

Home (1918) Department.
(Education)

Quinary SERIES.

G.O. No. 382

DATED 20- 3-1918

INDEXED

[Despatch Abstract.]

Glass and Cocoanut oil Industries.

Recording letter from the Government of India, forwarding copies of correspondence from the India Office regarding the possibility of the establishment of a glass industry in Ceylon and the institution of researches into the manufacture of copra and cocoanut oil.

No. 2284-D.

GOVERNMENT OF INDIA.

DEPARTMENT OF COMMERCE AND INDUSTRY.

Delhi, the 22nd February 1918.

A copy of the undermentioned papers is forwarded to the

- (1) Secretary to the Government of Madras, Home (Education) Department.
(2) Secretary to the Government of the United Provinces, Financial Department, for information.

By order, etc.,

A. N. S. A.

For Under Secretary to the Government of India.

LIST OF PAPERS FORWARDED.

- (1) Communication received from the India Office No.R. & S. 2802/17, dated the 17th September 1917, and enclosures.
(2) Communication received from the India Office No.R. & S. 3681/17, dated the 4th December 1917, and enclosures.

S.R.P.

INDIA OFFICE,
WHITEHALL,
LONDON, S.W.1,
17th September, 1917. 3

My dear Low,

The papers enclosed, which have been received from the Department of Scientific and Industrial Research, may be of interest to the Industrial Commission.

Sincerely yours,

L.J. Kershaw,

The Hon'ble Mr. C.E. Low, I.C.S., C.I.E.,
Secretary to the Government of India,
Commerce and Industry.

5th September 1917.

3300/17.

Sir,

1- I am to thank you for your communication, (No. 18119/17), dated 18th April, in which the Department of Scientific and Industrial Research is informed of the reply of the Governor of Ceylon to a circular issued by the Colonial Office to announce the establishment of the Research Department.

2- The Governor's reply calls attention to two matters :-

1. The possible provision of assistance from the researches now being carried out with the assistance of the Research Department on problems of the glass industry.
2. The need for research in the edible oil and soap making industries of the United Kingdom and in the manufacture of copra and of cocoanut oil in the Colony.

In respect of (1) above, the Research Department hopes to communicate with you shortly.

In respect of (2) above, I am to inform you that the Department have been in consultation with the Director of Oils and Fats who referred them to several of the largest British Firms using copra and cocoanut oil. As a result of somewhat extensive enquiries I am to say that several of the large British users of copra and cocoanut oil are, and have been for some years carrying on research into the properties and treatment of these substances. They state that they believe that these investigations have reached such a stage that the only remaining problems suitable for examination in this country are concerned solely with works plant, such, for instance, as the slight

increase in the quantity of oil extracted. 3

3- On the question of the manufacture of copra and of cocoanut oil in the Colony, the following questions may be found worthy of consideration :- 4

(a) The location of the copra crushing and oil extraction industries.

The residual cake from the crushing operation must be available where required as a cattle food in a condition palatable to cattle. Much of the cake if made in Ceylon would, of necessity, travel through a tropical or sub-tropical belt, thus introducing conditions highly favourable to the growth of mould on material which is in itself ideal for mould growth. It would doubtless be possible to find some preservative, but whether this would be too costly in use, or what its physiological effect would be, cannot be predicted.

(b) Growth of the cocoanut - Problems in economic botany. The Department understand that the Ceylon Government Botanical Gardens in Peridinia have already carried out much useful investigation on the cultivation of cocoanut with the object of producing greater yields of the various useful products, and have also paid attention to insect pests.

(c) Drying the cocoanut to produce copra.

The native product is said to be still inferior by virtue of its smokiness, rancidity on occasion, and presence of weevils, beetles and their grubs as a result of careless handling. There is room for the improvement of native processes, but satisfactory stoves are on the market, and the problem is therefore mainly economical. Until stoves are accessible to all native growers, it is possible that something might be done by educating the native to aim at a "sweet" copra, i.e. one that is as white as possible, with a minimum content of free fatty acid, with a pleasant taste and nutty odour free from rancidity or smokiness. This quality is attained by drying the cocoanut as quickly as possible at a uniform temperature throughout the mass (an uneven temperature results in condensation of moisture on the cooler pieces and consequent possibility of deterioration).

(d) Preparation of copra for export.

Freights being based on the bulk rather than on the weight of the consignment, it is suggested that much advantage would accrue if

4
the best system of cutting copra into pieces of suitable size was determined and means adopted for utilizing the information. 5

It has also been reported to the Department that Machinery has recently been devised for the drying of vegetable products, which aims at preventing the setting up of fatty acids and reducing bulk. This might prove applicable to copra but the Department have had no opportunity of testing the process.

