.—Officers entering the Forest Department have no certain prospects of promotion; so long as this remains true, it must always be exceedingly difficult to secure and to retain the services of good men.

2nd.—The control at present exercised over Forest Officers is usually feeble and unsatisfactory; these Officers must necessarily be, during a great portion of the year, in the forests, where efficient supervision of their proceedings is seldom practicable, and where they are relieved from the restraint of personal intercourse with other public Officers.

6. To remedy these difficulties, two plans have been suggested:—The Forest Department might, like the Irrigation Department, be made a branch of the Public Works Department; say one year, to the study of Forestry in Europe, or on the establishment of a Forest School here in this country.

Such a Forest School might perhaps best be established in connexion with the Thomason College at Roorkee.

Forest Officers would then be placed on the rolls of the Public Works Department. Their promotion, when deserving, and their transfer, when unfit, could be arranged without difficulty.

The Chief Commissioner thinks that the difficulties of this plan are insurmountable. The work to be done by Forest and Public Works Officers is widely different in its nature, and requires different abilities and training. Nevertheless, he thinks its adoption might lead to some improvement on the present state of things.

7. Another plan (and this seems to Mr. Strachey the proper plan to adopt), would be to centralize the Department under the Inspector-General of Forests, without interfering with the proper power of the Local Governments and Administrations in the ordinary management of the forests.

The financial control should, as hitherto, rest with the Government of India, and all questions of general importance should continue to be referred to that Government. There should be a single Forest Service for all India, and all Forest Officers should be placed on one general list, with appropriate classes and grades. This appears to Mr. Strachey to be essential. The

number of Officers in the Forest Service will be comparatively small; and unless there be a single list, it will be hopeless to expect that there will be sufficient inducement to the best men to remain in the Department. Strict rules should be laid down regarding the entrance into the Forest Department. The possession of certain qualifications should, in every case, be made obligatory. Men should enter the Forest Service at the bottom of the list, in the first instance as probationers, and they should be promoted according to their merits and the length of their service. First appointments would be made either (1st) by the Home Government, of probationers specially trained in Europe; or (2nd) by the Government of India, of probationers trained in this country.

8. If strict rules be laid down, rendering it hardly possible that men not possessing proper qualifications should be appointed, and one general list for all India be formed, outside of which no appointments can be made, considerable latitude might be left to the Local Governments in the choice of Officers for the more important posts; without such rules, the Chief Commissioner is of opinion that this is a matter, in which the Local Governments cannot be safely trusted. He in no way doubts their wish and their determination to appoint the best men; but the general ignorance of every thing connected with the science of Forestry is so profound, that he believes that we have no right to assume that really competent Officers will be always appointed if the choice of the Local Governments be unfettered. With the exception of the appointment of Conservators, which ought always to receive the previous sanction of the Government of India, all promotions might be made by the Local Governments from the general list, after consultation, in the case of the more important Officers, with the Inspector-General of Forests. All appointments of subordinate Offices, not on the regular Forest List, should of course be left to the Local Governments.

9. Conservators should submit such Journals, Reports, and Returns as were determined to be necessary, direct to the Inspector General. To the Local Government they should submit such papers and abstracts of correspondence with the Inspector General as the Local Government might direct. All correspondence between Local Governments and the Government of India would go on as at present. The Inspector General would be the Departmental Head of the Forest Branch of the Public Works Department under the Government of India, and he would always have the opportunity of stating his views to the Government on every question of Forest Administration. The Chief Commissioner thinks that the functions of the Inspector-General of Forests might be formally regulated by the Government of India, in the same sort of way in which the functions of the Inspector General of Irrigation have been regulated.

10. The Inspector General should make frequent tours of inspection through the forests of each Province. He should be authorized to correspond directly with Conservators, but such communications should not be considered as orders. Orders would only be issued through the Local Government in the Public Works Department. The Inspector General would, however, freely communicate his views at all times to the Local Governments, and, as a rule, it is not probable that these views would be questioned. If the Local Government declined to act upon the advice of the Inspector General, he could, whenever he thought it necessary to do so, bring the matter before the Government of India.

11. At some future time, when a sufficient number of experienced Forest Officers became available, the centralization now suggested might no longer be necessary, and the Local Governments might be allowed to choose their own Conservators from the Forest List, and to administer the business of the Department under a less strict system of control. But at present, while the science and practice of Forestry are yet in their infancy, it seems to the Chief Commissioner essential that the Government of India should exercise, with the help of the Inspector General of Forests, an efficient and detailed supervision on the work of the Forest Department in all its branches.

12. Mr. Strachey does not mean to say that a plan of this kind could be carried out all at once; but he thinks that these are the principles on which the Forest Administration in India ought to be conducted.

CENTRAL PROVINCES.

No. 2472—176, dated 21st June, 1867.

From—C. BERNARD, Esq., Secretary to Chief Commissioner, Central Provinces,

To—Secretary to the Govt. of India, P. W. Dept.

I am directed to acknowledge the receipt of your Circulars Nos. 6 and 10 (Forests), and to submit the Officiating Chief Commissioner's opinion on the points raised therein, to the following effect:—

2. The main question on which an expression of opinion is called for is, the scheme for recruiting the upper ranks of the Forest Department with trained men from Europe. The sources from which Forest Officers are now drawn are,—Officers of the Army, the Unconvenanted

Service of Government in other Departments, and the supply of young gentlemen who annually come out to India with the view of embracing such Government or other employment as they may be able to obtain. The staff of Officers so obtained have done well hitherto, because the Forest system has grown up under their hands, and they have been personally conversant with the rationale and with the practical bearings of every improvement in Conservancy as it has been introduced.

3 Now that the Conservancy system is becoming year by year more complete and elaborate, and that the first and best source of supply for Forest Officers, namely the Army, yields fewer men, it will undoubtedly be a great source of strength and advantage that future vacancies in the Forest Department should be filled by men trained in Europe to the science of Forestry, who would regard the Forest Service as their profession for life. Men so obtained would, for the purpose in view, certainly be, on the average, superior to men chosen from the Indian Uncovenanted Service, or from the ranks of young gentlemen who come to India to seek their fortunes.

4. Regarding the manner in which candidates for the Forest Department should be selected in England, and trained in Europe, the Officiating Chief Commissioner has nothing to suggest beyond what Dr. Brandis proposes, namely, that the candidates should possess good health; that they should be selected by competition at an examination in English, in Euclid, in Algebra, and in Drawing; that after their selection they should study for a year and a half in England at Mechanics and Natural Sciences; that, after passing an examination in those subjects, they should study Practical Forestry for two years in Scotland and on the Continent.

5. The course of training sketched above seems calculated to produce good useful Foresters. But with reference to the last clause of paragraph 21 of Dr. Brandis' letter dated the 6th October 1866, that "preference should be given, *ceteris paribus*, to young men of good family connections," I am to observe that the Officiating Chief Commissioner considers it to be highly desirable that the men who are in future to rise to high posts in the Indian Forest Department, should belong to the same class of society as the Military and Civil Servants of Government. If they belong to a lower class, and if they have not received a liberal education, they would not, save in extraordinary instances, which would be the exception and not the rule, have full weight with their subordinates, or with the Officers of other Departments in concert with whom they would often have to work. Perhaps the best way to secure that candidates should have received something of a liberal education would be, to add proficiency in some one language (it might be either ancient or modern) to the list of subjects for preliminary examination proposed at paragraph 2 of Dr. Brandis' "particulars" respecting selection, &c. The circumstance that much of the candidate's training must take place on the Continent of Europe, would be an additional reason for requiring proficiency in some one modern language.

6. There is one other kindred question referred to in the papers now under acknowledgment, on which the Officiating Chief Commissioner would offer a few remarks, and that is, the treatment and prospects of trained Assistants when they shall have come to India. Dr. Brandis says (paragraphs 21—24 of his letter of the 16th October) that the prospects will not be very bright; that an initial salary of Rs. 250 a month must be offered; and that promotion might be accelerated by establishing a general list of Forest appointments for the seven Governments and Provinces subordinate to the Bengal Presidency, or administered directly by the Government of India.

7. On these points I am to remark that it will probably be necessary to raise the pay of trained Assistants, soon after their arrival, to sums exceeding Rs 250 a month. Such men would feel that their education, and their three and a half years of expensive careful training entitled them to rank above the lowest grade of Uncovenanted Officers, namely, Deputy Collectors on a salary of Rs. 250, and to be placed on a par with young Assistants in the Police Department who, after completing a short probationary term, draw a minimum salary of Rs. 350 a month.

8 The appended copy of a letter from Major Pearson, Conservator of Forests, expresses that Officer's opinion on the best mode of bettering the prospects of Forest Officers. Major Pearson's opinion is entitled to weight, and the Officiating Chief Commissioner would agree with him in saying that the interests of Forest Conservancy and Forest Revenue will be best served by attaching Forest Officers permanently to particular Governments and Administrations. The Forest Department should, if it is to be successful, become more and more a part of the Civil Administration. Its Officers must gain and retain an acquaintance with the special circumstances and requirements of each forest tract, and of the timber and wood trade in the country round; they must acquire a knowledge of, and influence with, the Natives who inhabit such tracts; they must also possess weight with the Civil Officers, through whose agency much of the Conservancy work has to be done. It appears to the Officiating Chief Commissioner that the usefulness of Forest Officers in all these respects would diminish

just in proportion to the frequency with which they were transferred from one Province to another. A trained Assistant on Rs. 250 in the Central Provinces, who looked to obtain promotion to Rs. 400 in the Punjab, and who some years after might be transferred to British Burmah on a salary of Rupees 600, could not take much interest in the special circumstances of the forests in either Province; he would have to learn a fresh vernacular language on his move; and his special knowledge of trees, of vegetation, and climatic changes, would have to be renewed at each transfer.

9. The analogy of the Public Works Department, wherein the Engineers are transferred from one Province to another, does not, I am to submit, apply in its fulness to the circumstances of the Forest Department. An Executive Engineer carries out works through the agency of skilled subordinates, and his work brings him in contact, for the most part, only with classes of workmen who know what is wanted of them, and are accustomed to do it in a particular way. A Forest Assistant, on the other hand, has to conduct timber operations, or to carry on conservancy in wild parts of the country inhabited often by rude tribes, whose confidence it is often difficult to gain. Then, again, a Forest Assistant must keep himself informed of the state and of the wants of the timber, fire-wood, and jungle produce trades, else he cannot make the best possible Forest revenue.

10. If the position be conceded that Assistant and Sub-Assistant Conservators must be permanently attached to the several Provinces where they may be serving, then the question remains how the Forest Department can be made more attractive. At present, or rather according to the proposed scale, the Forest appointments of these Provinces stand thus:—

1	Conservator	on	...	...	...	Rs. 800
3	Assistant Conservators	on	...	...	...	" 500
2	Ditto	on	...	...	...	" 400
2	Sub-Assistant Ditto	on	...	...	...	" 250

That is to say, ordinary men cannot hope to rise beyond the Rs. 500 grade; for clearly it would not be reasonable for every Forest Assistant to expect to rise to the Conservatorship. The Officiating Chief Commissioner considers that Rs. 500 is not a sufficiently high maximum salary for men trained and educated, as future Forest Assistants will, under the new scheme, become. He would therefore recommend that the salaries of Assistant Conservators should rise with duration of service, after the same manner as has been adopted in the Financial Department, and in the Educational Department of Bengal. Leaving the initial salary at Rs. 250 a month, the enhancements of salary might be arranged thus:—

250	Rs. a month on joining.
350	" " on passing the Vernacular Examination.
400	" " on taking charge of a Division.
500	" " on completing five years' service.
600	" " on completing ten years' service.
700	" " on completing fifteen years' service.

11. The Officiating Chief Commissioner hesitates to add an expression of his opinion regarding the expediency of sanctioning progressive increase to the Conservator of Forests' pay until it should reach a maximum of Rs 1,200 a month, as the Supreme Government has so recently had under consideration Mr. Temple's proposal of the same nature, submitted in my letter No. 147, dated 13th April 1867.

No. 38, dated 17th May, 1867.

From—MAJOR G. F. PEARSON, Conservator of Forests, Central Provinces,

To—Secretary to Chief Commissioner, Central Provinces.

I have the honour to acknowledge your demi-official letter of the 27th ultimo, requesting from me a confidential opinion on Dr. Brandis' scheme for obtaining trained Officers for the Forest Department in Europe.

2. I certainly am of opinion that no better scheme can be devised for obtaining an efficient training for young men who may be selected for the higher grades of the Department than that now submitted to Government by Dr. Brandis, and as I fully accord with him in thinking that a much higher ratio of scientific Forestry obtains in the Continental Forest Schools than in Great Britain, I therefore think that the higher Officers of the Department should carry out their Forest education where it can be best acquired. For Foresters and practical Assistants of a lower grade, I believe the ordinary training of a Scotch Forester will be as good as any possibly can be.

3. But the general success of the scheme eventually must materially depend on the way in which men so trained and brought out to India are treated in regard to pay, promotion, and

general advantage in the Service. This appears to me a matter involving much care and forethought; as, unless the Forest Department is made worth stopping in for them, highly educated young men will never remain in it. It would be impossible to enter into any covenant binding them to remain more than a short term of years, and such men would soon be in a position to make their services on large Tea and Coffee Estates invaluable, when if they quitted Government employ for private service, their education would be lost to Government. It is true that an Officer leaving the Department might be obliged to refund the amount paid by Government for his education, but this would never form any bar to a good man who found it to his advantage to quit the Service.

4. There are two methods by which the Forest Department may be rendered sufficiently desirable to induce good men to devote their services permanently to it:—

1st.—To have one department for all the Forest Officers under the Government of India, with one list divided into grades, through which Officers would pass by promotion, merit, as well as seniority, forming the basis on which such promotion would be made.

2nd.—A regular certain rise to higher rank and higher pay, after a certain number of years, as in the Staff Corps.

5. There can be no doubt that the first of these would be the best for the Forest Officers themselves; but it seems to me that there are strong reasons, on public grounds, against its adoption; as also there are no doubt objections to a *certain rise*, after a certain number of years, a system which gives no encouragement to special exertion.

6. But I have myself the strongest conviction that the Forest Department of each Province should be bound up in every way as firmly as possible with the Civil Administration of the Province in which it works, and should form an integral portion of it. But if the Forest Officers are formed into a *separate Department by themselves* apart from the Local Government, the Officers being liable to removal from the forests of one Local Government to those of another, this can never be the case, as they will become *de-localized*, and Local Governments will never take thorough interest in a Department which *does not thoroughly belong to them*; and I feel confident that I am right in asserting that the moment the interest of the Local Government in the Department ceases to exist, all the scientific knowledge of the Forest Officers will be powerless to carry out good Forest management, except, perhaps, in their own immediate Reserves. An establishment sufficiently large to conserve all the vast jungle tracts of these Provinces, (many of which are not the actual property of Government) would be impossible, even if desirable, and the care of the wood, and the general prevention of waste, can only be effected with the co-operation of the people themselves, which can be only obtained through the aid of those who are their immediate governors.

