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MADRAS RECORD OFFICE.

Government of Madras.

Revenue **DEPARTMENT.**

G.O. No. 2435 Press / ~~Mis.~~

297-98
Dated 21-9- No. 1868

Not to be folded or roughly handled

9/28

Proceedings of the Madras Government, Revenue Department, 21st September 1868.

No. 297. Read the following Circular from the Government of India, Public Works Department, (Revenue—Forests,) dated Simla, 1st August 1868, No. 10:—

Dr. Cleghorn's Report of his journey to Malta and the Continent of Europe, and of his visit to the Imperial Forest School at Nancy.

Read the following Despatch from the Secretary of State for India, to the Government of India, dated 15th June 1868, No. 15.

1. I transmit to you herewith 75 copies of a letter which has been addressed to this Department by Dr. Cleghorn, Conservator of Forests at Madras, containing the results of his researches in Forest Administration and the cultivation of forest products during his stay in the south of Europe, and on his journey home through Switzerland and France, including an account of the conduct and progress of the five young men who are being trained at Nancy for the Forest Service of India.

15th May 1868.

2. I also forward a copy of the reply, which I have caused to be sent to Dr. Cleghorn. You will see that I have expressed an opinion that the proposed interchange between Departments in India and those in Foreign States, of seeds and reports on the administration and cultivation of Forests, cannot fail to be attended with advantage, and that I shall readily sanction any proposals which you may deem requisite for that purpose.

28th May 1868.

From H. Cleghorn, Esq., M. D., Conservator of Forests, Madras, on leave to Europe, to the Under Secretary of State for India, dated 15th May 1868.

I have the honor, as directed by you, to report, for the information of Her Majesty's Secretary of State for India, that I left Madras on medical certificate on 27th October last, and reached Malta on 22nd November, where domestic circumstances obliged me to remain for three months. During this period, I occupied myself in examining the Islands of Malta and Gozo, and received much cordial assistance from his Excellency Sir Patrick Grant, G. C. B., in my researches as to the physical condition of these islands.

From the absence of water and soil, there are very few trees, and I concur in the truth of Dr. Sutherland's remark,* "the great improvement required everywhere, but particularly in the vicinity of the barracks, is shade from trees; this can only be obtained at considerable labor and cost," as the soil consists of a thin covering of earth on soft sand-stone. A good beginning has, however, been made in the public gardens of Florian, and several parts of Valetta have been successfully planted with beautiful trees by the late Governor, Sir J. Gaspard Le Marchant. The most thriving of these are *Pinus pinea, Cupressus sempervirens, Phytolacca dioica, Schinus molle,* and *Araucaria excelsa.*

* See an admirable account of the topography of Malta in his Report of the Sanitary Condition of the Mediterranean Station, Part II., 1863.

Among the trees which appeared to thrive best at the Government Garden of St. Antonio, were several species of *Acacia* and *Eucalyptus* from Australia, the same species which have been successfully introduced on the Neilgherry and Pulney Ranges of South India, and which endure the great heat of the Punjab. I had subsequent opportunities of observing the same species flourishing in Sicily and in various parts of Italy, from Naples to Genoa; this is an interesting fact in acclimatization. These fine trees are cultivated in the open air, and it was lately suggested in the "Revista Forestale," a monthly periodical published at Florence, that they might be used with advantage for re-foresting the land at the base of the mountains of Sicily and Italy.

The timber for house and boat building in Malta is imported from Trieste and America, and charcoal is supplied from the oak forests at the base of Mount Etna, and sometimes from Greece.

My enquiries at Malta were of a non-official character, but before leaving, I placed in the hands of Sir Victor Houlton, Chief Secretary to Government, letters to Major Beddome, my deputy in Madras, and to Dr. F. Müller, Director of the Gardens, Melbourne, in which supplies of seed were solicited, and a system of reciprocal interchange proposed. It will probably be best to obtain seed direct from Australia, as all that is collected in India is at present required for the Railway fuel plantations.

