

Government of Madras.

EDUCATIONAL DEPARTMENT.

Recd.

Regd.

} 1915.

Enclosures

Spare copies

G.O. No. 354, 26th March 1915.

Soap Experiments.

Stating that experiments connected with the manufacture of soap and fats should continue to be conducted by Sir Frederick Nicholson in the Department of Fisheries.

2

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GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

READ—the following papers:—

I

Letter—from Sir F. A. NICHOLSON, K.C.I.E., Honorary Director of Fisheries.
To—the Secretary to Government, Revenue Department.
Dated—Madras, the 13th October 1914.
No.—Ref. 530.

I have the honour to submit copy of a letter to me from the Oil Chemist Mr. A. K. Menon, who was appointed by G.O. No. 3553, Revenue, dated 3rd December 1913, for a year from December 1913, and subsequently continued till 31st March 1916, by G.O. No. 2666, Revenue, dated 15th September 1914.

2. Mr. Menon points out quite correctly that the mere extension of his probationary or temporary appointment leaves him in a somewhat uncertain position; he is neither in Government service nor free for independent work, and he asks that he be made either permanent or, if that is considered at present undesirable, that he be appointed on a five years' contract, on pay said to be two-thirds of that given to the Government European Experts in Dyeing, etc. He points out that he has done what work he was set to do but that, as recited in my letter of June 1913, read in G.O. No. 3553, Revenue, dated 3rd December 1913, the work that has to be done in the matter of vegetable oils is far more important, and requires the services of one or more experts.

3. In my letter recommending an extension of his appointment till 31st March 1916, I stated that owing to various circumstances Mr. Menon's work had been delayed and interrupted, and I recommended the extension rather from my own point of view than from his. Since writing that letter the question of oil and fat industries has come up in more definite form than hitherto, and in my letter No. 519 of this date (13th) drafted before perusal of Mr. Menon's application I have strongly urged on Government the immediate establishment of an experimental installation for examining the plant and processes most suited to Indian conditions, for ascertaining the causes which have hitherto inhibited private enterprise in the matter, and for demonstrating results and methods to the public of small capitalists. In paragraph 15 I expressly mentioned that Mr. Menon is on the spot and is skilled in these several industries, so that work could start if my idea is entertained and sanctioned, as soon as the plant is obtained and set up. In selecting and ordering the plant Mr. Menon's advice would be desirable, while he would of course be necessary in working the plant.

4. I do not care for Mr. Menon's proposed enquiry (made also in his letter of 21st February 1913, and deprecated in my letter of June 1913) into comparatively unknown oils and waxes; an expert on work such as I have indicated in my letter of current date, would have far more than enough to do in looking after the oils and fats and their derived products which I have discussed in that letter; let us get to the obvious, vast, and very urgent problems which are under our very eyes, before we start roving commissions on mere possibilities which can wait. Moreover every known nut, seed, oil, fat, or wax has long ago been described and discussed and their properties recorded in detail in the text-books and reports, from the days of Ure and

Spon down to the most recent edition of Lewkowitsch and the bulletins of the Imperial Institute. If home merchants want to get bulk samples of any of these catalogued nuts and oils (many if not all of which are in the Imperial Institute and other museums), they can apply to the Imperial Institute or to the Board of Trade or to one of our several departments (Agriculture, Forests, Industries, etc.) for such samples or for further information. If the trade wants a product it will ask or send for it.

5. In view of the vastness of the work immediately available I consider that Government may very well appoint Mr. Menon either permanently or on a term contract on such conditions as might seem proper, including the condition that the period from first employment, viz., December 1913, should be included in service for pension, etc., in case the term contract should be converted into ordinary service. Probably the pay suitable to a permanent billet would be initially and appreciably lower and with smaller increments than that asked for a short term contract, for the very reason that the billet would be both permanent and would include pension, leave, etc. The appointment would, of course, be made in the Department of Industries.

6. While the proposed plant—if my suggestions are sanctioned—is being obtained, Mr. Menon can work with me on fish oils and products when not required by the Director of Industries; at all events during the fish oil season now beginning I should like him to be with me till, say, December. He can, of course, assist in preparing any detailed estimates and indents while working with me, especially as I have some little knowledge myself in the matter.