7. I think, then, that Forest Officers must, as a general rule, be attached permanently to the Local Government to which they are first posted. This would make the Head of the Government feel that the Officers belonged as it were to him. The Government of India would of course retain to itself the right of selecting special Officers of the Department for special appointments, when there appeared sufficient reason for doing so.

8. But as this system, from the small number of Officers in each Province, would act unfairly in regard to promotion, I see no alternative but to an increase of pay after certain specified terms of years. I think that £300 per annum, or Rs. 250 a month, is too little even to begin on, considering the hard life a Forest Officer has to lead. I would suggest that Rs. 300 a month should be the lowest sum to begin on at first; the expenses of getting up a marching establishment are considerable, and it is not desirable that our young Officers should commence with debt. Besides, they must study the languages, and, except for a high rate of pay, no decent Moonshee would ever accompany an Officer into the Forests. The rate of pay should be increased to Rs. 400 as soon as the Officer had passed an examination in the language, and is placed in charge of a Forest Division; but no Officer should be placed in charge of a Division till he had so passed in the language, until which time, he must be attached to the Conservator, or to some good practical Divisional Officer, under whom he might study the language and the general system of work in a Government forest.

9. After five years' service, pay might be increased to Rs. 500 a month; after ten years' service, to Rs. 600 a month; and after fifteen years' service, to Rs. 700 a month; but I would retain in the hands of Government the *absolute power to refuse such increase* of pay in case of manifest incompetency, habitual idleness, disobedience, or habitual inattention to orders, or other sufficiently good grounds.

10. The higher appointments of Conservator, which range from Rs. 800 to Rs. 1,000 per mensem, should, I think, be made by selection from the best Deputies and Assistants *generally*, and I would submit that these higher appointments might be put into a general list. There are (not including Madras and Bombay) seven separate Forest Administrations:—

Burmah, N.-W. Provinces, Bengal, Punjab, Central Provinces, Oudh, Mysore; for these, one Conservator on Rs. 1,500, one on Rs. 1,200, two on Rs. 1,000, and three on Rs. 800 a month might be allowed, and this would constitute sufficient inducement as prizes to good men to stimulate them to exertion, and to keep them in the Department. These rates of pay are by no means higher than young men in the Department of Public Works, or Police, may reasonably look forward to during a service of 25 years, and the education now proposed to be given to Forest Officers is so high, that I cannot believe but that a superior class of men will be obtained to those who now usually join those departments.

11. I think, also, that Officers of the Army who may be desirous of entering the Forest Department, if, when in Europe on leave, they chose to qualify themselves in the Continental Forest Schools, might have the same advantages granted them as other candidates, on their names being approved by the Secretary of State. Some advantage in the matter of leave might also be granted to them, and appointment to the Department on completing the course would also be of course guaranteed to them.

12. As regards the lower branches of the Department, I am inclined to think that a better and more highly educated class of men might be got for the pay offered, than those lately sent out here. There are some excellent schools in Scotland, where Botany is taught as part of the regular curriculum, as well as Latin, Mathematics, and even the higher branches of education. I will instance the school at Dollar. Here, boys of the lower middle class, the parish clergy, and others, commonly are brought up; and from these schools, lads who wish to turn their attention to Forestry, attend instruction classes at Lawson's Establishment in Edinburgh, and often they commence practical work under some Gardener or Forester, on a large estate, on £1 a week. By communicating with the Principal of the Dollar School, I have no doubt useful information might be obtained on this point: such lads would, after a year or two of practice on some estate in Scotland, and with a certificate to that effect, I think, prove more useful than men who have not received a thorough vernacular education.

13. Such men of the lower department should receive about Rs. 150 a month to commence with; after two years the pay might be increased to Rs. 200, as, by that time, they should become practically useful men. After five years' certified good service, this should be raised to Rs. 250 a month; after ten years to Rs. 300; but I object to a *yearly rise*, and also to the salary being calculated at "*so much a year in English money*," which will cause great inconvenience in adjusting the pay in this country. I think that men who were really worthy of it, might be permitted to rise from the lower to the upper department; but this should in no way be guaranteed to them.

14. I think, then, in conclusion, that, by combining the two methods suggested, the objections to each may be materially obviated, and an efficient working staff obtained for the forests. It would be far preferable to start a sound scheme at once, rather than to get a set of highly educated young men out from Home, and then from time to time have to resort to all sorts of shifts and schemes to keep them in Government service, and render them contented while there.

HYDERABAD.

No. 3, dated 7th August, 1867.

From—SIR R. TEMPLE, K. C. S. I., Resident at Hyderabad,

To—Secretary to the Govt. of India, P. W. Dept.

I have the honour to acknowledge the receipt of your Circular No. 6, Forest, received here the 22nd June last, requiring my opinion on the plan proposed by Dr. Brandis for obtaining trained Forest Officers from Europe.

2. I had the advantage of consulting Dr. Brandis personally and in detail, on the whole matter, during his visit to Nagpore in March last, and I would express now my entire advocacy of the plan which will be essentially necessary if the Department of Forestry in India is to be constituted in a manner worthy of the fine and extensive forests which the Empire, in its various parts, does really possess.

3. But certain points will, I think, require attention, in order that full effect may be given to the scheme, and that, too, with due reference to the circumstances of the country. These appear to be—

1st.—A regular "Forest Service" must be created, much like the Educational Service, or the Engineering Service; the young Officers entering the Forest Service must be assured the enjoyment of the Forest appointments, subject to certain reservations.

2nd.—The Officering of the Department would have to be managed much in the same way as the Public Works Department now is.

3rd.—The salaries of the Conservators, and more especially of the Assistant Conservators, would have to be enlarged somewhat, so as to render the Service attractive to European candidates.

4th.—A certain number, or proportion, of the appointments might be advantageously reserved, to which Officers not specially trained, but possessing Indian and Administrative experience, would be eligible; this is necessary, because, Indian Forestry deals not only with questions of pure Forestry, but often also with the rights and interests of Hill tribes, and with the tenures of the forest lands.

5th.—I believe that the above general expression of opinion will suffice for the present reference; but I could elaborate details, if Government desired them on any point.

MYSORE.

No. 868, dated 11th May, 1867.

From—C. B. SAUNDERS, Esq., *Offg. Commissioner of Mysore*,
To—Secretary to the Govt. of India, P. W. Dept.

I have the honour to acknowledge the receipt of Circular No. 6, dated 11th April 1867, Public Works Department, on the subject of procuring trained Assistants for the Forest Department of India, and in submitting, for the information of His Excellency the Viceroy in Council, copy of a letter No. 113 of the 6th instant, from the Officiating Conservator of Forests, to state that I entirely concur with that Officer in considering that the proposals submitted by Dr. Brandis, and approved of by the Right Hon'ble the Secretary of State for India, having for their object the special training and education of young Officers in Europe in Forestry, Botany, and other kindred subjects of scientific study, for employment in the Forest Department of India, will be fraught with great advantage to the public interests, and will tend very materially to develop and utilize the resources of our forests.

2. Under these circumstances, I consider that it will be very desirable that the Mysore Government should be allowed to participate in the advantages which are likely to accrue to the Forest Department from the adoption of Dr Brandis' proposals, and I would therefore request that one of the trained Assistants, when declared qualified for the Public Service, and ordered out to India, may be posted to Mysore and Coorg, to supplement and strengthen the staff of the Forest Conservancy Department of these Provinces.

No. 113, dated 6th May, 1867.

From—LIEUT. J. G. VANSONERFEN, *Offg. Consr. of Forests, Mysore and Coorg*,
To—Secretary to the Commissioner of Mysore.

I have the honour to reply to your Memo. General No. 993 of the 30th ultimo, calling upon me for the submission of my opinion regarding Dr. Brandis' proposal "for permanent improvement of the administration of the Forest Department of India, by sending out trained men from Europe."

2. I constantly feel the want of a thorough scientific training in Forestry myself, and therefore think Dr. Brandis' scheme would, if carried out, be of the greatest advantage to the Forest Department, and especially so to the portion of it in Mysore. The very fact of the newly appointed subordinate Officers being so well up in the subject, will naturally compel those above them to do their best to learn all they can; though, from the lack of early training, we could scarcely hope to reach the same point, while at the same time carrying on our duties. I trust the services of a trained Forest Officer will be secured for Mysore.

3. There is only one point in which I fear the scheme will be likely to fail; Dr. Brandis fixes the salary at £300 per annum. This will hardly keep men in the Department, though, doubtless, it will at first tempt many out to India. A man who has a knowledge of Botany, and the value of various woods; who is well up in land surveying; who knows enough of road and bridge-making to make his own forest roads; who has been taught the elements of Chemistry and Geology; and who has had his intellect well trained, will easily find more remunerative employment in the Department Public Works, or in taking a post under some of the large Contractors who are now employed by the different Railway, Irrigation, and Water-Work Companies.

CENTRAL INDIA.

No. 700, dated 10th August, 1867.

From—COLONEL R. J. MEADE, C. S. I., *Agent of the Govr.-Genl. in Central India*,

To—Secretary to the Govt. of India, P. W. Dept.

Referring to Circular No. 6, Forest,* on the subject of providing trained Assistants for the Forest Department of India, I have the honour to report, for the information of His Excellency the Viceroy and Governor-General in Council, that all the Officers under this Agency, most of whom have had, more or less, some practical experience of the urgent necessity for the adoption of a suitable State system for the conservation of the existing natural forests, or the recovery of those that, from neglect, have become extinct, concur in the advantages that may be looked for in the course of a few years from the supply of trained Officers to the Department, as proposed by Dr. Brandis in the correspondence published with the said Circular; and I beg to add that I fully share this opinion, and consider the project as a most important step towards placing the Forest Administration of this Continent on a fitting and satisfactory basis.

2. I would, however, venture to suggest that an attempt should be made to establish a Forest Class in the College at Roorkee, where some instruction might be obtained in this branch by candidates for the subordinate grades of the Department.

At present there is absolutely no means whatever of persons of this class obtaining such instruction; and as the field for their employment must greatly extend with the progress of the Forest system, and the success of the latter will necessarily, in a great degree, depend on their fitness for their duties, it would appear to be of importance that this want should be considered, and, if possible, supplied.

3. The Native Chiefs of Central India are beginning to look after the forests within their limits, and some of them have already taken the first steps towards their conservation.

I have no doubt that the examination of the forest tracts in these Territories by a competent practical Forester, who could point out to the Chiefs the losses to their States from the utter and universal want of care that has, up to a recent period, been bestowed on these tracts, and could furnish some simple and practical suggestions as to the best course for remedying the mischief, and restoring their condition and value, would be appreciated by the Native Rulers, and would be productive of much benefit to them in this matter; and I would advocate the subject being considered whenever the services of such a person could be made available for the purpose.

No. 293 F, dated 6th September, 1867.

From—COLONEL C. H. DICKENS, R. A., *Secy. to Govt. of India, P. W. Dept.*,

To—The Agent of the Governor General in Central India.

In reply to your letter No. 700, dated 10th August last, I am directed to inform you that your views on the subject of providing trained Assistants for the Forest Department of India, will be considered with replies on the same subject from other Local Governments and Administrations.

2. With reference, however, to para. 3 of your letter, where you advocate the application of a competent practical Forester to examine the forests of the Native States, and to suggest to the Chiefs simple and practical measures of conservancy, I am directed to state that the cordial assent of the Native Chiefs must first be obtained, otherwise there is no objection to the measure proposed by you; and I am to add that, should you succeed in obtaining their concurrence in this measure, His Excellency in Council will take into consideration the selection of a competent Officer for this duty.

*OPINIONS of Local Governments
and Administrations on Dr.
Brandis' Scheme for supplying
the Forest Department in India
with specially trained Assistants.*

B-155/69
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CALCUTTA:
PUBLIC WORKS DEPARTMENT PRESS.

1868.

Report by Mr. D. BRANDIS, Inspector General of Forests, on a scheme submitted by him in 1866 for supplying the Forest Department in India with specially trained Assistants,—dated Simla, 28th July 1868.

Proposals made by Mr. Brandis in 1866.—In the autumn of 1866, while on leave in Europe, I submitted certain proposals to the Government of India with the object of promoting the efficiency of forest officers, and of securing a supply of specially trained probationers for the forest service in India. Copies of the letters containing these proposals I submitted to the Home Government, and the following were the principal suggestions contained therein:—

I.—Candidates for forest service in India should annually be invited to apply at the India Office, and a number of suitable young men should be selected to undergo a special training in the State Forests of France or Germany, and after completing their course of training, should be sent to India as junior assistants. At the same time it was said that, to secure the success of this scheme, it would be necessary to hold out to forest officers better prospects of advancement than the present organization of the forest service admitted; and that it would be necessary to consider the question of uniting the whole of the forest appointments in India, those of the Madras and Bombay Presidencies excepted, into one general list for promotion.

II.—As an experiment, five young men should be selected at once to be sent out in autumn 1869.

III.—Forest officers on leave in Europe should be encouraged to devote part of their furlough to the study of forestry in Scotland and on the Continent. A regular course of studies should be laid down: their travelling expenses should be paid, and the certificates granted them by their instructors should be transmitted to the Government of India by the India Office.

2. *Orders of the Home Government.*—Her Majesty's Secretary of State for India decided that the second and third of these proposals should be acted upon at once, and I received directions to make the needful arrangements during my stay in Europe. In accordance with these arrangements, a number of forest officers on leave in Europe have already availed themselves of the opportunities offered for studying forestry in the State Forests of France, Prussia, and other Continental States.

And as an experimental measure to test the practicability of the general scheme, candidates for forest service in India were invited by notification from the India Office, and from among these candidates, seven young men were selected in February 1867.

3. *Experimental training of seven young men.*—Of the seven young men thus selected, five were sent to the Imperial Forest School of Nancy, in France, and two were placed in charge of the Director of the State Forests in the Province of Hanover, Prussia, who had undertaken to superintend their training.

The selection was made after they had undergone an examination in English writing and composition, in arithmetic, elementary mathematics, and in one foreign language—either German or French.

The candidates were numerous; but a large proportion was rejected by the Medical Board as unfit for forest service in India, and from the remainder those selected were about the only ones who were sufficiently advanced in the elementary branches of knowledge required, to be sent abroad for professional training with any reasonable prospect of success.

The arrangements for the studies of these gentlemen had been made under the orders of Her Majesty's Secretary of State with the Director General of the French State Forests, and with Mr. Burckhardt, the Director of the Hanoverian Forests.

In these arrangements it had been stipulated that half-yearly reports should be furnished to Her Majesty's Secretary of State by the local forest authorities, and as the course of training commenced on the 1st March 1867, the two first half-yearly reports have been received both from France and Germany. These reports are upon the whole very favorable and satisfactory, and there seems every reason to hope that these seven probationers will, at the close of their course of training (1st September 1869), be considered competent to be sent out to India.

In that case they will be nominated junior assistants, will be furnished with a free passage, and, from the date of signing their Covenant in England, be paid a salary at the rate of Rs. 250 per mensem.