(e) Coconut oil.

One firm informed the Department that during 1911 to 1913 they had quite a quantity of Chekku Oil, containing $5\frac{1}{2}$ to $6\frac{1}{2}$ per cent of free fatty acid, in sharp contrast with some white Ceylon Oil received in 1911, containing only about 1 per cent. Whether the high fatty acid content of the Chekku Oil was due to the primitive way in which the oil had been expressed from the copra or to the lack of proper plant for the drying of the copra, or to both, is un-known to them.

(f) Coconut milk.

One manufacturer expressed the opinion that there was a clear field for investigation on the possible utilization of coconut milk, perhaps in the direction of discovering means for preventing fermentation with a view to rendering possible the extraction of useful substances from the milk and their subsequent utilization.

Such an investigation, or series of investigations, might well be undertaken by one or more of the Professors of Chemistry associated with Indian Universities.

I am, etc.,
Sd/- P.C. Lyon,
for Secretary.

3299/17.

Department of Scientific and
Industrial Research,
Advisory Council, 15, Great George St
Westminster, S.W.1.
13th September 1917.

Dear Mr Kershaw,

I enclose copies of correspondence between the Research Department and the Colonial Office (on behalf of Ceylon). You may find them of interest to the India Office, in particular perhaps the last paragraph

Supra (f) of the Research Department's letter.

Yours faithfully,
Sd/- L.L.Lloyd.

L.J.Kershaw, Esquire, C.I.E.,
India Office, Whitehall, S.W.

18119/1917.

Colonial Office
Downing Street,
18th April, 1917. 5

Sir,

I am directed by Mr. Secretary Long to transmit to you, for
2nd Jany. your information, the accompanying copy of a Circular despatch in
which Colonial Governments were informed of the establishment of the
Department of Scientific and Industrial Research.

* below
No. 1457. 2. A copy of a reply to the despatch which has been received from
March. the Governor of Ceylon is also enclosed for your information.

I am, etc.,

Sd/- G. Grindle,

The Secretary,

Department of Scientific and
Industrial Research.

The Queen's House, Colombo,

Ceylon,

7th March, 1917.

Sir,

With reference to your Circular despatch of the 2nd January
1917, relative to the appointment of "The Imperial Trust for the
Encouragement of Scientific Industrial Research", I have the honour
to inform you that copies of the report which were transmitted with
the despatch were, as desired, forwarded to the Heads of the princi-
pal Scientific and Industrial Departments of this Government.

p-6- 2. I now enclose, for your consideration, a copy of a letter, dated
14th February, 1917 from the Director of Agriculture on the subject.
I shall be glad to receive, in due course, any information which is
available regarding the matters to which he draws attention.

3. I have also caused the report of the Committee to be laid before
the Commission which was recently appointed to enquire into and re-
port upon the measures which are desirable to encourage such industr-
ies (other than agricultural) as exist in this Island and to promote
the establishment of new industries.

I have, etc.,
Sd/- E.R.E. Stubbs,
Colonial Secretary,
For Governor &c.

The Right Honourable,
Walter H. Long, M.P.

No.33.

Department of Agriculture,

Peradeniya, 14th February, 1917.

Scientific and Industrial Research.

Sir,

With reference to communications forwarded under cover of your letter No. 31 of 12th February, 1917, I have the honour to suggest that a copy of the report of the Committee of the Privy Council for Scientific and Industrial Research might with advantage be submitted to the Industries Commission now sitting in this Colony.

2. I have been given to understand that the possibilities of establishing a glass industry in the Colony are under consideration, and probably assistance from the Researches now being carried out at the Institute of Chemistry, at the National Physical Laboratory and at Sheffield University in Glass would be of value to the Colony.
3. It might also be considered whether in the interests of the cocoanut industry of this Colony that the need of researches in the edible-oil and soapmaking ^{industries} of the United Kingdom should not be represented to the Secretary of State and whether researches into the manufacture of copra and of cocoanut oil should not be instituted in the Colony.

I am, etc.,

Sd/- F. A. Stockdale,

Director of Agriculture.

The Hon'ble,

The Colonial Secretary.

R. & S. 3681/17.

India Office,

Whitehall, London, S.W.1.

4th December, 1917.

Dear Sir,

I forward, for information, copy of the papers
Despatch from Governor of Ceylon No. 145) noted in the margin received from the
dated 7th March, 1917.
Letter from Dept. of Scientific & Colonial Office.
Industrial Research, dated 5th Sept. 1917. p 2
Letter from Dept. of Scientific &
Industrial Research, dated 12th Nov. 1917. p 8-9
Despatches to Ceylon, Straits Settlements
and Seychelles, dated 22nd Novr. 1917. p 10
Letter to Imperial Institute C.I. 8248,
dated 22nd November, 1917.
(and the other papers received with
R. & S. 3681.).