ENCLOSURE.

Letter—from Mr. A. K. MENON, B.A., F.C.S., Calicut.
To—the Honorary Director, Madras Fisheries.
Dated—the 3rd October 1914.

With reference to G.O. No. 2666, Revenue, dated 15th September 1914, sanctioning the extension of my employment as Oil Chemist till March 31st, 1916, I have the honour to submit my memorandum for your kind consideration.

From the Government Order it is clear that my appointment is only for a temporary period of a year and three and a half months from December 15th, 1914, the date of the termination of my probation of a year as fixed by G.O. No. 3553, Revenue, of 3rd December 1913.

In paragraph 5 of the latter Government Order it is mentioned that "my permanent employment will depend on the results of my probation and the final determination of my pay and position on the future reorganization of the Industries Department." I beg to point out that, while thanking Government for this temporary extension of my employment, this extension merely indicates another period of probation on presumably the same conditions as before as regards pay and prospects.

With regard to the work that has been done by me during the last nine months of my probation, I beg to state that I have utilized my time as best as I could, though unfortunately there had occurred a few interruptions in my work owing to unavoidable circumstances. I was working from the middle of January to the end of March in the laboratory of the Indian Institute of Science, Bangalore, by the kind permission of its Director Dr. Travers, F.R.S. During this period I had carried on a large number of experiments on the deodorisation of some "Edible Mutton Tallow" received from England by the Honorary Director, which had gone rancid owing to long keeping and opened to Indian temperature. I had successfully effected the refinement aimed at. Besides this work, I had made some analysis of different kinds of sardine oils (Al, No. 1 and pressed quality) received from the Honorary Director from Tanur, in addition to several samples of oils and fats used for edible purposes, which the Honorary Director sent to me from time to time for examination.

After leaving Bangalore at the end of March owing to the long vacation, I was temporarily accommodated at the Agricultural College, Coimbatore, by the kind consent of the Principal. Here I continued my work which was the further examination of sardine oils and some other kinds of fish and vegetable oils.

Some work was also done in painting tin plates and small tins (the latter used as a container for fish—prawn—paste), with varnish which the Honorary Director had desired me to do. My chief work, however, was directed towards the purification—decolorisation and partial deodorisation of the pressed quality sardine oil. Different methods were tried, and although it has been possible in a way to remove the strong and rank smell of this oil, it could not be thoroughly deodorised, neither could the dark red colour be completely altered. I attribute failure to obtain very satisfactory results in this connection, to the high state of rancidity

of the oil (acid value, 35). Further experiments should be conducted on fresh samples. Another piece of work, I did at the Agricultural College, was the analysis of a few samples of soap. Especially a certain kind of saddle soap, which the Honorary Director had received from a Military officer. I found out the composition of this soap by complete analysis and attempts have been made successfully to match the same. Another important item of my work was in connection with the discovery of an insecticide made of fish oil used for spraying coffee green bug. I had while at Bangalore made enquiries at the Agricultural Department, and Dr. Coleman, the Director of Agriculture in Mysore, and his senior assistant were kind enough to explain to me their requirements for a spraying material against these bugs.

I set to work in finding out a substitute for the soap that was used as an ingredient of a spraying solution used hereto. I not only succeeded in making one from fish oil and stearine but it proved to be highly suitable for the purpose, besides being cheaper than the ordinary soap by 40 per cent.

Moreover, my preparation is ready for use, addition of cold water being the only work involved, thus simplifying a good deal of the labour to the planters. A few pounds of this insecticide were sold as sample to the Planters' Association and a small amount of money was realised on this account. I have received from the Director of Agriculture in Mysore, orders for 30 tons of this insecticide and I can safely anticipate another 20 or 30 tons from other sources. This marks a new development in the local utilisation of the fish oil and stearine. Fish stearine or "fish tallow" of the lowest quality, whose presence in the fish oil was regarded as a nuisance by the merchants and exporters of the oil, is eminently fitted for conversion into soap. Consequently, there is a ready market for this "fish tallow" which otherwise would have been of little use.