I have also consulted Dr. Hooker, Director, Royal Gardens, Kew, as to his ability to supply select trees for this Mediterranean Station, and he has expressed his readiness, with the sanction of the First Commissioner of Her Majesty's Works, to give any assistance within his jurisdiction.

From Malta I proceeded to Sicily, and saw the Botanical Gardens at Catania, Messina, and Palermo. Near the last city, I visited an interesting school of agriculture, where the cultivation of *Sumach* and other economic products was being carried on. Colonel Yule, C.B., has kindly translated, at my request, a treatise on the cultivation of this useful tree *(Rhus coriaria)*, which has been read at the Botanical Society of Edinburgh, and will appear in the Transactions. I would venture to recommend that the paper be circulated in the Punjab and other parts of India, where several species of *Rhus* grow, and I would, therefore, ask permission of the Secretary of State in Council to incur a trifling expense for wood-cuts.

The following figures, obtained at the Custom House, shew the export of Sumach from Palermo, on which duty was paid in 1867 :—

Sumach in leaf, kilograms 2,323,130, or say tons 2,282.

Sumach ground, kilograms 15,692,699, or say tons 15,413.

The climate of Palermo appears to be favorable for maturing seeds of many plants grown in North India, and an interchange of plants and seeds has been initiated with the Calcutta Garden; two large cases from Dr. Anderson arrived while I was there. It occurs to me that it might be advantageous to the Horticultural Societies of India to obtain their supplies of seeds from a dry climate, nearly in the same parallel of latitude with the Punjab.

The state of the roads in Sicily is not favorable for transporting the timber from the pine and oak forests which clothe the slopes of Mount Etna. Fire-wood and charcoal are brought down in large quantities on the backs of mules for the supply of Malta and the adjoining islands.

Vast herds of cattle and goats pasture at certain seasons in these forests, and there is a brisk trade in carob-beans, almonds, hazelnuts, walnuts, chesnuts, and other forest produce, yielding an annual revenue. Oranges, citrons, and mulberries are very extensively cultivated. Olives and prunes are planted at regular distances on the steep declivities, and bind the soil together with their roots. The climate permits of shady trees being freely introduced in land occupied for agricultural purposes.

In Sicily and Calabria there is a great extent of the manna ash tree *(Fraxinus ornus)*. The following statement, abstracted from the Returns in the British Consular Office, shews the value of the drug exported during the last four years :—

	United States.	Baltic.	France.	Great Britain and Colonies.	Italy.	Other Countries.	Total.
	£	£	£	£	£	£	£
1863	758	368	2,593	9,841	...	3,377	16,937
1864	1,377	1,500	4,446	10,048	100	5,259	22,720
1865	3,514	500	2,141	4,257	200	2,200	12,812
1866	4,079	1,500	2,384	4,351	300	2,258	14,875

Proceedings of the Madras Government, Revenue Department,
21st September 1868.

The merchants concur in saying that the demand is falling off.

In Florence, by the kindness of the Honorable Mr. Marsh, Plenipotentiary of the United States, and of Seignor Filippo Parlatore, Professor of Botany in the Imperial University, I obtained a copy of the "Manuale Teorico-pratico d'Arte Forestale," 1864, now used by all the Forest Officers in the Kingdom of Italy, and also the Compendium of Forest Regulations published by the Minister of Agriculture in 1866. A careful study of these books shews that, though less attention has been given to sylvi-culture and to forest legislation in Italy than in France and Germany, yet, the scarcity of constructive material, and the destructive action of torrents, have aroused the attention of the Government, and the importance of a sound system of Forest management is now as clearly recognized in Italy as in the neighbouring countries.

Many landed proprietors, including Baron Ricasoli, are planting, successfully, though not forming forests on an extensive scale; and discussion has taken place in the Chamber of Deputies, as to the replanting of denuded mountain tracts in Alpine Italy. The union of the Italian Petty States under one government, has rendered practicable the arrangements for conserving and restoring its unexhausted forests, but the state of the kingdom is not yet favorable for steady progress in this branch of legislation.