They may thus be expected to arrive by the end of next year.

4. *Action taken by Government of India.*—The general proposal that a certain number of young men thus trained should be sent out annually by the Home Government, was by Her Majesty's Secretary of State referred to the Government of India for an expression of opinion (in Despatch No. 63 of the 31st October 1866). In a subsequent Despatch of the 28th February 1867, the Home Government transmitted certain additional proposals submitted by me, regarding the course of training to be prescribed in case it should be decided to repeat the experiment of sending out trained probationers for forest service in India.

(In letter, dated 13th February, to the Under Secretary of State for India.)

In April 1867, the Government of India determined that the papers relating to these different proposals should be circulated to all Local Governments and Administrations for an expression of their opinion on the proposed system of supplying the wants of the Forest Department.

These opinions have now been received, and the following is a summary of the views expressed by the local authorities.

5. *Main points to be considered.*—In some of the communications received, a variety of subjects connected with the administration of forests is discussed. It will be sufficient to limit this review to the following points which bear directly upon the main questions at issue:—

- I.—Organization of the whole forest service in two establishments,—upper or controlling establishment, and lower or executive and subordinate establishment.
- II.—Sources whence these two establishments should be recruited, and general measures to be adopted for promoting their efficiency.
- III.—Detailed arrangements for the training of probationers for the upper or controlling establishment.

6. *Opinions of Local Governments.*—*Madras*—Madras has submitted a report by Dr. Cleghorn, the Conservator, and minutes by all Members of Government.

Dr. Cleghorn recommends the division of the Department into two classes,—

I.—Upper or administrative.

II.—Subordinate.

The second class should be trained in India, and should be drawn from the Natives of the country, with an admixture of Europeans and Eurasians.

Regarding the training of forest officers for the administrative branch, Dr. Cleghorn's views, as expressed in this paper, are that they should be men of good general education, well grounded in Scotland, with practical experience in woodcraft; that they should finish their training in Germany, and become acquainted with the continental system. Dr. Cleghorn considers that one year's training in Germany would be sufficient. A thorough knowledge of the various systems of forestry and arboriculture should be insisted on, and this should be tested by a Board of Examiners appointed by Her Majesty's Secretary of State. If the formation of a satisfactory Board be found impracticable, then the joint approval of the Forest Director in Germany and the Regius Professor of Botany, at Kew or Edinburgh, would suffice.

In the minute by His Excellency the Governor, the following course of training for forest officers was suggested:—

A certain number of candidates should be selected from the lower middle, and middle orders, the sons of farmers, factors, foresters, school-masters, &c., keeping in view prominently their physical constitution.

A certificate should be required that the candidate had served or studied for one year with an accredited forester in Great Britain, or in one of the great nursery gardens for forest trees.

From the candidates, the best men should be selected by a competitive examination in English, arithmetic, and elementary mathematics, elementary land surveying, botany, geography, free-hand and plan drawing.

Successful candidates should then be sent to a German Forest College for a course of two years and a half.

On their return to England, they should be examined a second time, those struck off who had not made proper use of their time and opportunities, and some advantage in salary should, from the first, be awarded to those who had attained extraordinary proficiency.

Lord Napier did not express himself in favor of the additional proposal set forth in my letter of the 13th February 1867. This proposal contemplated an extension of the time of training from two and a half to three and a half years, of which the first year and a half should be spent at any University, College, or other place of instruction in Great Britain, and be devoted to the study of the natural sciences, and either French or German. At the close of this time their acquirements should be tested by an examination, and the candidates should then be sent to France or Germany for two years' professional training.

Lord Napier's objections to this more extended scheme were that men of high scientific education are not wanted in India; that to complete their professional training, the young men must go abroad; and that they can get their scientific and practical education at one and the same time at the German Forest Schools.

His Excellency also recorded his opinion against the admission of more Military Officers to the Forest Department, and thought that, without wishing in the least to disparage the merits of the Military Officers now serving in the forests, we should never obtain from that source a good basis of technical knowledge, nor a secure and permanent devotion to the Department.

Sir T. Pycroft would not limit the candidates for forest service to young men from the lower middle and middle orders: he would have the new system one of pure open competition open to all, whose physique comes up to the mark.

He would further not limit the practical training to Germany, but send those candidates who are acquainted with the French language to the French Forest School.

With reference to the time to be spent at the Continental Forest Schools, Sir T. Pycroft agrees with Dr. Cleghorn that a careful apprenticeship in Scotland, supplemented by one year in Germany or France, might be accepted.

He would allow the service to remain open to officers of the Indian Army, and was disposed to think that such officers will possess the great advantage of a knowledge of the Native languages and of the people, while their association in the Department could not but raise its tone and character.

The Hon'ble H. D. Phillips does not approve of the adoption as a whole of Dr. Brandis' plans, as it would supply learned young men who, for the first few years of their service in India, would be of little practical use, and he considers that small progress would be made without an addition of gentlemen, Military Officers, knowing something of India when entering the Department.

7. *Bombay.*—The Bombay Government does not consider that it is desirable to attempt to replace the present forest officers by a special trained agency in every district, but thinks

that in the Presidency, as a whole, two or three trained assistants might with great advantage be employed in districts where the reproduction of timber by systematic plantation is to be undertaken on a large scale.

Mr. Dalzell, the Conservator, considers that continental training in forestry will be of no service to forest officers employed in India; but he thinks that it would be useful to provide candidates duly qualified by special studies, in addition to the usual branches of a liberal education. In their special branches of study, the candidates should undergo an examination by properly constituted examiners. The principal of these branches of study should be vegetable physiology, involving not only a fair knowledge of chemistry and meteorology, but all those general scientific principles which will form a correct guide to forest practice under all circumstances and in all climates.

Mr. Fenner, the Forest Ranger in Sindh, remarks that it is only by observing and studying systematic forestry, where practised on an extensive and scientific basis, that we can hope to obtain any fair measure of success in India, by the application of such methods as long practice and experience have brought into a high state of efficiency, as seen in the forests of France and Germany.

But he justly urges that young men who have received such education as the scheme proposed involves, will hardly be content to work on for years, unless provided with some regulated system of advancement greater than the Forest Department, as now constituted, can hope to give.

He submits that some system of classification of forest officers for the higher posts might perhaps be instituted, so as to ensure promotion at stated periods of service, and the retention of those men in the Department for which they have at some cost to the State been trained.

A similar remark is made by Mr. Dalzell. He says the sure prospect of a regular and progressive increase of salary appears to be absolutely necessary.

And on this point the Bombay Government concurs in the proposals of its chief forest officers, and says it is essential that forest assistants should have some better prospects of promotion and of progressive increase to their salaries than they have now.

8. *Bengal.*—Bengal submits a letter from Dr. Anderson, the Director of the Botanic Gardens, and at that time Conservator of Forests, approving generally of the scheme proposed, and adding a recommendation that the probationers trained at home should on their arrival in India devote a few months to the study of the language of the Province to which they are posted, and of attending a course of lectures on Indian forest trees, and the mechanical and physical properties of Indian timbers.

Dr. Anderson adds that useful Native subordinates might be obtained for the Forest Department from the classes from which Sub-Assistant Surgeons are drawn, if a course of instruction could be indicated to be followed by a competitive examination.

Lastly, he thinks that it would be necessary to amalgamate the minor Forest Departments of the Bengal Presidency into one Department, in order to attract Natives to study for forest appointments.

The Lieutenant Governor concurs with Dr. Anderson in approving of the scheme proposed by Dr. Brandis.

9. *North-Western Provinces.*—From the North-Western Provinces a large number of papers on the subject have been received.

At first the scheme was misunderstood. It was supposed by the North-Western Government, and by a number of the local officers consulted, that the system proposed had for its basis the employment of foreigners to the almost entire exclusion of Englishmen. In reply, the Government of India pointed out the condition stipulated at the outset that all candidates should be British subjects, and called for a revised expression of opinion.

The essence of the replies to this second reference may, in the words of the North-Western Government, be summed up as follows:—

"The importation of a certain number of trained scientific officers having a practical acquaintance with European systems of forestry, would, in the first instance, be very beneficial, yet the main supply of subordinates for forest work should be secured on the spot, and the means of scientific instruction should be provided by the establishment of a forest chair at the Thomason College, Roorkee, for the training of both European and Native candidates for employment."

The Lieutenant Governor did not wish to under-rate the value of scientific acquirements; but he was satisfied that local experience and ability to be out at all seasons, is of greater importance in the natural forests of those Provinces, and that it is safer and better to select a tried man on the spot than to procure men from England at a great expense whose health may fail almost immediately.

Among the papers which most forcibly illustrate this view of the question are the letters from Colonel Ramsay of 8th July 1867 and 12th February 1868, and from Mr. Palmer, Collector of Bijnour, of 17th May 1867 and 14th January 1868. Colonel Ramsay explains that in the forests of his division no necessity exists for the elaborate plans of France and Germany, that the most valuable forests are those of *Sál*, and that these reproduce themselves most abundantly without any other aid than protection from wilful and accidental damage.

He thinks that a trained forester, with all the qualifications required by Dr. Brandis, would no doubt write a report more interesting to those who have studied the subject; but a practical hard working officer, who can stand the sun and climate in May and June, and understands how to manage Native contractors, would be a more valuable forest officer.

Mr. Palmer urges the inexpediency of depending upon the good offices of Foreign Governments in the matter of training forest officers, and recommends the establishment of a forest school in India.

Mr. Williams, the Commissioner of the Meerut Division, believes that the best supply of forest officers would be secured by taking advantage of both sources, that is, getting a few educated in Scotland, France, and Germany, but getting most in India—these latter to be trained regularly as apprentices.

10. Other reports submitted by the same Government are more favorable to the scheme. Thus, the Commissioner of the Benares Division thinks that the presence in India of men trained and educated to the full extent contemplated by the scheme, would be of great value; but he records his opinion that, until this line of the public service holds out a far better promise of advancement than it appears to do at present, we cannot hope to secure the class of men looked for.

Lieut. Col. Lloyd, the Commissioner of the Jhansie Division, thinks it is necessary, in order to secure really efficient forest management, that trained officers should be provided; but he is inclined to doubt whether the salary proposed will be found sufficiently remunerative to tempt men possessing qualifications of the high standard required. Lieut. Col. Lloyd submits a letter from Major Davidson, Deputy Commissioner of Lullutpoor, who understands that the main object of the measures proposed is to effect a permanent improvement in the system of forest administration, not so much by keeping up a supply of men trained on the Continent, as by establishing, as soon as may be practicable, a local school for the purpose in this country; and, as such, the scheme for supplying this country with trained men, who would at no distant period themselves become instructors, appears to him most admirable and one certain to succeed.

11. *Punjab.*—The Punjab Government submit a memorandum by Dr. Stewart, the Conservator. He thinks that, as far as his knowledge goes, the scheme appears very complete and suitable, and adds that, though much may be learnt from attention to the systems of forestry of Great Britain, a great preponderance ought in any such scheme to be given to study in the forest schools and forests of France and Germany.

But he observes that a continuous scheme can hardly be perfected until the Forest Department in India is more assimilated and amalgamated than at present, and he urges that the candidates should not be allowed to deceive themselves as to their probable position and prospects in India while the Department remains in its present position.

Dr. Stewart also thinks it inadvisable to fill up all vacancies by trained probationers from England, and would rather be inclined to leave room for some of the subordinates to move into the higher grades.

In this last proposal the Punjab Government concurs, without however expressing an opinion on the general plan proposed.

On the subject of forest officers on leave studying forestry in Europe, the Punjab Government supports the Conservator's suggestions that, when these officers devote some months to special study, it will be proper to extend their leave in Europe.

12. *British Burmah.*—From Burmah a letter by Mr. Henry Leeds, the late Conservator of that Province, contains several remarks which deserve careful perusal.

Mr. Leeds says that vacancies in the Forest Department can easily be filled up from men to be found in the country, that there are in India a daily increasing number of young men of position and education who would as a rule turn out much more valuable as forest officers than men untried and chosen at home.

He would therefore prefer, instead of choosing young men from home for the training proposed, to select the most intelligent, zealous, and fit officers from the forest staff now working in India for the special training desired.

They should be sent to Europe, and their expenses should be paid. They would acquire the European systems, and apply them in a very much shorter time than young men chosen at home.

The selection of young men in England to be trained before being sent out to India, would, Mr. Leeds thinks, have the following disadvantages:—

The prospects of promotion in the Forest Department are poor and uncertain, and it would be a mistake for any young man to spend his time and money in the training proposed. These young men do not know in the least to what they are committing themselves, and thus, after arrival in India, may perhaps find out that they have made a great mistake, from which however they could not retreat without losing the time and money employed in their special training.

A degree taken at one of the Universities, Mr. Leeds thinks, would be far more valuable. Everything is open to the collegian who has taken a degree, and only a few poorly paid forest appointments are open to the forester, who will have to live a hard life and one very trying to health.

He further urges that, how well soever they might be qualified as regards their studies, it might be found, after joining, that by temper and disposition some of them were very ill calculated to manage the Natives of India, added to which, for two or three years they would, while they adapted themselves to the country and learned the language in use, be of little assistance in the Department they joined, but would nevertheless be in the receipt of comparatively high pay.

The Chief Commissioner of Burmah has no special remarks to offer on the scheme proposed; but many of Mr. Leeds' proposals commend themselves to him; and appear worthy of the consideration of the Government of India.

13. *Oudh.*—From Oudh, Mr. Strachey, the late Chief Commissioner, expresses himself strongly in favor of some well arranged system of providing the Forest Department with properly qualified candidates.

He believes it to be certain that, until we obtain men who have been specially educated for the purpose, the management of our Indian forests will never be satisfactory, and adds that without special education a man can no more learn to manage a forest than he can learn to be an engineer or a lawyer.

At the same time he thinks that, to ensure a supply of properly qualified candidates, considerable changes in the management of the Forest Department in this country would apparently be necessary.

In this regard he says that officers entering the Forest Department have no certain prospects of promotion, and so long as this remains true, it must always be exceedingly difficult to secure and to retain the services of good men.

To obviate this difficulty, Mr. Strachey urges that there should be a single forest service for all India, and all forest officers should be placed on one general list, with appropriate classes and grades.

First appointments should be made either by the Home Government of probationers specially trained in Europe, or second, by the Government of India of probationers trained in this country.

All promotions might be made by the Local Governments from the general list after consultation, in the case of the more important officers, with the Inspector General of Forests.

The appointment of Conservators should always receive the previous sanction of the Government of India.

He adds that at some future time, when a sufficient number of experienced forest officers became available, the centralization now suggested might no longer be necessary.

The Chief Commissioner refers to another plan which had been suggested to him, that the Forest Department might be made a branch of the Public Works Department, that junior Public Works officers might specially qualify themselves by devoting a certain time, say one year, to the study of forestry in Europe or in India, on the establishment of a forest school in this country.

The difficulties of this plan, Mr. Strachey thinks, are insurmountable; for the work to be done by forest and Public Works officers is widely different in its nature, and requires different abilities and training.