I returned to Bangalore by the 1st July and commenced work soon after at the laboratory of the Institute; I made further examination of sardine oils, and also of shark and skate liver oils. Side by side with this analytical work, I made a considerable number of experiments on the decolorisation of A1. and No. 1 quality sardine oils. I have succeeded in obtaining an almost colorless oil from these oils whose original colour was yellowish. The smell also has been improved considerably. I was about to start experiments on testing the use of these oils for the paint and varnish industries. But I was called out by the Honorary Director to supervise the fish oil making at Tanur. I am following his instructions with regard to this work.

Of course I had really no opportunity to superintend the oil-making operations, as last year's season for this work was over before I joined duty. But I hope that during the present season I shall have ample opportunities, under the direction of the Honorary Director, to superintend the practical part of the oil manufacture and to suggest methods of refinement if necessary.

I beg to point out by the above short report of my work during the last nine months, that my time was utilised to the fullest possible advantage and that I have been able to show some substantial results.

It is with regard to my future permanent employment, that I wish to show to Government the probable sphere of enquiry in which my services may be advantageously used. The Honorary Director in his original letter of the 18th June 1913 to Government regarding my appointment has given, in explanatory detail, the present backward state of the oil industry in this Presidency and the necessity for investigation with a view to its improvement—*vide* paragraphs 5 to 22. There are many pressing questions concerning the preparation, the purification and the utilisation of enormous quantities of vegetable and animal oils in this country which require a thorough and systematic examination. The Honorary Director has, under the various heads of oils he describes, shown the particular lines on which improvements could be effected. Besides suggesting methods for the improvements of different oils that are already known, an oil expert may also employ his time in the investigation of various oleaginous seeds and oils which have not been properly exploited. There is an enormous scope for this sort of enquiry in so far as there are large quantities of oil-seeds that have been left to "blush unseen" and decay. I know of many such oil-seeds that are abundant, but have received little attention at the hands of merchants and exporters probably owing to their ignorance of their value. The oils from these seeds may be amenable to very many uses as investigation may show and I have no doubt that enquiry in this direction will prove fruitful. I had while in England received enquiries from merchants, seed crushers, and manufacturers of edible oils and fats, for some sorts of oil-seeds and oils of India, the existence of which they were aware of, but other particulars regarding their composition and uses and quantities available were to them more or less a matter for conjecture. Some of these are the oils of the seeds Unguoka, Pongam, Tam. (*Pongamia glabra*), Karingota, Mal. (*Samadera indica*), and of the soap nut (*Sapindus trifoliat*) and other varieties. Most of these oil-seeds grow profusely and it should be an easy affair to utilise the oils from these for industrial purposes. "Another purpose," as the Honorary Director points out in paragraph 22 of the above letter, "for which we need an oil expert is the detection of adulteration of oils and fats." Adulteration of edible oils and fats is becoming a very common practice amongst the dealers in such products in the Presidency and is pursued as a scientific art.

Legislation has been enacted in some towns in India to stop this abominable contamination of edible food; such a legislation in the Madras Presidency would come as a boon to the public as the Honorary Director remarks "a few important prosecutions would strike at the root of adulterations which are always harmful to trade, which may be injurious to health, and which are, at best, a deliberate fraud." I consider it quite unnecessary on my part to add anything more to the very strong reasons of the Honorary Director to support his statement in paragraph 23 of his letter that "for all the above purposes Government will require not merely one expert but several experts."

The above reasons apply with greater force now that, owing to the war, trade especially in oil-seeds as ground nut, copra, etc., are at a standstill; no export being done in these commodities to foreign countries.

I have endeavoured so far to point out that there exists a large field for operations for an oil expert whose services could be retained with advantage permanently.

Though much has to be done in the fish oil industry it is in the vast region of vegetable oils and fats with their diversity of character and bulk of production (thousands of tons of seeds and oils are produced annually) that problems touching on their improvement and utilisation arise continuously and have to be tackled and solutions discovered.

As I have shown above, there is sufficient scope for my permanent retention, but if Government should not consider this as either necessary or advisable, I request that I may be employed for a period of five years, as has been done in the case of Leather and Dyeing Experts.

The European Experts are paid Rs. 750 a month; but I am willing to accept Rupees 500—50—750, being only two-thirds of the salary allowed to Europeans.