It may be noted that a monthly periodical has been published for six years, which contains many interesting contributions on sylvi-culture; and the "Bibliographia Italiana" comprises, among many others, the following recent works, which are specially worthy of perusal :—

Caimi, P. Memoria sull importanza e coltura die Boschi.—(Milano, 1857, 8vo.)

Cerini, G. Dei vantaggi che apporterebbe allo Stato ed alla condizione idraulica de, territorj l'istituzione di Società per l'impianto e conservazione dei Boschi.—(Milano, 1844, 8vo.)

Meguscher, F. Memorie sulla migliore maniéra per rimettere i Boschi della Lombardia, &c.—(Milano, 1859, 8vo.)

An Italian edition of "Man and Nature," by the Honorable G. P. Marsh, is now in the Press, containing an excellent account of all that is being done to improve the Maremma of Tuscany, and giving the history of the legislation of the former Republics of Venice and Genoa for protecting the forests of the Apennine and Maritime Alps.

I made the acquaintance of several Italian Botanists and Forest Officers,* with whom a profitable intercourse may be kept up hereafter.

In Switzerland, I had an opportunity of seeing the Spring operations on the borders of the Lake of Geneva, where felling was being carried on, and pine logs are stored in large quantity; these are brought down from almost inaccessible positions by various mountain torrents. When the snow melts and the flushes commence, the logs are launched without loss of time, as in the intramontane districts of the Himalaya. The moving and sliding of the timber and the floating operations are very instructive.

The wooded crests and high forests overhanging cultivated valleys are strictly preserved; they serve as "boulevards" against avalanches and cataclasms, and this preservation has been found to be equally necessary in the deep chasm valleys of the North-West Himalaya.

The communal woods around Berne and Geneva are treated with great care, but are not so rigidly and economically conserved as the State Forests in France and Germany.

In passing through France, I took the opportunity of seeing as much as possible of the Forest Administration between Bale and Nancy. At Nancy I spent six days, and had several conferences with Professor Henri Nanquette, Director of the Imperial School of Forestry; with M. Matthieu, Sub-Director; and the other Professors, who explained fully the system of training.

* Professor Tomalene, Catania.
" Todaro, Palermo.
" Duzénga, "
" Cesati, Naples.
" Pasquali "
" T. Parlatore, Florence.

The institution was founded in 1821, and the buildings are now being re-constructed and enlarged. The students, eighty in number, live in the school, except the eleven foreign pupils "externes" :—

British	5
Belgian	3
Portuguese	2
Swiss	1
	11

who have private lodgings close by. All are under strict discipline, and, except in the wearing of uniform, the foreign pupils conform to all the rules, of which there has been no infraction on the part of any of our young men. The Director spoke in a kindly manner of them, and with much satisfaction,* and said that they were fond of the work; on the other hand, they are happy and contented, and allude to the "bonté" shewn them by the Director and the Professors.

* "Bien satisfait."

In the general register of the "Ecole Forestière," stipendiary students occupy a fair position, as follows :—

Pengelly	9
Henman	11
Gavin	18
Dasai	41
Moir	42

Mr. Pengelly stands the ninth in the whole school, which, considering that he has been studying in a foreign language, must be considered very good. Mr. Henman and Mr. Gavin come next, and then Mr. Dasai and Mr. Moir, who have also made good progress, though they do not stand so high. From the reports of M. Nanquette, as well as from personal intercourse with the young men themselves at Nancy, I feel sure that one and all will prove useful assistants.

I have derived great pleasure from seeing the French system of culture of woods, and the general management of large tracts of forest, as it is practised in that Empire. The different features of the aboriginal woods present many points of analogy with the forests of Northern India, and it is instructive to note the careful investigation of the relation of the wooded surface to the water-supply.