14. *Central Provinces.*—The views expressed by Mr. Morris, the Officiating Chief Commissioner of the Central Provinces, and by Major Pearson, the Conservator, generally support the provisions of Dr. Brandis' scheme for the training of forest officers.

Mr. Morris says that men obtained in the manner proposed would, for the purpose in view, certainly be on the average superior to men chosen from the Indian Uncovenanted Service, or from the ranks of young gentlemen who come to India to seek their fortunes. The general success of the scheme, however, Major Pearson urges, must materially depend on the way in which men so trained and brought out to India are treated in regard to pay, promotion, and general advantage in the service.

He thinks that there are two methods by which the Forest Department may be rendered sufficiently desirable to induce good men to devote their services permanently to it,—

First.—To have one Department for all the forest officers under the Government of India, with one general list divided into grades and classes.

Second.—A regular certain rise to higher rank and higher pay after a certain number of years, as in the Staff Corps.

Major Pearson believes that the first of these would be best for the forest officers themselves, but that there are strong reasons on public grounds against its adoption.

He thinks that the Forest Department of each Province should be bound up in every way as firmly as possible with the civil administration of the Province in which it works, and should form an integral portion of it.

Local Governments, in his opinion, will never take a thorough interest in a Department which does not thoroughly belong to them, and the moment the interest of the Local Government in the Department ceases to exist, all the scientific knowledge of the forest officers will be powerless to carry out good forest management, except perhaps in their own immediate reserves.

The Officiating Chief Commissioner agrees with the Conservator in saying that the interests of forest conservancy and forest revenue will be best served by attaching forest officers permanently to particular Governments and Administrations; but he bases this opinion on grounds totally different from those urged by Major Pearson. It appears to him that the usefulness of forest officers would diminish just in proportion to the frequency with which they are transferred from one Province to another. They must gain and retain an acquaintance with the special circumstances and requirements of each forest tract, and of the timber and wood trade in the country around; they must acquire a knowledge of, and influence with, the Natives who inhabit such tracts; they must also possess weight with the civil officers through whose agency much of the conservancy work has to be done.

As a general rule, therefore, forest officers should be attached permanently to the Local Government to which they are first posted. The Government of India should, however, retain to itself the right of selecting special officers of the Department for special appointments, such as Conservators, and these special and higher appointments might be put into a general list.

Holding these views, the Officiating Chief Commissioner and Major Pearson see no alternative but to an increase of pay after a certain specified term of years, and the following scale of pay is proposed by Mr. Morris for the Central Provinces:—

Rs. 250	per mensem	on joining.
„ 350	on passing the Vernacular examination.	
„ 400	on taking charge of a Division.	
„ 500	on completing 5 years' service.	
„ 600	„ „ 10 „ „	
„ 700	„ „ 15 „ „	

Major Pearson, however, would retain in the hands of Government the absolute power to refuse such increase of pay, in case of manifest incompetency, habitual idleness, disobedience, or habitual inattention to orders, or other sufficiently good grounds.

15. *Hyderabad*.—From Hyderabad the late Resident, Sir R. Temple, expresses his entire advocacy of the plan proposed by Dr. Brandis, which will, in his opinion, be essentially necessary if the Department of forestry in India is to be constituted in a manner worthy of the fine and extensive forests which the Empire in its various parts does really possess.

He thinks that a regular forest service must be created much like the educational service, or the engineering service, that the salaries of Conservators, and more especially of the Assistant Conservators, should be enlarged so as to render the service attractive to European candidates.

Sir Richard also suggests that a certain number or proportion of the appointments might be advantageously reserved, to which officers not specially trained, but possessing Indian and administrative experience, would be eligible.

16. *Mysore and Coorg*.—Mr. C. B. Saunders, the Officiating Commissioner of Mysore and Coorg, supports the opinion of the Officiating Conservator that Dr. Brandis' proposals, having for their object the special training and education of young officers in Europe for employment in the Forest Department in India, will be fraught with great advantage to the public interests, and will tend very materially to develop and utilize the resources of the forests.

17. *Central India*.—The Governor General's Agent in Central India, Colonel R. J. Meade, reports that all the officers under his agency concur in the advantages that may be looked for in the course of a few years from the supply of trained officers to the Department.

18. *The majority of Local Governments favorable to the scheme*.—With regard to the fundamental question whether a specially trained agency should be employed to secure a rational management of the State forests in the Provinces of India, the majority of the Local Governments and Administrations are decidedly in favor of introducing a regular succession of specially trained officers to fill a proportion of the vacancies that may arise in

the Department. With this view of the case, the Governments of the Bombay Presidency and of the North-Western Provinces do not agree. Their opinion appears to be that, as a rule, the services of trained men are not required for the management of their forests, but they admit that a few officers specially trained for the work may occasionally be useful.

The Government of the Punjab and the Chief Commissioner, British Burmah, offer no opinion on the general question; but the views expressed by the Conservators of Forests in these Provinces are to a certain extent in favor of the employment of a trained agency.

19. *Three main questions to be discussed*.—Under these circumstances, it may be justifiable to assume that it will be decided to take measures for securing a succession of specially trained officers to fill up a portion of the vacancies that may arise in the Department. Proceeding from this assumption, three main questions present themselves:—

First.—Should the candidates to be trained for the controlling establishment be selected in England, or in this country?

Second.—How should the candidates be selected; and what arrangements should be made for their professional training?

Third.—What should be done to hold out sufficient inducement to suitable and competent candidates?

20. *Sources whence to recruit the controlling establishment*.—Regarding the first question, there appear to be three main sources whence the ranks of the upper or controlling forest establishments might be recruited:—

First.—By promotion from the lower establishment either of Europeans or Natives of the country. This has been justly urged by the Lieutenant Governor of the Punjab and the Conservator of that Province, and there is no doubt that, as the Department progresses, this source will yield valuable officers. Ultimately it is hoped that this source will yield a large proportion of Native forest officers for the higher appointments. It cannot sufficiently be urged that, unless the practice of rational forest management becomes the common property of the Natives of this country, the permanence of the measures now initiated, and their ultimate beneficial effects will remain uncertain.

Second.—Officers of the army, or other gentlemen in this country, who possess special qualifications which may render it desirable to secure their services for the Department without requiring them to commence their career in a subordinate position. The admixture of a proportion of men drawn from the Staff Corps, and local Military Officers, was strongly and justly, I think, advocated by the two Members of Council in Madras. Some of the most efficient and able forest officers have been drawn from these classes, and if officers are carefully selected, this will remain a most desirable source of supply.

Third.—Candidates selected in England, and sent out to this country after receiving a special professional training.

The last-named measure, to select young men at home for the service of the Department, has been objected to by the Government of the North-Western Provinces, by Colonel Ramsay, the Commissioner of Kumaon, and by Mr. Henry Leeds, the present Conservator of Forests, Bengal.

The principal objections urged are the expense of the scheme, and the uncertainty whether the young men selected and sent out after completing their course of training will be able to stand the fatigue and exposure of the forests, whether by temper and disposition they will be fitted to manage the Natives of the country, and, generally, whether they will make efficient forest officers.

These objections would apply with equal force to the Civil Service, the Public Works, and other Departments, and they hardly require discussion.

21. *Mr. Leeds' proposals*.—But Mr. Leeds suggests another plan, which, he thinks, will secure the same object at less expense, and with less risk of failure.

He thinks that a much more valuable class of men might be obtained by recruiting the ranks of the Department from those gentlemen who come out to India to seek employment in the service of Government, or of private concerns.

It is true that of late years a considerable number of young men of fair education have come out to India in search of employment, and others have been thrown out of work by the failure of Tea Companies or Coffee Plantations, and many vacancies in the Forest Department have been filled from this source.

In some instances the services of excellent officers have been secured in this manner, and I should not recommend that the Department be closed against men of these classes.

Many of them have entered the forests in subordinate positions, and it is very desirable that this should continue. If competent, they will work their way up, and hard work in a subordinate position is often the best training for a man of some education.

But it would be most unwise, in my opinion, to rely on this source of supply to any great extent. In justice to the work that has to be accomplished, a proportion at least of our forest officers should be selected in England, because, if sufficient inducements are held out, there is at home an infinitely greater chance of picking out young men of the right stamp.

I do not hesitate a moment to say that, if the selection at the India Office is made with some care, the men sent out will in every respect be superior to the average of those who come out to this country in search of employment.

And I much doubt whether the past experience of the Forest Department renders it desirable to rely too much on this source. It is a sad thing to see young men who might have received a good professional education at home, had they been willing to work, or had their parents been more decided, brought out to India with a most insufficient education and no business habits, in the hope of obtaining for them an appointment in the public service.

And it is a distressing sight to see these same young men placed in charge of important public business, of which they understand nothing, for which they are perfectly incompetent, and from which it is very difficult to remove them.

But assuming that it were right to rely on this source of supply, Mr. Leeds' further proposal to select from among them such as have had two or three years' training in India, and to send them to Europe to go through a regular course of training, would be more expensive than sending out probationers from England.

He proposes that their expenses should be paid. This would entail the following outlay:—

Passage home and back	Rs. 2,000
Eighteen months' salary, at the average rate of Assistant Conservators (Rs. 350) per mensem	6,300
Total	Rs. 8,300

This does not provide for their travelling expenses while in Europe, and the calculation is based on the most improbable supposition that these men will acquire the European system of forestry in about half the time that has been assigned to the young men chosen at home.

On the other hand, the outlay on account of the probationers will be—

Stipend for two and a half years, at the rate of £60 per annum	Rs. 1,500
Passage to India	1,000
Two months' pay, from the date of signing the Contract to arrival in India, at Rs. 250 per mensem	500
Total	Rs. 3,000

It is not unlikely that hereafter the stipend may have to be raised. Even if it were raised to £100 per annum, as will be suggested further on, the outlay would not exceed Rs. 4,500 for each probationer sent out to this country.

3. The Collector of Bareilly reports that his views on the subject were stated in Mr. Colvin's letter No. 291, dated 22nd May last, a copy of which was submitted with Mr. Inglis' address No. 62, dated 5th July following, and that he has no fresh opinion to submit.

4. In my opinion, it would be better to appoint Officers on trial in this country, and, after giving them an opportunity of making themselves acquainted with the Forest work in India, allow them leave of absence to study at Home and abroad.

5. During the hot weather and rains their absence would often be beneficial to their health, and also afford time for study at Home.

6. I would make such appointments Provincial, and not Imperial, and thus give an impetus to the culture of Forest trees in all parts of the country.

7. The local peculiarities of Rohilkund and Kumaon require a peculiar local experience and education.

8. Some interesting experiments were made by Mr. H. G. Astell about thirty years ago. He planted Sâl trees and many other kinds brought from the forest, and if a scientific Forest Officer would visit this part of the country, and impress on the Native landholders the advantages of woods combined with the cultivation of the land, an important step would be taken in the improvement of the country and its resources.

9. A portion of the profits of the forests might be devoted to the improvement of Forest science at the head-quarters of each division.

No. 34, dated 14th January, 1868.

From—GEO. PALMER, Esq., Collector of Bijnour,

To—Commissioner of Rohilkund Division.

I have the honour to acknowledge receipt of your Circular No. 143, dated 31st October last, with its enclosure, calling for a fresh opinion on the proposed scheme for supplying the Forest Department of the Indian Government with Officers trained upon the French and German system.

2. My letter No. 233, dated 17th May 1867, was written under a misconception of the conditions of the proposed scheme. In fact, at the time when my letter was despatched, your Circular No. 110, dated 20th May, had not reached this Office.

3. My opinion on the general importance of scientific training was sufficiently expressed in paras. 2 and 3 of my letter above quoted. It remains now only to consider the particular scheme indicated for report.

4. If it be made a primary condition that all candidates should be British subjects, the objection arising from the possibility of too great an influx of Foreigners into the Forest Department is removed; and if the appointments are to be made in England, there can be no reasonable doubt but that they will be sought after with sufficient eagerness to maintain the requisite supply of candidates.

5. But I am still of opinion that grave objections exist to the scheme proposed by Dr. Brandis, even as now modified by Her Majesty's Secretary of State.

6. It is admitted on all hands that means for training Forest Officers in England do not exist; consequently, if Forest Officers are to be appointed in England, they must receive their training in the Forest Schools of other European countries. It follows, therefore, that the Indian Forest Department will be dependent for a supply of trained Officers upon the Home Government, and that the latter will be wholly dependent upon Foreign aid for the means of meeting the demand.

7. It seems to me that this arrangement is inexpedient in more ways than one. Putting aside the question of the extent to which Her Majesty's Government can continuously avail themselves in such matters of the good offices of Foreign Governments, without derogation to the national dignity (a difficulty which is certainly not diminished by Mr. Laydeker's recent refusal to accept remuneration for the services of his Department in training the English Officers sent to him for education), it is obvious that the continuance of such friendly aid from the Governments of Foreign States must always be contingent on the political relations of the time. And as it is not to be hoped for that these should be always cordial, there will always be the risk that circumstances would deprive us of the means of training our candidates in the Continental Forest Schools. Such an event would probably occur

unexpectedly, and no provision could be made beforehand to obviate the embarrassments which would necessarily ensue.

8. In fact, it seems to me that arrangements such as those proposed for consideration should be contemplated only in the case in which it was certain that means could not be found for training Forest Officers in India or in England.

9. But if no adequate means of instruction in Forest Science exist in England, it by no means follows that none exist or can be created in India. And if this could be accomplished, the Indian Government would be able to train its Forest Officers on the spot, and under its own direction; and it would have the additional advantage of securing antecedent knowledge of the country and its language in all candidates for Forest appointments.

No 21, dated 12th February, 1868

From—COLONEL H. RAMSAY, C. B., Commissioner of Kumaon.

To—Secretary to the Government of the N. W. P., in the P. W. Dept.

I have the honour to acknowledge Secretary to Government of India's, P. W. D. No. 316 F. dated 20th September, forwarded under your docket No. 276 F, dated 25th October 1867.

2. In submitting my No. 227, dated 8th July 1867, I certainly was under the impression that Dr. Brandis' proposal referred to Germans. I have now perused Circular 10F, dated 23rd April last, and other correspondence forwarded under your No. 297, dated 23rd November last.

3. I find little difference between Circular F and the correspondence which was transmitted under your No. 110, dated 30th April 1867, beyond the fact that Englishmen, and not Europeans, are to be employed. I still maintain that Sal forests only require to be protected to ensure their growing luxuriantly in those localities where they have hitherto existed, and there is no great science required in sowing Toon and Sissoo. The trained Forester, with all the qualifications required by Dr. Brandis, will no doubt write a report more interesting to those who have studied the subject; but I think a practical, hard-working Officer, who can stand the sun and climate in May and June, and understands how to manage Native Contractors, is a more valuable Forest Officer, though he cannot write so good a report; if the latter had all the qualifications of the former, he would of course be far more valuable; but the highly educated Forester, who would not stand exposure, would be worth little. I do not think experience in a Scotch or French forest, where every stick is valuable, can be of much use in our forests, where thinning a Sal forest would cost more sometimes than the saplings are worth. The system pursued in European forests cannot be carried out in India, where the sun, rains, climate generally, and local difficulties, differ from those of France as much as the languages of the two countries. It strikes me that it is safer to select a tried man on the spot, and appoint him, than to get a man from England, whose health may prevent him remaining in the forests. It is an undoubted fact that some men are liable to catch fever in the forests, and men with that taint certainly die if they stick to them. This fact has been fully proved in the forests of this Province during the last ten years.