I am confident that I can justify my appointment as "oil chemist" by demonstrating the various uses which different oils, some of which are at present unknown to trade, can be put to.

If my appointment is only for five years it will not be advisable for me to undertake the manufacture of finished articles as soap, etc., on a commercial scale or to undertake the teaching of students. Requesting that you will be good enough to give your kind consideration to the above facts.

II

Endorsement No. 1941/14-1, Revenue, dated 10th December 1914.

Referred to the Director of Industries for remarks.

(By Order.)

L. J. P. JOLLY,
Under Secretary to Government.

To the Director of Industries.

III

Letter—from K. T. B. TRESSLER, Esq., Acting Director of Industries.
To—the Secretary to Government, Revenue Department.
Dated—Madras, the 21st December 1914.
No.—7329.

With reference to Sir Frederick Nicholson's letter sent to me for remark, I have the honour to offer the following observations.

I understand the point on which my views are required is the appointment of Mr. Menon to the Department of Industries. There is a good deal of useful work to be done in connection with the oil-seed problem and the services of an officer with an intimate knowledge of these processes could always be utilised with advantage in my department.

But I do not think Mr. Menon is quite the man I want. His technical qualifications are quite good but he has little experience. As an assistant anxious to learn, a man of Mr. Menon's type would be quite useful but Mr. Menon does not regard himself as an assistant or a learner: he thinks he is a finished expert who has nothing more to learn and whose function is to tell other people what to do.

Mr. Menon's application for a rate of pay of Rs. 500 to Rs. 700 sufficiently indicates his opinion of his own merits and makes me rather doubt if he will do any good in my department. Mr. Menon's attitude has also made an unpleasant impression on several other officers who have been in a special position to study him. I do not mind trying him and seeing if I can make him adopt a more rational attitude, but I doubt if I shall succeed and if I do not, he will be useless to me.

In any case I am not prepared to give him more than Rs. 200 to Rs. 250.

IV

Letter—from K. T. B. TRESSLER, Esq., Director of Industries.
To—the Secretary to Government, Educational Department.
Dated—Madras, the 9th January 1915.
No.—19.

With further reference to Mr. Menon's application, I have the honour to enquire whether that officer is to be attached to my department or not. I want to start soap experiments and require a man. If Mr. Menon joins me I can put him into this work: if not I have a better man in view: Mr. Chakravarty, formerly of the Oriental Soap Company, and propose to appoint him temporarily on Rs. 200 per mensem.

A very early reply is requested regarding Mr. Menon as I am anxious to get things fixed up as quickly as possible.

V

Letter—from Sir F. A. NICHOLSON, K.C.I.E., Honorary Director of Fisheries.
To—the Secretary to Government, Educational Department.
Dated—Madras, the 8th February 1915.
No.—Ref. 80.

I have the honour to acknowledge receipt of G.O. No. 52, Educational, of the 16th January, on the subject of the oil and fat industries, and of D.O. No. 109-1, Educational, of the 26th idem, asking whether Mr. A. K. Menon's services (as oil and soap expert) can be placed at the disposal of the Director of Industries in connection with proposed "experiments in the manufacture of soap."

2. I submit that Mr. A. K. Menon may be usefully left with me so long as I am connected with the Fisheries Department.

3. In paragraph 2 of the Government Order, Government accept the advisability of attempting to build up local industries for the utilisation of local oils, and instance the possibility of producing a suitable vegetable substitute for ghee, and of manufacturing soap at a profit. I suggest that, for the present, both these matters be left in my hands, with the technical aid of Mr. A. K. Menon as expert, for reasons which follow.

4. *Soap manufacture.*—In this industry I have some technological knowledge and suggested the matter as one for Government experiment and demonstration in my letter of June 1913 read in G.O. No. 3553, Revenue, dated 3rd December 1913, and in subsequent letters. My D.O. No. 27 of the 9th December last, is, however, not one of those read in the Government Order under reply, though it made concrete proposals, with outline estimates, for a small soap and glycerine factory, nor is my letter No. 30, of the 20th idem, to the Hon'ble Mr. Cardew. I mention these facts simply to show that I have, for years, urged the manufacture of soap (and glycerine) as a highly advisable and likely industry, and that, in consequence, I may be able to assist the Department of Industries by relieving it of the enquiry into one particular industry while that department deals with the numerous other proposed industries.