Yours faithfully,

G. L. Winter,

To The Secretary to the Government of India,
Commerce and Industry Department.

15, Great George Street,
Westminster, London, S.W. 9

12th November, 1917.

Sir,

p5
I am directed to communicate with you further in answer to Mr. Grindle's letter (18119/1917) dated 18th April, in which the Department of Scientific and Industrial Research was informed of the reply of the Governor of Ceylon to a circular issued by the Colonial Office announcing the establishment of the Research Department, and in continuation of the reply from this Department, dated September 5th (3300/17), dealing with the need for research in the edible oil and soap-making industries of the United Kingdom and in the manufacture of copra and of cocoanut oil in the Colony.

ph-2-4
In relation to the other matter to which the Governor's reply drew attention, "the possible provision of assistance from the researches now being carried out with the assistance of the Research Department on problems of the glass industry", I am to inform you that the Director of the section of the Ministry of Munitions dealing with Optical Munitions and Glassware has been consulted on the question and is of the opinion that it is not at present practicable to spare the service, necessary to aid the establishment of a glass industry in Ceylon.

I am to add that the results of research other than those of a special nature, which would not in all probability be required by Mr. Stockdale at present - will be found for the most part in the published books and articles on the manufacture of glass, which are included in the enclosed list, which has been compiled in the Patent Office, and brought up to date in the appended typed list under the supervision of an officer of this Department. I am to express the hope that this list may be of service to the Government of Ceylon.

I am, etc.,

Sd/- P. C. Lyon

The Under Secretary of State,

Colonial Office, Downing Street, S.W.1.

GLASS and GLASSMAKING(Historical and Descriptive-General CJ 15.913
Magne, L.Decor du verre,Gobeletterie, mosaïque,vitrail.Paris 1913, 80.
220 pp.

Glass and Glassmaking;Furnaces CH.12.

(z) 886 Westman, G.Ueber das Friedrich Siemens'sche neue Heissverfahren
mit freier Flammenfaltung(in glass smelting). 0
Berl. 1886. 4. 12pp 1 pl.

Glass and Glassmaking;Local-England. CJ 54

907 The glass industry 38 11. Tariff Commission Report.
Vol.6. As 1428.

Glass and Glassmaking; Local-London. CJ 56

915 Buckley F.Old London glasshouses, Lond, 1915 sm.80. 42 pp.

Glass and Glassmaking; Local-Nancy. CJ 75.

(z) 910 Gillet, L.Emile Galle.(et la cristallerie Galle a Nancy) La
Poème du verre Ex; "Revue Hebdomadaire", 8.Oct.1910.pp.153-172. 2 pl.

Glass and Glassmaking;Local-Venice-Murano. CJ 97.

865 Salviati A. On mosaics. With a description of the.....art of
Venetian glass-blowing.(Paper read).2nd ed.1866. 80.

Glass and Glassmaking; Sanis. Ch.24.

916 Imperial College of Science and Technology. A memoir on British
resources of sands suitable for glass-making, with notes on cer-
tain crushed rocks and refractory materials. By P.G.H.Boswell.
With chemical analyses by H.F.Harwood and A.A.Eldridge.Lond.1916
8° 92 pp 3 pl.

Glass and Glassmaking; Varieties(Trade Catalogues)CH 41y

912 Farniloe, T.& W.Ltd.Westminster.Glass catalogue 192 40.46 pp.

Glass:Chemistry and Physics CH 30

(z) 915 Institute of Chemistry.Report of the glass research Committee.
Ex: "Proc. Inst.Chemistry", 1915.Pt.2.pp 33-39 80.

Glass: Chemistry and Physics: Bottle Glass. Ch. 36.

(z) 868 Bobierre, A. De la composition des verres abouteilles et de
leur influence sur les vins. Ex."Annales de la Soc Acad de
Nantes", 1868. pp. 21-27. 80.

Glass: Chemistry and Physics: Lead and Optical Glass Ch.32

915 Rosenhain W. Optical glass. 34 pp. Soc. of Arts. Cantor
lectures (Vol.10.) A.B. 28:872.

Glass: Chemistry and Physics: Silica Glass. Ch. 38

(z) 915 Marshall, A.E., and Winship W.W.Bibliography of fused silica
(1906-14) N.Y. 1915. 16° 16 pp

Glass: Chemistry and Physics: Silica Glass (Trade Catalogues) CH 38 y.