4. I think it would be very desirable to have good Native trained Foresters, if we could have them, but this object is not easily attained. Good knowledge and school training would be of no value whatever to the forests, if the man with these advantages did not remain throughout the season. All the good men I have known during my acquaintance with these forests since 1845, employed under Contractors in former times, and latterly under Government, are dead. Many of them did not last more than three or four years. Indifferent men shrink their work as soon as they escape European superintendence, and go to the Hills. Intelligent men with any education find employment in better climates. Men of respectable families consider the risk too great, unless circumstances have reduced them to penury, when they cannot be trusted. It is difficult to get good men to learn and carry out even what the present system requires. It would be very easy to propose the establishment of a staff of trained Natives to be sent to different forests, and I fear that I shall be considered rather behind the age for expressing the opinion I hold; but I object to propose a theory which I consider impractical, and my forest experience of a quarter of a century has given me the opportunity of seeing what few others know.

5. It is my firm opinion that Native Foresters sent to these forests from any other part of India would not last a couple of years, if they did their duty, and we have not succeeded in getting Hill-men to live long enough to become valuable. The only one that survived many years was P. G. S. 2, who died last year. As regards Europeans, I consider no man who is not a sportsman can be a good practical Forester; to any other, the climate, the heat, and the solitude of the forest in May and June, the most important time, are intolerable.

And when these young men arrive in India, they are not likely to require a longer apprenticeship before being really useful than men selected in this country.

Under these circumstances, it appears preferable to select the candidates in England.

22. *Course of professional training proposed, establishment of a forest school at Roorkee.*—The second point for discussion is, how should candidates be selected; and what arrangements should be made for their professional training?

It has from the beginning been stated that the arrangements for training probationers in the Continental forest schools should be made as a temporary measure only, until the establishment in Great Britain or India of an efficient forest school.

The establishment of such an institution in this country at Roorkee, in connection with the Engineering College, was recommended by the Government of the North-Western Provinces as early as 1863, and this recommendation has again been urged in the papers now received.

The first condition for the establishment of a forest school is the existence of well-managed forests within the immediate vicinity to illustrate the instruction proposed to be given. These forests should comprise a variety of woodlands, coppice, and high timber forest of various kinds; they should afford ample opportunities for studying the different methods of natural and artificial reproduction, and of becoming familiar with different systems of working, that is, of cutting, preparing, and the transport of timber and other forest produce.

There should, if possible, be forests in the plains, and in mountainous country at different elevations, and there should be facilities for giving the students a practical knowledge of different rocks and soils, and of as large a variety as possible of forest trees, shrubs, and other plants of interest to the forester.

The students should further have opportunities of receiving practical instruction in the making of forest roads, timber slides, and the regulation of streams for floating.

The situation of Roorkee is exceedingly favorable. There are the forests of the *Sawaliks*, part of which should probably be treated as coppice woods; the *Sal* and *Sissoo* forests of the *Dhoon*, and the *Deodar* forests of Jaonsar Bawur and the Bhagaruttee Valley.

There are also the canal plantations, and there is, lastly, the college itself affording every facility for instruction in mathematics, the natural sciences, surveying, and the elements of civil engineering.

Following the analogy of Nancy, there would be two terms in the year,—one theoretical, one practical;—or rather there would be, in addition to the term devoted to lectures and other work at the College, two terms for practical instruction. In spring or autumn the professors of forestry, with the students, would be encamped in the *Deodar* forests on the hills, and part of the cold season they would spend in the forests of the *Dhoon* and *Sawaliks*.

23. *Conditions required for the establishment of a forest school.*—One essential condition only is wanting. A regular working plan must first be established in these forests, and their treatment must be reduced to a regular, well arranged system. This work has doubtless been commenced, and further progress may be expected on the appointment of a Conservator for the North-Western Provinces. Special measures might be taken to secure steady and rapid progress in this direction. It might be considered expedient at once to place a number of experienced forest officers in charge of these forests, competent to prepare and to introduce systematic plans of operation.

But even under the most favorable circumstances, a series of years must elapse before a regular system for the more important of these forest tracts can be brought into full working order, and before sufficient experience has been gained in the cultivation of forests to raise our operations beyond the stage of experiment, and to make them actually instructive.

Until then, say, for the next ten or fifteen years, we must mainly look to the Continental forest schools for the training of our officers.

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8. In fact, it seems to me that arrangements such as those proposed for consideration should be contemplated only in the case in which it was certain that means could not be found for training Forest Officers in India or in England.

9. But if no adequate means of instruction in Forest Science exist in England, it by no means follows that none exist or can be created in India. And if this could be accomplished, the Indian Government would be able to train its Forest Officers on the spot, and under its own direction; and it would have the additional advantage of securing antecedent knowledge of the country and its language in all candidates for Forest appointments.

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The situation of Roorkee is exceedingly favorable. There are the forests of the *Sawaliks*, part of which should probably be treated as coppice woods; the *Sal* and *Sissoo* forests of the *Dhoo*, and the *Deodar* forests of Jaonsar Bawur and the Bhagaruttee Valley.

There are also the canal plantations, and there is, lastly, the college itself affording every facility for instruction in mathematics, the natural sciences, surveying, and the elements of civil engineering.

Following the analogy of Nancy, there would be two terms in the year,—one theoretical, one practical;—or rather there would be, in addition to the term devoted to lectures and other work at the College, two terms for practical instruction. In spring or autumn the professors of forestry, with the students, would be encamped in the *Deodar* forests on the hills, and part of the cold season they would spend in the forests of the *Dhoo* and *Sawaliks*.

23. *Conditions required for the establishment of a forest school.*—One essential condition only is wanting. A regular working plan must first be established in these forests, and their treatment must be reduced to a regular, well arranged system. This work has doubtless been commenced, and further progress may be expected on the appointment of a Conservator for the North-Western Provinces. Special measures might be taken to secure steady and rapid progress in this direction. It might be considered expedient at once to place a number of experienced forest officers in charge of these forests, competent to prepare and to introduce systematic plans of operation.

But even under the most favorable circumstances, a series of years must elapse before a regular system for the more important of these forest tracts can be brought into full working order, and before sufficient experience has been gained in the cultivation of forests to raise our operations beyond the stage of experiment, and to make them actually instructive.

Until then, say, for the next ten or fifteen years, we must mainly look to the Continental forest schools for the training of our officers.

24. *Number of vacancies annually to be filled up by trained probationers.*—The next question then is, how many vacancies may be expected to arise annually among the members of the controlling forest establishment?

As will be explained hereafter, the present sanctioned scale, with the addition of seven probationers, comprises 56 officers. Some additional officers will certainly be required in Bengal, the Punjab, and Mysore, and there may be a small increase in the other Provinces. But, considering all circumstances, it does not appear likely that the total number within the next few years will rise beyond 80 or 90.

In the Public Works Department the average annual rate of casualties during the last seven years has been between five and six per cent. Assuming eight per cent. on account of the undoubted unhealthiness of the forests, there would be nearly seven vacancies to be filled up annually after the Department has attained a strength of, say, 85 officers.

One-half of these vacancies might be assigned to specially trained probationers, and one-half might be reserved to be filled up by the promotion of subordinates, and by the selection of suitable men from among Military Officers and other persons available in this country.

At the same time it may be considered advisable to reserve one vacancy in two years to the Governments of Bombay and Madras. Accepting this, Her Majesty's Secretary of State might be asked for the present to send out annually in autumn four specially trained probationers. As at least two years will have elapsed since the first selection in February 1867 before a new selection of candidates can be made, the Home Government might be asked for the first time to select a larger number, not exceeding eight, in case a sufficiency of competent candidates should present themselves.

25. *Prospects of the Department.*—Should this proposition be accepted, there would, fifteen years hence, after allowing for deaths, removals, and probationers posted to Madras and Bombay, be upwards of 40 officers in the Forest Department under the Government of India, who had received a special training in the best forest schools, and a proportion of these would by that time have acquired considerable experience in forest management in this country. It will then be time to establish a forest school at Roorkee, and to make the Department independent of a supply of men trained on the Continent of Europe. At the Indian forest school it is hoped a large number of Natives of this country will, after having gone through a purely practical apprenticeship in their own Province, be instructed and prepared for the higher forest appointments. This is the ultimate end towards which we must labor, but its attainment will not be practicable, unless a systematic plan of organization is adopted and carried through with patience and perseverance.

26. *The professional training should be on the Continent of Europe.*—It now remains to explain how the training and instruction of the probationers for the present should be arranged.

Those who doubt the expediency of sending them to the Continent of Europe for their professional training, I would beg to refer to the 5th and 6th paragraphs of Lord Napier's minute, in which the advantages of such a training for the Indian forest officer are clearly set forth. It will be sufficient here to state that French or German forest officers are trained in those schools, where their duty is to not to become men of science, but to be practical managers of forests, where their duty is to raise, at the least possible expense, the greatest annual yield of timber, wood, and other forest produce from a given area of land. The results of their management of extensive tracts of forest land, be it State or private property, are, as a rule, most admirable. In his minute, Lord Napier expresses himself specially in favor of German forestry. His Excellency strongly advocates that all probationers should be sent to Germany for their apprenticeship. He thinks there is nothing gained by dividing the young men between two countries, and justly remarks that Germany is the original seat of forest science, and that there it is still best understood and practised. The candidates, His Lordship adds, would find themselves in a more congenial society, and in a better moral atmosphere than in France.

These remarks should receive most careful consideration, yet I would beg respectfully but strongly to advocate that a portion at least of the students be sent to France for their professional training. First of all the exclusion of France would considerably narrow the selection,

for German is much less taught in English schools than French. Moreover, the system of instruction at Nancy is admirably arranged, frequent periodical examinations induce emulation, compel the students to work, and the result is that average men are kept up to the mark.

In most German forest schools the students are left more to themselves. This was one reason why I felt it necessary to make special arrangements for the training of probationers in Germany, instead of entirely relying on the opportunities afforded by the existing forest schools.

Again, the present Director of the Imperial Forest School at Nancy, and most of the Professors are excellent men who take a personal interest in the welfare and progress of their students.

Lastly, the present experiment with the five young men now studying at Nancy has, up to this time, been decidedly successful.

But I have equal confidence in the efficiency of the arrangements made by me with *Forest Director* Burckhardt, and the reports received from him are equally favorable.

27. *The continuance of present arrangements advocated.*—Under these circumstances, I would strongly advocate the continuance of the present arrangements both in Germany and in France. If possible, an equal number of probationers should be sent to either country.

As a rule it is not desirable that less than two of our students should be sent to one place of instruction, and the Home Government might be asked, if possible, to make arrangements accordingly, and if such should be necessary in any one year, to add one or two to the number fixed. The excess might, if desired, be compensated, by suspending for one year the selection of candidates. After the experience of a few years, the number might from time to time be modified according to the number of vacancies, and with reference to the arrangements made for their education.

28. *The consideration of the amended scheme of February 1867 to be deferred for the present.*—In my letter of the 13th February 1867, I submitted an amended scheme for the training of probationers, suggesting that the time should be extended to three years and a half, the first part of which, viz., one year and a half, should be devoted in Great Britain to the study of mathematics, the natural sciences, and one modern language, the remaining two years being assigned to the professional training on the Continent.

This plan would secure a more complete training of the probationers, and it doubtless is the more perfect arrangement; yet it has not received that general support which would warrant its introduction. Lord Napier thinks the first plan, under which the present probationers are trained, preferable. The Hon'ble Sir T. Pycroft supports Dr. Cleghorn's view that a careful apprenticeship in Scotland, supplemented with one year in Germany, should be accepted as sufficient. Mr. Leeds thinks that a good and valuable forest officer need not of necessity be learned in the natural sciences, and seems to fear that the scheme proposed would secure a partial and superficial knowledge only of these matters. And most of the other authorities have not specially entered into the question.

Under these circumstances, it appears preferable to defer further consideration of the amended proposal, and, for the next few years, to maintain the arrangements made for the training of the probationers of 1867, which have hitherto given every promise of proving successful.

Three or four years hence, when the capabilities of these men for forest service in this country will have been tested, and more experience generally will have been gained, we shall better be able to appreciate and to remedy any defects which the present arrangements may possess.

29. *Conditions for selecting candidates.*—For the next few years, therefore, candidates might be selected on the plan of 1867, with some modifications indicated hereafter. They should pass a strict medical examination, and should then be examined competitively in the following branches:—

A.—Compulsory. (Proficiency up to a certain standard to be indispensable for admission.)

I.—English writing from dictation, and English composition.

II.—Arithmetic.

III.—Algebra, elementary principles, simple and quadratic equations, ratios and proportion, logarithms, arithmetical and geometrical progression.

IV.—Geometry (1st, 2nd, 3rd, 4th, and 6th Books of Euclid), and plane trigonometry.

V.—A good colloquial knowledge of either German or French, with the facility to read and translate the works of some classical writer in the language.

VI.—Free-hand and plan drawing. (This subject was optional in 1867.)

B.—Optional. (Proficiency in these should entitle candidates to preference.)

I.—Surveying and land measuring.

II.—The elements of the following natural sciences :—

1. Mechanical and natural philosophy.
2. Chemistry.
3. Botany.
4. Geology.

A certificate of three months' apprenticeship, with an approved forester in Great Britain, would be a most desirable qualification; but it could not be demanded without due notice being given beforehand, and perhaps it would be preferable to send successful candidates, immediately after their nomination, to go through such an apprenticeship before sending them abroad.

The notification should clearly state that there will be a competitive examination, that a certain standard of proficiency in those branches which are not optional will be indispensable, and that none should apply who have not active habits, combined with a strong hardy constitution.

The best candidates would then, as in 1867, be sent to France and Germany for two and a half years' professional training. It may perhaps be considered advisable to raise the stipends from £60 to £100 per annum. This would doubtless have the effect of considerably increasing the number of candidates. The plan here proposed will be found capable of further development in the direction of the proposals made in February 1867. Should the number of competent candidates be found to increase, the conditions might be gradually raised, due notice being given, and some of the optional subjects might then be made compulsory.

30. *The time of professional training on the Continent cannot be shortened.*—The proposal made by several authorities to shorten the time assigned to the professional training on the Continent, I cannot recommend for adoption. For those who go to France, eight months is the shortest period that can be fixed for their preliminary training. This time is required to make them sufficiently familiar with the language, and with those subjects, principally mathematics and certain portions of the natural sciences, in which they would otherwise be too far behind their French comrades at the forest school. Then the 22 remaining months at Nancy cannot possibly be shortened, as this is the established term of studies at the Imperial forest school. Nor can arrangements for an efficient practical and theoretical training in Germany be made for less than two years and a half under the plan now proposed, or for less than two years, if the conditions for the admission of candidates are raised so as to include a knowledge of surveying and the natural sciences.