The Manuals prepared for the use of the Forest School are specific in their details, and are in every sense practical handbooks. We have not at present a sufficient stock of facts for the compilation of a Forest Manual for India, but the time is approaching when similar guides may be prepared with much benefit to the Department.

The only point in the training of the pupils, to which I would draw attention, is the Forest Code of France. The processes as to trespass and other Forest offences are very different from the provisions of the Indian Penal Code, or the Forest Acts which have been passed by the Local Governments and Administrations.

Although the pupils cannot fail to derive benefit from the precise rules laid down, and from the habit of watching the cases tried, yet it appears to me that the French rules which are inculcated are more stringent than it would be desirable, or perhaps practicable, to introduce into India, where it is often difficult to obtain a conviction for Forest offences under the mild provisions of the Indian Forest Act.

From the Under Secretary of State for India, to Dr. CLEGHORN, dated 28th May 1868.

I am directed by the Secretary of State for India in Council to acknowledge the receipt of your letter of the 15th instant in which you report the result of certain enquiries made by you, with the sanction of His Excellency Sir Patrick Grant, into the physical condition of the Islands of Malta and Gozo, more particularly with respect to their capability of growing trees, and on other points

connected with the management of Forests and supply of timber in Sicily and on the Italian Continent, and in Switzerland, as well as an account of your visit to l'Ecole Imperiale at Nancy, and the young men training for the Indian Forest Departments there.

In reply, I am desired to convey to you the thanks of the Secretary of State in Council for the manner in which you have turned to account the opportunity of your residence in the south of Europe, and your journey through Switzerland and France during your furlough, the results of which are embodied in this interesting Report, which Sir Stafford Northcote has had printed at this Office, and has sent copies to His Grace the Secretary of State for the Colonies, and to the Governments of India for distribution as they may think fit.

Secretary Sir Stafford Northcote concurs with you in thinking that it is very desirable to establish an interchange between the Indian Forest Departments and Forest Authorities in Foreign States, of seeds and Reports of Forest Administration and forest products, and will readily sanction any proposals which His Excellency the Governor General of India in Council may think best for that object.

I am also desired to convey the approval of the Secretary of State in Council of your proposal in regard to Colonel Yule's translation of the Italian treatise on the Sumach, *Rhus Coriaria*, and the sanction which you request to your incurring the necessary expenditure for striking off a certain number of copies and illustrating it with wood-cuts.

Sir Stafford Northcote has read, with great interest and satisfaction, your favorable report of the young Englishmen who are training for the Forest Service of India in l'Ecole Imperiale at Nancy, by the kind permission of the French Government. Your letter entirely confirms the gratifying reports already received from the Director General des Forêts.

ORDER.—Ordered that the above Despatch and Report be circulated to the several Local Governments and Administrations marginally noted, for communication to Forest Officers and Agricultural Societies.

Madras.	Central Provinces.
Bombay.	Burmah.
Bengal.	Mysore.
N. W. Provinces.	Coorg.
Punjab.	Central India.
Oudh.	Rajpootana.

(Signed) C. H. DICKENS, Colonel, R. A.,
Secretary to the Government of India.

No. 298. ORDER THEREON, 21st September 1868, No. 2,435.

Forests, No. 7.

Recorded with reference to the G. O., under date 4th July 1868, No. 1,869.

(True Extract.)

Acting Under Secretary to Government.

Exd. S. T. Augustin.

41

№ 2435

Recorded with
reference to 40 under
date 4 July 1868,
& 1869.

241 Sept 68

Revenue 1868. Dep.t
Pro: of Govt for September
No. 2817.

Circular

From

Govt. of India.
P. W. Dep.t

Dated 1st Augt.
Received 1st Octr.
1868.

No. 10. Ju-
ne 2435 - 21 Sept.

Forwarding Despatch from the Govt: of India accompanied by Dr. Cleghorn's Report of his journey to Malta & the Continent of Europe & of his visit to the Imperial Forest School at Nancy with Orders

A. 299 & 298