914 Thermal Syndicate, Ltd. Wallsend-on-Tyne, Pure fused silica
for use in chemical, etc., industries. 44 pp.
- Do. for use in laboratories. 30 pp. (1914?) sm. 4°

Glass-Working, Blowpipe. Ch 18

831 Korner, F. Anleitung zur Dearbeitung des Glases an der Lampe.
Jena. 1831 8° 300 pp. 5 pl.

Mirrors and Mirror-Making CH 50

915 Silverman, A and Neckerman P.D. The silvering of glass.

American Ceramic Society. Trans. Vol. 17.

pp 505-19. (Bibliography), pp. 514-18).

CEYLON

MISCELLANEOUS.

Downing Street, 11
22nd November, 1917.

Sir,

5 Sept.
12 Nov.
Cd. 8248.

I have the honour to acknowledge the receipt of Mr. Stubbs' despatch No. 145 of the 7th of March, transmitting copy of a letter from the Director of Agriculture suggesting enquiry as to the possibility of the establishment of a glass industry in Ceylon, and the institution of researches into the manufacture of copra and coconut oil.

2. I enclose, for your information, copies of letters from the Department of Scientific and Industrial Research, to whom your despatch and enclosure were referred. The questions raised by Mr. Stockdale are also being referred to the Imperial Institute.

3. I also enclose a copy of the minutes of Evidence taken before the Committee on Edible and Oil-Producing Nuts and Seeds, and would invite your attention especially to pages 39 - 43 and 162 - 5.

I have, etc.
Sd/- Walter H. Long.

Governor,
Sir J. Anderson, G.C.M.G., K.C.B.

STRAITS SETTLEMENTS. (1).
SEYCHELLES. (2).
MISCELLANEOUS.

Downing Street,
22nd November, 1917.

Sir,

I have the honour to transmit to you, for your information, the accompanying copy of a letter from the Department of Scientific and Industrial Research received in reply to one from the Colonial Office forwarding a copy of a despatch from the Governor of Ceylon in which was raised the question of making researches in the Colony into the manufacture of copra and coconut oil.

5. Sept. 2. A copy of my reply to the Governor of Ceylon is also enclosed, together with a copy of the Minutes of Evidence referred to in the last paragraph.

I have, etc.,
Sd/- Walter H. Long.

(1) Governor,
Sir A.H. Young, G.C.M.G., Etc., Etc.,
(2) Governor,
Lieutenant Colonel
C.R.M. O'Brien, C.M.G., etc., etc.

44286/1917.

Downing Street, 12
22nd November, 1917.

Sir,

I am directed by Mr. Secretary Long to transmit to you copies of the correspondence noted in the margin with regard to suggestions by the Director of Agriculture, Ceylon as to the possibility of the

Desp. Gov. Ceylon No. 145,	}	establishment of a glass industry in the Colony and the institution of researches into the manufacture of copra and coconut oil. A copy of the Minutes of Evidence referred to in the last paragraph of Mr. Long's despatch to the Governor of Ceylon is also enclosed.
7 March.		
Dept. S.I.R. 5 Sept.		
" " 12th Nov.		
To Gov. Ceylon. Misc.		
22 Nov. Cd. 8248.		

2. Mr. Long would be glad to receive your observations upon the questions dealt with in this correspondence.

I am, etc.,

Sd/- G. Grindle.

The Director,

Imperial Institute.

TRUE COPY

U. Cattani
SUPERINTENDENT
DEPARTMENT OF COMMERCE AND INDUSTRY.

S.R.P.

Recording letter from Sec. Govt of India forwarding copies of
Correspondence ^{from the Indian Office} regarding the possibility of the establishment of
a glass industry in Ceylon and the institution of researches into
the manufacture of Copra and Coconut oil.

READ AGAIN G.O. No. _____, dated _____ 191_____

” ” ” ” ” 191 .

READ ALSO:—

C. No. 619 A From the Govt of India, No. 2284-D dated 22-2-1918.
Dep'ty Com. + Industries.

" " " " , " "

191

" " " " " " " " 191

ORDER.

No. 382, dated 20.3.1918.

Mr

Recorded

Th.
19/3/28

Copy to the Officer in
charge of the Dep't of Industries
(with copy of papers
in the current file)

(Handwritten notes on the left page, including "191" and "191" in parentheses, and various illegible scribbles.)

When given for copying
 When copied
 When examined
 When signed

191

READ AGAIN G.O. No.
 191

DATED

CURRENT No.

ENCLOSURES TO G. No.

ORDER OF GOVERNMENT

.. .. A A A A A A A

LETTER OF GOVERNMENT

STATEMENT WITH DETA.

LETTERS NOT FILED UP, BEING KEPT FOR DISPATCH
 IN ORIGINAL.

N.B.—

- A = Copy in full.
- B = Not to be copied.
- F = Copy abstract only.
- Q = Copy heading only.