31. *Inducements to be offered to candidates.*—It remains now to discuss what inducements should be held out to candidates.

It might be said that nothing more is required than the conditions offered to the first candidates in 1867, that is, appointments as junior assistants on Rs. 250 per mensem, and the chance of promotion in the Department as at present constituted.

It is true that in 1867 a large number of candidates applied. But when it became known that there would be an examination, the majority of the candidates withdrew. Yet this examination was only in the elementary branches of knowledge. A large proportion was

rejected by the Medical Board, and among those remaining the selection was not difficult, for there were very few competent men among them. This result is not likely to be modified when candidates are invited annually on similar conditions.

Indeed it may with certainty be predicted that, unless more certain prospects of advancement are held out, those probationers who are expected to arrive in this country by the end of next year, will become discontented and disheartened, and that in future it will not be possible to obtain candidates of the right stamp at home.

This has virtually been acknowledged by all Local Governments and other authorities who have stated their views on this part of the question. If the force of what is here stated is admitted, it follows that the Forest Department must be placed upon such a footing as to present fair and uniform prospects of advancement to the young men who will enter it as junior assistants, and generally to all its officers.

It will be difficult to attain this end with due regard to the efficiency of the Department, unless the whole of the forest appointments under the Government of India are united in one general list with classes and grades. This list would not include the appointments in the Presidencies of Madras and Bombay, and the following remarks do not therefore refer to these Presidencies :—

The main objection to this plan is, that it necessarily interferes with the prerogatives of the Local Governments of Bengal, the Punjab, and the North-Western Provinces.

On the other hand, the following remarks will show that no other plan is feasible, because the number of forest appointments is too small to admit of a division into several distinct Departments :—

32. *Proposal to localize the upper forest establishments.*—Another proposal has, it is true, been made from the Central Provinces, viz., to localize the service, to attach each officer permanently to his own Province, and to grant an advance of pay after completion of a certain period of service. This proposal has two serious drawbacks. In the first instance, it does not give sufficient opportunities for utilizing the experience gained in different Provinces. There are seven officers sanctioned for the Central Provinces. Their ranks will, from time to time, be recruited by new men, some with, some without special training, but all without any experience in any other Province. The aggregate experience of these officers will, therefore, be limited to the forests of their own Province, and the system of management that has once been established therein. It has, it is true, been suggested that the Conservator may, at the discretion of the Government of India, in special cases, be selected from among the officers of another Province, and that in return the special merits of an officer in the Central Provinces may be rewarded by appointment to a Conservatorship elsewhere. But for obvious reasons this will be a rare occurrence. As a rule, and very properly so, the Local Government will desire that the Conservator should be an officer in whom they have personal confidence, and who is thoroughly acquainted with the forests, the localities, the people, and the language of the Province. Moreover the essential conditions of the system will militate against the selection of so locally trained a man for a higher position elsewhere.

33. *Disadvantages of this plan.*—Practically, therefore, the officers of the Central Provinces would form a distinct Department, secluded from all the rest, and the development of their work would necessarily run in a certain groove, which might be the right one, but might possibly be in a wrong direction. For we should never forget that the system of rational forest management in India is not yet formed, though we hope that its growth has commenced. Its healthy development in the right direction will demand the active co-operation of forest officers in as many Provinces of the Empire as possible, and it would be a matter of great regret if this were rendered difficult by any measures tending to isolate the Departments of the different Provinces.

The interchange of reports, occasional visits of forest officers to another Province, and the visits of the Inspector General of Forests, might do something to break through the isolation in which the officers of each Province would be working under the plan proposed; but

these means are utterly insufficient. What is wanted is the interchange of practical experience gained by actual work and service in the forests of another part of the country.

These remarks refer to all Provinces alike. Burmah has 12 officers, the Punjab and the North-West 9 each, Mysore and Coorg have 4, Bengal and Oudh 3 each, and Berar has 2. There may, some time hence, be additions in a few Provinces; but even if these numbers were doubled, which is not likely to be the case, the maintenance of 7 or 8 small distinct Departments could not be justified.

If each Province had a large Department of its own, if instead of there were 70 officers in the Central Provinces, there would be a sufficient chance of always having men of genius and eminent ability among them who would strike out a new line, and break through the prejudice engendered by isolation. The truth is, the Forest Departments of each Province are too small to be safely left to their own devices.

34. *The executive and subordinate establishments should be localized.*—To make this fully clear, it will be necessary to go a step further. The revenue which the forests yield at the present time under conservancy management, is comparatively small. The amount therefore that may be expended on the more expensive upper or controlling establishments must necessarily be limited.

On the other hand, the area of the forests is immense, and for their executive management a numerous but less expensive agency must be employed. The officers of the upper establishment, after they have passed their first apprenticeship in this country, should not as a rule be employed in executive work, but should be competent to inspect and control the operations of their subordinates.

Now it is right and proper that the executive and subordinate establishments should be localized, indeed the greater proportion of them should be Natives of the district, and they should, as a rule, be permanently attached to their Province.

At present their training is of a practical character only, while they are actually employed in the work, but in course of time the establishment of a forest school in each Province, for the executive and subordinate establishment, will become necessary.

Their teachers, whether in practice or theory, will be the officers of the controlling or upper establishment, and they should have opportunities of acquiring experience of what is done in forest matters beyond the limits of their own Province.

This division between executive and controlling establishments has not yet completely been carried through in any Province; most officers of the upper establishment still have certain executive duties to perform, but the next great step of progress which the Department must make will be in the direction just indicated.

35. *The plan proposed holds out no inducements to exertion and emulation.*—For these reasons, it does not appear right to isolate the Departments of the different Provinces, and matters should be thus arranged as to facilitate a certain interchange of officers between different Provinces.

But independently of these considerations, which by some may be called theoretical, though they will prove to be of great practical importance hereafter, there is the difficulty of so arranging the plan proposed by the officers of the Central Provinces as to hold out sufficient encouragement for efficiency and ability.

I confess that I fail to understand how any great results can be expected if all advancement beyond a certain rate of pay is earned by mere length of service, with no inducement to exertion and emulation.

36. *Establishment of a general list necessary.*—The result then is, that a general list of all forest officers in the Bengal Presidency must be established.

The importance of this measure for increasing the efficiency of the Department can hardly be over-rated.

According to the present sanctioned scale, this list will comprise 7 Conservators, whose present pay ranges from Rs. 700 to Rs. 1,200; 14 Deputy Conservators, from Rs. 500 to Rs. 800; and 28 Assistants, from Rs. 250 to Rs. 450 per mensem.

For the sake of comparison it may here be stated that the sanctioned establishment of the Madras Presidency comprises—

1 Conservator on	...	...	...	...	Rs. 1,000
2 Deputies "	...	...	...	...	" 800
2 Ditto "	...	...	...	...	" 700
1 Ditto "	...	...	...	...	" 500
1 Ditto "	...	...	...	...	" 300
4 Assistants "	...	...	...	...	" 200

Total 11 Officers.

And in Bombay there are—

1 Conservator	...	...	...	...	Rs. 1,000
1 Forest Ranger	...	...	...	...	" 700
1 Deputy Conservator	...	...	...	...	" 600
1 Do. do.	...	...	...	...	" 500
3 Do. do.	...	...	...	...	" 400
2 Do. do.	...	...	...	...	" 300
1 Do. do.	...	...	...	...	" 250
1 Do. do.	...	...	...	...	" 200

Total 11 Officers.

This at present forms the upper or controlling establishment, and below them is the subordinate and executive establishment.

The appointment, promotion, and control of the lower branch of the forest service should be entirely under the orders of the local authorities. This establishment should be strictly localized, and permanently attached to each Province.

37. *First appointments by whom to be made.*—The next question to be settled is, by whom first appointments to the upper or controlling establishment are to be made? The trained probationers proposed to be sent out from Europe will be appointed by Her Majesty's Secretary of State. The appointment of all others, the late Chief Commissioner of Oudh proposed should rest with the Government of India. This seems to be unavoidable. Local Governments would annually recommend a number of men of the lower establishment for promotion, and they might also recommend military and other officers for appointment to Assistant Conservators; but to secure uniformity, all first appointments in this country should be made by the Government of India. For if this matter were left to Local Governments, it could not reasonably be expected that a uniform standard of qualifications would be maintained, and the specially trained probationers sent out from home would justly feel themselves aggrieved if men of inferior qualifications were selected for appointments equal or superior to their own.

It will not be practicable at present to establish the rule that all first appointments should be made to the lowest grade. For some time to come the exigencies of the service may demand the occasional appointment of military and other officers to a higher grade.

38. *Promotion of Assistant Conservators, how to be arranged.*—Accepting then as a starting-point that all first appointments will be made by Her Majesty's Secretary of State, or by the Government of India, the next question arises how promotion should be arranged so as to secure to all forest officers alike fair and, as far as practicable, uniform chances of advancement, without interfering more with the prerogatives of Local Governments than is absolutely necessary.

Those who enter on the lowest grade as Assistant Conservators on Rs. 250 per mensem, should not be placed in charge of a forest range or division, but should, in the first instance, be attached as supernumeraries to an experienced forest officer, under whose direction they would become acquainted with the climate, the vegetation, the people, and the peculiar nature

of the work. They would at the same time study the languages, and should within a certain time be required to pass an examination in one of them. The standard of these examinations should be prescribed by special rules.

The Assistant Conservator should not be entitled to any rise of pay, until two conditions had been fulfilled,—

1st.—He should have passed in one of the languages ;

2nd.—He should have a certificate from the Conservator of Forests to the effect that he is competent to hold charge of a forest range or division.

After fulfilling these conditions, he would then be eligible to be promoted to Assistant Conservator, 2nd Grade. The pay of this grade might be fixed at Rs. 350 per mensem.

This promotion should be made at the discretion of the Local Government, but should, like all subsequent promotions of forest officers, be notified in the *Gazette*, or reported to the Government of India. In the case of minor Administrations, it will have to be decided whether they should exercise the prerogatives of Local Governments with regard to promotion of forest officers, or whether in their case all promotions should be made by the Government of India.

The second rise to Assistant Conservator, 1st Grade, on Rs. 450 per mensem, might also be left to Local Governments, and officers should ordinarily become eligible to this step after three years' approved service in the lower grade. The Local Government should, however, be perfectly free to grant or to refuse such promotion according to the merits of the officer.

39. *The number of assistants of the different grades cannot be fixed.*—To each Province a certain number of Assistant Conservators would be assigned. According to the present sanctioned scale, after adding seven supernumeraries to provide for the trained probationers expected to arrive by the end of next year, the establishment of Assistant Conservators stands as follows :—

	RATE OF PAY.					TOTAL.
	Rs. 250.	Rs. 300.	Rs. 350.	Rs. 400.	Rs. 450.	
Bengal	1	...	...	2	...	3
N. W. Provinces	2	...	1	1	2	6
Punjab	3	1	1	1	...	6
Burmah	3	...	3	3	...	9
Central Provinces	2	...	...	2	...	4
Oudh	1	...	2	...	...	3
Mysore	1	...	...	1	...	2
Coorg	...	1	...	...	...	1
Berar	...	...	...	1	...	1
TOTAL	13	2	7	11	2	35

From this Statement it will be apparent that it would not be practicable for each Province to fix the number of assistants of each grade. It might possibly be done in Burmah, the Punjab, and the North-West, but in the other Provinces the number of appointments is too small. All that can be done is to fix the total number of assistants for each Province, leaving promotion open within these limits to Local Governments under the rules proposed above. Nor would it be practicable, under the plan here suggested, to fix the aggregate number of assistants of each grade in the general list, otherwise promotion would have to be regulated by the Government of India. There may thus occasionally be an accumulation of assistants of the higher grades, but the additional expense caused thereby is not likely to be considerable, and it is fully compensated by the advantage of leaving Local Governments freedom within certain limits to reward merit by promotion.

40. *Promotion to Deputy Conservators.*—In the same manner it may be considered sufficient to fix the total number of Deputy Conservators for each Province without determining the proportion that should belong to each grade.

According to the present sanctioned scale, four Provinces,—the North-West, Punjab, Burmah, and the Central Provinces,—have three Deputy Conservators each, and two,—Mysore and Berar,—have one. Their rates of pay are as follows :—

	RATE OF PAY.				TOTAL.
	Rs. 500.	Rs. 600.	Rs. 700.	Rs. 800.	
Bengal	...	...	...	...	...
N. W. Provinces	1	...	1	1	3
Punjab	1	2	...	...	3
Burmah	2	1	...	...	3
Central Provinces	2	1	...	...	3
Oudh	...	...	...	...	...
Mysore	1	...	...	...	1
Coorg	...	1	...	...	...
Berar	...	...	...	...	1
TOTAL	7	5	1	1	14

The first question is, how are vacancies in the ranks of Deputy Conservators to be filled up? They must, I believe, be filled up by the Government of India on the recommendation of Local Governments and Administrations, who would annually, on a fixed date, submit the names of Assistant Conservators recommended for promotion. I cannot recommend an exception to be made in favor of the Local Governments of Bengal, the Punjab, and the North-West, giving them the power to fill up vacancies arising in the ranks of Deputy Conservators in their own Provinces; for, in a Department with so small a number, this practice would tend seriously to disturb the uniformity of the chances of promotion, which should be equal for all its officers.

41. *Transfers of officers from one Province to another.*—Transfers from one Province to another would, under ordinary circumstances, take place on the promotion of an officer to Deputy Conservator, though the Government of India ought to reserve to itself the right of making transfers at all times with or without promotion, as the exigencies of the service and the merits of the officers concerned might require.

42. *Promotion of Deputy Conservators.*—Deputy Conservators might be of three grades: their pay being graduated at Rs. 900, Rs. 700, and Rs. 500. The highest rate at present sanctioned for a Deputy Conservator is Rs. 800; but it appears to be of great importance to afford a reasonable prospect of attaining a fair competency to all officers of the Department, also to those who, either from scarcity of vacancies or deficient abilities, cannot look forward to obtain an appointment of Conservator. And here it should be mentioned that, at the present time, nearly all appointments of Conservator are held by comparatively young men, so that the chance of further vacancies is limited.

The promotion of deputies from one grade to another might mainly be regulated by length of approved service, in the manner proposed for the promotion from second to first grade assistants.

No Deputy Conservator should be eligible to a higher grade before having completed three years' service in the next lower grade; but Local Governments should be at liberty to

withhold promotion at their discretion. A less complicated and perhaps more efficient arrangement would be to let all promotions be made by the Government of India. In that case the number of appointments of the different grades would be determined, and the possibility of an excess in the higher grades would be avoided. But this would leave Local Governments no share in the promotion of their own officers, and on this account it has not here been recommended.

43. *Local Governments and Administrations to post to charges.*—As matters are arranged at present, there is no essential difference between the duties of Assistant and Deputy Conservators, except that generally charges of greater importance are assigned to the officers of the higher class. It might, therefore, be convenient to sanction all appointments of the controlling establishment provincially, that is, to assign to each Province a fixed number of Deputy and Assistant Conservators without assigning appointments of a certain class or grade to certain charges or divisions. Local Governments and Administrations will thus be at liberty to make transfers of officers within their own Province as circumstances may require.

44. *Appointment of Conservators.*—The names of Deputy Conservators recommended for promotion to Conservators might annually, on a fixed date, be submitted by Local Governments; but the Government of India should reserve to itself full liberty in selecting the best officers for any vacancies that may arise. The number of Conservators sanctioned is as follows:—

Three on Rs. 1,200 (North-West, Punjab, and Bengal—the two latter are on Rs. 1,100 and Rs. 1,000 at present with a promise of increase to Rs. 1,200, in the case of the Punjab on 1st April 1869); one on Rs. 1,000 (Central Provinces, to be reduced to Rs. 800 on Major Pearson's promotion); two on Rs. 800 (Burmah and Mysore); and one on Rs. 700 (Oudh).

But the lower figures, Rs. 700 and Rs. 800, can hardly be looked upon as a commensurate remuneration for the heads of Departments in large Provinces, though they may suffice for the present, while these appointments are held by comparatively young officers. These officers will, it is hoped, in course of time earn promotion, and then the lowest class of Conservators at Rs. 700 and Rs. 800 may be absorbed. In passing orders on the appointment of Conservator in the North-Western Provinces, the Government of India in the Public Works Department said that it would eventually be proper to raise the salary to Rs. 1,500 per mensem. Under these circumstances, the following grades of Conservators may perhaps be proposed: the higher classes to be filled up gradually as the merits of officers may justify their promotion:—

1	1st Class Conservator, at	...	...	Rs. 1,600
1	2nd do. do.	...	...	" 1,400
2	3rd do. do.	...	...	" 1,200
3	4th do. do.	...	...	" 1,000

The promotion, as well as the first appointment, of Conservators should be entirely in the hands of the Government of India.

45. *Leave and acting appointments.*—In the matters of granting leave and acting appointments below the rank of Conservator, the present practice might be maintained. But it should be provided that no outsiders should be appointed to officiate for a forest officer, without the sanction in every instance of the Government of India.

Transitory rules will be required to regulate the promotion of Deputy and Assistant Conservators, who at present draw rates of pay intermediate between the pay proposed for the next higher and lower grades.

46. *Prospects of forest officers under the present proposals.*—Should the proposals of this report be accepted, a young man entering the Forest Department would, after from 15 to 20 years' service, have reasonable prospects of attaining to a Deputy Conservatorship of the 1st Class on a pay of Rs. 900 per mensem, and might then have the further chance of rising to

the post of Conservator. Prospects less favorable than these would not, it is feared, suffice to attract competent candidates to the service.*

47. *The plan proposed does not necessitate frequent transfers from one Province to another.*—The organization of the controlling forest establishment here suggested would not render it necessary to move an officer from one Province to another, except on promotion to Deputy Conservator and to Conservator. And in these cases also a transfer need not be imperative. It would thus be possible, if it should be desired, to retain an officer in the same Province during his whole career in the Department. But it would ordinarily be a more useful arrangement if young officers served in the Province to which they were first posted, until promoted to Deputy Conservator. They should then be transferred to another Province, and on their appointment to Conservator there would be a second transfer, or they might remain, or return to their first Province according to circumstances. More than two transfers in the career of one officer would, as a rule, not be desirable; but the organization proposed is sufficiently elastic to adapt itself to the special requirements of each case.

48. *Probable cost of the measures proposed.*—It remains now to explain the financial aspect of the question. From the Statement appended to this report it will be seen that the present cost of the upper or controlling establishment, with the addition of seven supernumeraries on Rs. 250 per mensem, amounts to Rs. 26,300 per mensem, or Rs. 3,15,600 per annum. This amount is composed of the following items:—

7 Conservators	...	...	Rs. 80,100 per annum.
14 Deputy Conservators	...	...	" 96,000 "
35 Assistant Conservators	...	...	" 1,39,200 "
Total Rs. 3,15,600			"

Under the new organization, the average annual outlay would probably be—

7 Conservators (1 at Rs. 1,600, 1 at Rs. 1,400, 2 at Rs. 1,200, 3 at Rs. 1,000)	...	...	Rs. 1,00,800
14 Deputy Conservators at Rs. 700 (average rate)	...	...	" 1,17,600
35 Assistant Conservators at Rs. 350 (average rate)	...	...	" 1,47,000
Total Rs. 3,65,400			

But this amount will only gradually be worked up to, and is not likely to be attained within the next few years, increases of establishment excepted. To this should be added the annual

* For comparison, I will here enter the average time of service in the Department on 1st April 1867 of the Officers of the Engineer Establishment in the Department Public Works of the Bengal Presidency, with the rates of consolidated salaries for Civilians, and maximum rates for Military Officers:—

	Military Officers, maximum rate.	Civil Officers, consolidated.	Average time of service.	
	Rs.	Rs.	Yrs.	Ms.
3 Chief Engineers, 1st Class	2,500	2,500	21	0
4 " " 2nd "	2,000	2,000	19	6
2 " " 3rd "	1,850	1,750	16	8
1 Superintending Engineers, 1st Class, 1st Grade	1,800	1,800	21	6
5 " " 2nd " 1st "	1,650	1,400	18	9
5 " " 2nd " 2nd "	1,550	1,200	17	0
6 " " 2nd " 3rd "	1,350	1,000	15	10
35 Executive Engineers, 1st Grade	1,250	900	13	9
45 " " 2nd "	900	750	10	6
39 " " 3rd "	750	600	9	8
64 " " 4th "	600	500	7	0

cost of training and sending out four probationers, which, on the assumption that the stipend raised to £100 per annum, will stand as follows:—

	£.
Stipend, 2½ years, at £100	250
Passage to India „ „	100
Two months' pay at £25	50
Total for one man	£400 or Rs. 4,000
Annual outlay for four men	Rs. 16,000
Deduct share of Bombay and Madras (½)	„ 2,000
	Rs. 14,000

Including this amount, the total increased cost of the new organization will eventually be Rs. 63,800.

The revenues and charges for the Provinces in question (including Mysore and Berar) have been estimated for the current year as follows:—

Receipts	Rs. 29,30,800
Charges	„ 20,01,584
Surplus Rs.	9,29,216

Of the charges, Rs. 6,79,564 represents the cost of establishments. If the plan here suggested is accepted, then this figure will be increased by Rs. 63,800—the estimated addition to the cost of the controlling establishment. This additional outlay does not appear excessive, if it is considered that it will secure a more efficient staff of officers, and better training of the subordinate establishments.

49. *Date when the new organization is to take effect.*—In conclusion, it remains to propose when the new organization of the Forest Department in the Bengal Presidency should take effect.

It appears desirable that the new system should be in fair working order when the seven probationers now under training arrive, and the commencement of next official year (1st April 1869) might be fixed as the starting point.

STATEMENT showing the annual cost of sanctioned appointments in the Upper Establishment of the Forest Department.

DESIGNATION.	BENGAL	N. W. PROVINCES.	PUNJAB.	BERMAH.	CENTRAL PROVINCES.	ODDH.	MYSORE.	COORG.	HYDERABAD.	No.	TOTAL PER MONTH.	TOTAL PER YEAR.
	Rs. per month.	Rs. per month.	Rs. per month.	Rs. per month.	Rs. per month.	Rs. per month.	Rs. per month.	Rs. per month.	Rs. per month.		Rs.	Rs.
Conservators	1,200	1,200	1,200	800	800	800	800	800	800	3	6,700	80,400
TOTAL	...	...	...	...	...	...	...	...	...	7	6,700	80,400
Deputy Conservators	...	800	600	600	600	600	600	600	600	1	6,000	72,000
TOTAL	...	700	600	600	600	600	600	600	600	1	6,000	72,000
Assistant Conservators	...	450	400	400	400	400	400	400	400	2	8,000	96,000
TOTAL	...	450	400	400	400	400	400	400	400	2	8,000	96,000
Supernumerary Probationers at Rs. 250 per mensem	1	1	1	1	1	1	1	1	1	28	9,850	1,18,200
TOTAL	1	1	1	1	1	1	1	1	1	28	9,850	1,18,200
GRAND TOTAL	4	10	10	13	8	4	4	1	2	56	26,300	3,15,600

*REPORT by Mr. D. BRANDIS, Inspector
General of Forests, on a scheme sub-
mitted by him in 1866 for supplying
the Forest Department in India with
specially-trained Assistants—dated Simla,
July 1868.*

R 123/69

From May 16/69 L 2126

8 @ 1249-7 May 1869

CIRCULAR No. 1 FOREST.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

REVENUE—FORESTS.

FORT WILLIAM, JANUARY 4, 1869.

*Trained Officers from Europe for the Forest Department in India—
Proposed re-organization of the Department.*

Read again:—

Replies of Local Governments and Administrations to Public Works Department
Circulars Nos. 6 and 10 F, dated 11th and 23rd April 1867.

Report by Inspector General of Forests, dated 28th July 1868.

No. 10 F, dated 19th September, 1868.

From—The Government of India,

To—The Secretary of State for India.

We have now the honour to report the measures which appear to us necessary with regard to the suggestions made for our consideration in your Despatches No. 63 of the 31st October 1866, and No. 8 of the 28th February 1867, concerning a supply of young men specially trained for service in the Forest Department. In our Despatches Nos. 10 and 11 R—F of the 11th and 17th April 1867, we reported that we thought it advisable, before coming to a decision on these proposals, to invite the opinions of the Local Governments and Administrations, including the Governments of Madras and Bombay. An expression of these opinions has, after some delay, been received, and we now transmit for your perusal a printed copy of all communications from Local Governments and Administrations on this subject. We also submit a report on the whole question by Mr. Brandis, our Inspector General of Forests.

2. After mature consideration of this report, and of the views of the Local Authorities, we have come to the following conclusions, which we now beg to submit for the sanction of Her Majesty's Government.

We fully acknowledge the necessity of employing the agency of specially trained Officers in the administration of the forests in the different Provinces of India. These forests, if managed according to a well considered system, will, we trust, in course of time, come to be one of the most important sources of national wealth for the inhabitants of this country; whereas, if managed by persons ignorant of their profession, their ultimate ruin appears to us to be almost inevitable.

3. Hereafter we hope that it may be possible to establish a Forest School in India, where young men, natives of this country and others, may be instructed in the theory and practice of forestry, and be prepared for service in the Department. Until the establishment of such a Forest School in India however, it appears to us that it will be necessary annually to select a limited number of young men in England, and to send them out after they have passed through a regular course of professional training, similar to that which has been arranged for the seven young men now under preparation in the Forest Schools of France and Germany.

4. For the present, we consider that it will be sufficient to send out four Probationers every year. This will probably not suffice to provide for all vacancies, but it seems right to reserve a number of appointments to be filled up by promotion from the Lower Establishments, either of Europeans or Natives of the country, and by occasionally appointing Officers of the Army, or other gentlemen in this country, who may possess such qualifications as may make it desirable to secure their services for the Department. Of the specially trained Probationers, a few will, from time to time, be posted to the Presidencies of Madras and Bombay, as necessity may arise.

Further experience will show whether the number to be sent out annually should hereafter be increased or diminished.

5. If arrangements can be made early enough, we would request that candidates be at once invited this year in time to commence their course of instruction in March 1869, and to be sent out to India in the autumn of 1871.

As a year has elapsed since the first selection was made, we would suggest that a larger number, not however exceeding eight, be selected this time.

If arrangements can conveniently be made, it appears to us desirable that about one-half of the candidates be sent to Germany, and the other half to France, for their instruction.

In the notification inviting candidates, we think that great stress should be laid on active habits, and a strong hardy constitution, and the medical examination should be strict, so as to exclude all those not likely to stand fatigue and exposure in the climate of India.

6. We further think that candidates should be selected by a competitive examination in the following branches of knowledge:—

- 1.—English writing from dictation, and English composition.
- 2.—Arithmetic in all its branches.
- 3.—Algebra, elementary principles, simple and quadratic equations, ratios and proportion, logarithms, arithmetical and geometrical progression.
- 4.—Geometry (1st, 2nd, 3rd, 4th and 6th books of Euclid), and plane trigonometry.
- 5.—Free hand and plan drawing.
- 6.—A good colloquial knowledge of either French or German, with the facility to read and translate the works of some classical writer in the language.

These six subjects should be compulsory, and proficiency up to a certain standard should be indispensable for admission. We consider that it will be better to select a smaller number of candidates than to be satisfied with an insufficient preparation, which would prevent their deriving the full benefit from the professional training at the Continental Forest Schools.

It might be useful to add the following branches of knowledge as optional, and to say that proficiency in these subjects would entitle candidates to preference:—

- 1.—Surveying and land measuring.
- 2.—The elements of any of the following natural sciences:—
Mechanical and Natural Philosophy.
Chemistry.
Botany.
Geology.

7. You will observe that we do not at present advocate the adoption of the plan sketched by Dr. Brandis in his letter to the Under Secretary of State for India of the 13th February 1867, received with your Despatch No. 8 of the 28th February 1867. This plan is doubtless more complete, but it appears to us preferable for the present to maintain the arrangements made for the training of the Probationers

of 1867, which, if we may judge from the reports received from you regarding the studies of these young men, appear to us to give every promise of proving successful.

Hereafter, when the capabilities of the young men to be sent out by you for forest service in this country will have been tested, we shall better be able to appreciate, and to remedy any defects which the present arrangements may possess.

8. We would, therefore, suggest that, for the present, the candidates, whose qualifications shall have been tested in the manner indicated above, be sent to some of the Forest Schools, or other place of instruction on the Continent, for their professional training during a period of two years and a half. In addition to this, if it should be found practicable to send the young men to an approved Forester in Scotland for a few months before coming out to India, we should consider such an additional preparation as an advantage.

9. Having thus explained our views regarding the selection and training of Probationers to be sent out from England, we would draw your attention to another subject intimately connected with the first, and, in our opinion, of equal importance for a successful administration of the forests.

Most of the Local Authorities whom we have consulted concerning this matter, have urged the necessity of placing the Forest Department on a more satisfactory footing, so as to afford to all persons entering it fair, and, as far as practicable, uniform prospects of advancement.

10. Under the existing organization, Forest Officers entering the service have very unequal chances of promotion according to the vacancies which may happen to arise in the Province in which they are serving. Transfers, it is true, have occasionally been made from one Province to another, but the action in this respect of the Government of India has been necessarily limited by the rules for the management of Forest business, which we issued in March 1864, and which were approved in your predecessor's Despatch No. 16 of 9th June of that year.

Under those rules, the forests in the Bombay and Madras Presidencies, and in the Lieutenant Governorships of Bengal, the Punjab, and the North Western Provinces, were placed altogether under the management of their respective Governors and Lieutenant Governors. All appointments and promotions of Forest Officers have accordingly been made by them without any reference to the Government of India.

11. This may have been the correct course to pursue at the outset, but it is now evident to us that the number of appointments in each Province is far too small to make possible a satisfactory organization of separate Departments in the different Provinces. We would draw your attention to the data given in paras. 33 and 36 of Mr. Brandis' Report regarding the number of Forest Officers in the different Provinces, from which you will observe that they stand as follows:—

Burmah	has	...	...	...	...	...	12 Officers.
Madras	"	...	...	...	...	...	11 "
Bombay	"	...	...	...	...	...	11 "
Punjab	"	...	...	...	...	...	9 "
North-West	"	...	...	...	...	...	9 "
Central Provinces	"	...	...	...	...	...	7 "
Mysore and Coorg	"	...	...	...	...	...	4 "
Bengal	"	...	...	...	...	...	3 "
Oudh	"	...	...	...	...	...	3 "
Roror	"	...	...	...	...	...	2 "

12. Under these circumstances, it appears to us necessary to consolidate all appointments in the Bengal Presidency in one general list, which will not, however, include the Presidencies of Madras and Bombay. According to the scale of Establishments as sanctioned at present, this list will comprise—

7 Conservators on salaries ranging from Rs. 700 to Rs. 1,200 per mensem.
14 Deputy Conservators from " 500 to " 800 "
28 Assistant " from " 250 to " 450 "

And to these will be added by the end of 1869, 7 Assistants now under training on a salary of Rs. 250 per mensem. Total 56 Officers. In some Provinces a few additional appointments will probably before long be required.

13. If the formation of a general list of Forest Officers for the Bengal Presidency is accepted, all first appointments will be made, either by the Home Government, in the case of the trained Officers to be sent out annually, or by the Government of India of suitable persons selected in this country.

All promotions from Assistant to Deputy Conservator, and from Deputy to Conservator, will be made by the Government of India on the recommendation of Local Governments. The promotion of Conservators will be entirely in the hands of the Government of India.

The promotion of Assistant and Deputy Conservators from grade to grade within their respective classes, however, we propose to leave to Local Governments, subject to certain rules, which, together with other arrangements of detail, will be considered after the whole scheme shall have received your sanction.

14. The grades and classes of these appointments we propose to arrange in accordance with the following schedule, which, in this peculiar case, we have thought it best to submit for your sanction in this Department:—

I.—Conservators.

	Rs.
1 First Class Conservator at	1,600 per mensem.
1 Second " " at	1,400 "
2 Third " " at	1,200 "
3 Fourth " " at	1,000 "

At present the pay of these Officers, as shown above, ranges from Rs. 700 to Rs. 1,200. But the lower rates of pay at Rs. 700 and Rs. 800 can, we believe, hardly be considered adequate remuneration for the Heads of Departments in their Provinces, though they may suffice for the present, while these appointments are held by comparatively young Officers. It is therefore proposed, on the promotion of these Officers, to absorb the lowest class of Conservator on Rs. 700 and Rs. 800 per mensem.

And the pay of the first and second class has been fixed at Rs. 1,600 and Rs. 1,400, respectively, to hold out a suitable prospect of advancement for faithful and efficient service.

II.—Deputy Conservators.

	Rs.
First grade, at	900 per mensem.
Second " at	700 "
Third " at	500 "

The number of Conservators is fixed, because one is required for each Province. The number of Deputies is at present 14, but, as explained above, some additions may hereafter become necessary. The proportion of the different grades cannot be determined without interfering with the right of promotion from grade to grade by Local Governments, which it is proposed to give them. The pay of the first class has been raised from Rs. 800 per mensem to Rs. 900, with the view of affording

a reasonable prospect of attaining a fair competency to such Officers who, either from scarcity of vacancies, or for other reasons, cannot look forward to obtain an appointment of Conservator.

III.—Assistant Conservators.

	Rs.
First grade at	450 per mensem.
Second " at	350 "
Third " at	250 "

These rates of pay are in accordance with existing arrangements. Young men will ordinarily enter the Department at the lowest rate, and be promoted to the second grade on passing an examination in the languages, and on attaining a certain standard of efficiency.

Their promotion to the first grade would generally take place after three years' approved service in the next lower grade. Under these and similar rules, promotion from grade to grade would be left to Local Governments. You will observe that, under these arrangements, the proportion of Assistants of the different grades cannot be fixed, sometimes there may be an excess in the upper, and sometimes in the lower grades. If it were decided to fix and determine the number of appointments of each grade, all promotions from grade to grade, as well as from class to class, would have to be made by the Government of India.

15. The adoption of the scheme here proposed will involve an additional expenditure of Rs. 63,800 per annum. This includes the estimated cost of training and sending out four Probationers annually, after deducting the share of this outlay to be borne by the Governments of Madras and Bombay. The details are shown in para. 48 of Mr. Brandis' Report submitted with this Despatch, and we need not here specially refer to them. Suffice it to say that this increased outlay will only be worked up to gradually, unless Forest Establishments should expand more rapidly than is anticipated at present.

This increase is considerable, but it appears necessary, and the examination of details will show that there has been no extravagance in the proposals. The additional expenditure, we feel assured, will be well laid out to secure an efficient administration of the forests, which will ultimately produce a steady and considerable growth of the revenue derived from them.

16. Nor do we think there need be any hesitation in accepting the present proposals on the score of over-centralization, or interference with the control and patronage of Local Governments.

This difficulty is not felt in the case of the Minor Administrations, in which the Government of India has always retained a power of control and patronage sufficient for the present objects. But the difficulty is felt as regards the Governments of Bengal, the Punjab, and the North-West Provinces, where all appointments and promotions have hitherto been in the hands of the Lieutenant Governors.

17. Nevertheless, we do not hesitate to propose the change, as we feel convinced that a satisfactory organization of a number of separate and small Departments is impossible, and that we cannot hope to secure and retain the services of competent men for the administration of the forests, without consolidating the service in the Bengal Presidency, and thus affording its Officers more certain and uniform prospects of promotion.

18. In adopting this course, and thus assuming a closer control over forest administration in the three Lieutenant Governorships, we believe to act in accordance with the views expressed in your Despatch

No. 36 of the 16th December 1867, in which you suggest, with regard to the Department of the North-West Provinces, whether it would not be expedient to consolidate it with that under the charge of our own Inspector General of Forests, and add—"It might perhaps also tend to superior efficiency by affording facilities for selecting men of more experience, and affording them a greater field for promotion."

In this Despatch, indeed, you appear to assume that the management of forests under the Minor Administrations has been consolidated into one Department under the Inspector General of Forests. Such a measure has not been carried out, and is not at present contemplated; but so much is evident from your Despatch that you do not consider it necessary that all appointments and promotions in the Forest Department of the North-West Provinces should be made by the Lieutenant Governor.

19. We have even considered the expediency of extending the scheme now proposed to the Presidencies of Madras and Bombay. We have no doubt that the administration of forests in the minor Presidencies would benefit by such a measure; they cannot, we fear, make any satisfactory organization for themselves on account of the small number of offices which they have at their disposal. And we would strongly express our dissent from the opinions advanced by the Bombay Government and their Conservator of Forests, which amount to this, that, for the management of forests, special training is not ordinarily necessary. As long as such views are maintained, we believe that satisfactory progress in rational forest administration is impossible.

20. But considering all circumstances, we have come to the conclusion that it will be better at the outset to limit the new organization to the Bengal Presidency, and not to disturb the arrangements already established in Madras and Bombay.

As explained above, however, a proportion of the Probationers, specially trained in Europe for forest service in India, should always be available for employment in the minor Presidencies.

Read also the following :—

No. 27, dated 24th November, 1868.
From—The Secretary of State for India,
To—The Government of India.

I have had under my consideration in Council the Despatch from your Excellency in Council, numbered 10, Revenue (Forests), and dated the 19th of September, in which, in reply to my predecessor's Despatches No. 63. of the 31st of October 1866, and No. 8 of the 28th of February 1867, you communicate to me your views on the expediency of continuing the experiment of training young men on the Continent of Europe for the Forest service in India, and on the other measures necessary for securing to the State an efficient establishment for the administration of the Forests throughout India.

2. With your Despatch you have forwarded the opinions of the local authorities, whom you have previously informed me that it was your intention to consult on the question, and a very lucid report by Dr. Brandis, the Inspector-General of your Forests, containing a summary of these opinions, and recommendations as to the measures which should be adopted.

3. I have perused these documents with great interest, and, fully concurring with the opinions expressed in para. 2 of your Despatch, as to the necessity of employing specially trained Officers in the adminis-

tration of the Forests, and as to the good results which will follow in that case, and the ruin which, on the contrary, will fall on what you justly designate "one of the most important sources of national wealth," if the Forests are left to ignorant persons, I am quite ready to accede to your proposal for continuing the experiment now being tried in France and Germany.

4. I shall, therefore, take measures for selecting eight young men to commence their training in March next, and, until some different arrangement is made, four in every subsequent year. Half of this number will, if suitable candidates can be found, be sent to Germany, and half to France. These young men will be trained according to the arrangements made by Dr. Brandis when he was last in England, and on the same terms, with two exceptions :—

1.—That when their foreign studies are completed, they shall, if possible, spend a short time with an approved wood manager in Scotland before they go to India; and,

2.—That the stipend to be paid to such as shall be reported deserving of it during their training, shall be £100, instead of £60, a year.

5. I think that the first of these changes will be very desirable, provided that it can be managed so as still to get the young men out to India in December.

6. I approve also of the second suggestion, and shall alter the terms accordingly. But it occurs to me that if this is done, it will be proper to raise the stipends of the seven young men who are already studying in France and Germany to the same amount, during the last year of their residence abroad. After their exemplary conduct, it seems to me that it would be invidious to allot to them a smaller stipend than is to be given to the junior students.

7. The scheme proposed by Dr. Brandis, and forwarded for your opinion in February 1867, would have given, as you observe, a much more complete course of education than the one now proposed for adoption. Nevertheless, I think that this is the readiest and most expedient plan to adopt at present. I look forward, however, with you, to the period when the Forest administration shall be sufficiently advanced to admit of the establishment of a Forest School for the training of young men in India itself; and although I am fully prepared to admit, with Dr. Brandis, that it must be some years before this desirable object can be achieved, still the present measure may be looked upon as a step to the introduction of that special training and knowledge without which it could not be accomplished at all.

8. I am glad to perceive that Dr. Brandis, in his able report, appreciates the great importance of interesting and employing the Natives of India in Forest administration, a most important step, as he observes, to the stability of the measures taken with that view. It will gratify me much whenever Natives are found competent to fill these appointments with benefit to the State.

9. You have rightly considered that, if young men are to be attracted to the Forest service in India, they must have the prospect of sufficient maintenance in it, and if they are to remain in it, it must hold out to them expectations of advancement. The present constitution of the Forest Department does not appear to offer the requisite inducements, and the division of the Department into many small services, under the different Provinces, presents the chief obstacle to its being rendered more efficient; promotion in each instance being confined with-

in a very narrow range. You have determined, therefore, to amalgamate all the Departments, except those of Madras and Bombay, into one Department, to be under the immediate supervision of your Government, although the promotions in the junior ranks are to be left, as now, in the hands of the Lieutenant Governors. You justly conceive that this step will be sanctioned by me, as it was indeed suggested, as regards the North-West Provinces, in my Despatch No. 36 of the 16th of December last.

10. At the same time you submit, for my sanction, an increase of salary for the different grades of appointments. The proposed remuneration for the several grades seems to me to have been, as you state, fixed, after careful consideration, with due regard to the duties to be discharged, and without being unnecessarily high in the details. It is true that, by these arrangements, the present expenditure will be raised by Rs. 63,800 a year. But this increase will be gradual, and includes the outlay for the four probationers who are to be sent out annually, deducting the cost of one who is to be allotted in every alternate year to Madras and Bombay.

11. You do not hesitate to propose this change, under the conviction that, without it, a satisfactory organization of the Department is impossible, and I agree with you in this opinion. It seems clear that this measure, while it gives to your Government a wider field for selecting the best men for the higher appointments, opens a much better prospect of promotion to the service in general. I accordingly sanction the additional expenditure, sharing the confident expectation which you express, that it will secure an efficient administration of the Forests, which, in time, will result in a considerable increase of the revenue derived from them.

12. You inform me, moreover, that you have considered whether it would not have been expedient to extend this arrangement to the Presidencies of Madras and Bombay; but, considering all the circumstances, you have determined not to propose to include them in it. I approve your determination in this respect also. But the same reasons which have called for an improvement in the prospects of the Officers in other parts of India will necessitate a similar concession to the Departments of these Presidencies, including Sind, should the inducements now held out not be sufficient, as, by the report of the Forest Ranger in Sind, would appear to be the case at least in that Province. This may perhaps be obtained by increasing the salaries of Officers at certain periods of their service, provided always that the length and quality of their service has been such as to merit such an increase.

13. The contemplated visit of Dr. Brandis to Sind and Bombay, and his recent tour through the Madras Forests, will give you the opportunity of forming a judgment of any proposals for this object which may be made to you by either of these Governments.

14. Before I close this review of this most important Despatch, I must observe, with reference to the 18th para. of it, in which you state that you do not at present contemplate the consolidation of the "management of Forests under the Minor Administrations" into one Department, under the Inspector General of Forests,—that I think it very important that he should now possess the general direction and superintendence of the amalgamated Department under your Government; and for this purpose it is necessary that the Conservators should keep him thoroughly informed of all circumstances connected with the Forests under their charge, otherwise I do not see how he can be in a position efficiently to advise your Excellency in Council on all points

connected with the Administration. And although the Forests of Madras and Bombay are not under the Inspector General's control, I think it very desirable that the Conservators of the Forests of those Presidencies should freely interchange communications with him. Such an intercourse cannot but tend to an improved administration of the Forests, and, in as far as is suitable to the condition of the several Presidencies, to an uniform system throughout all India.

ORDER.—Ordered, that a copy of these papers be forwarded to the

Madras.
Bombay.
Bengal.
N. W. Provinces.
Punjab.
Oudh.

Central Provinces.
Burmah.
Mysore.
Coorg.
Hyderabad.
Central India.

Rajpootana

Local Governments and Administrations noted in the margin, with the remark that the orders of the Government of India on the subject will follow.

(Signed) C. H. DICKENS, Colonel, R. A.,

Secy. to the Govt. of India.

L. Williams Major, R. E.,
Under Secy. to the Govt. of India.

To
The Secretary to the Government of Madras
In the Revenue Department.

GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.
REVENUE-FORESTS.

To

CIRCULAR No. 1 FOREST.

Dated January 4, 1869.

Received

*Trained Officers from Europe for the Forest
Department in India—Proposed re-organization
of the Department.*

Revenue 1869 Q1/4th
No. 155

From
The Govt. of India
P. M. B. M. B.

Dated 11th 3rd 1869
Received 20th 3rd 1869
No. 107-

12th 1869. P. M. B. 1869
RECEIVED.

We are in receipt of the
original copy of
the Report of the
Officers from
Europe for the
1st 1869. Report of
the same -