5. I would not, perhaps, be so bold as to propose this were it not that for some time past—partly as the result of communications with the Military and Planting authorities, partly in seeking an outlet for fish oil and stearine—I have, through Mr. Menon, been actually making soap in my West Coast station. In my letter of June 1913 and other papers (e.g., my letter read in G.O. No. 2666, Revenue, dated 15th September 1914, and my D.O. No. 27 of 9th December 1914), I have expressly mentioned the actual manufacture in my Tanur yard, of fish oil soap and the consequent acquirement of data of the cost of production. This soap was favourably mentioned by Mr. Anstead in a planting journal, and Mr. Menon has already made, to order, nearly ten tons of soap, and has orders for more; Dr. Coleman of the Mysore Agricultural Department spoke of large probable orders, up to 40 tons possibly, for Mysore alone. If Mr. Menon is now taken away and the matter removed from my hands, a going business, carried on to demonstrate not only the possibilities of one class of soap manufacture but a profitable outlet for even the commonest fish oil, will be interrupted. I am now selling fish oil rosin soap at prices below those paid by planters, yet yielding a large profit due to the cheapness of fish oil; this result is not only satisfactory in itself but is demonstrating possibilities for private enterprise;

please see my letter of 5th instant, Ref. No. 66 (through the Accountant-General) to the Revenue Department asking for a further grant of funds to supply a demand. I am also communicating with the Military Department as regards harness soaps.

6. Not only so, but Mr. Menon is, as mentioned in my several letters, already preparing ordinary and high class soaps from vegetable oils and tallow, and I shall be sending samples to Government immediately; we have been delayed by the difficulty—due to the war—of getting perfumes, colours, etc., but this is now overcome and I have obtained a stock. It would be a pity to interrupt the initiation and progress of the very manufacture which Government desires.

7. Moreover, on this coast we have the best materials at our door. Mr. Menon's enquiries have brought to light excellent local soap stock in tallow, cocoanut oil foots, etc., and I have suggested to a local firm the recovery of a soap material which is now a waste product in their business.

8. May I say, further, that "experiments in the manufacture of soap," as suggested in the demi-official under reply, are less needed than experiments in the commercial or trade aspect of the industry; the Government order lays stress on the possibility that soap-making may prove "a profitable venture." We have in India the same oils and fats as are used in Europe (the only difference being that they are much fresher and mostly cheaper), the same chemicals, and the same chemical laws; consequently the mere manufacture of soap does not, in the hands of an expert, itself need much experiment; what we do want is to know whether our manufactures can be marketed at a profit. I contend that this can only be ascertained in a small factory and not in a laboratory, and that is what I proposed to Government in my letter No. 27 of the 9th December. Meanwhile Mr. Menon's operations are giving and have given data which enabled me to say in that letter that I could tell the cost with some precision, and in that of 20th December (to Hon'ble Mr. Cardew) that genuine soap could be sold for £3 per ton less than European soaps are now marketed here.

9. I am told, indeed, that information has already gone Home about our local soap-making and that the great British firms are likely to oppose the venture in various ways; that, however, is a difficulty which can be overcome and which need not be considered till it occurs. Soap can be so readily prepared in this Presidency by the cold process or otherwise, and with small capital and plant, that, without cheap local oils and labour we need not anticipate competitive failure. Indeed it is highly probable that local branch manufactories will in that case be started by the great soap firms, and that is precisely what we want; soap will then be made worth millions sterling per annum, not merely for India but for the East; in paragraph 6 of my letter to Mr. Cardew of 20th December, I have mentioned the large demand (13,000 cwt. annually) for soaps even in the hinterland of Aden, and we have Ceylon, the Straits Settlements, and China at hand.

10. *Vegetable butters.*—This is a matter which is even more insistent than that of soaps, and I have urged this from the first; no one who has lived in the districts can help knowing how great the demand is for fats among a population who live chiefly on fatless foods such as rice, millet, pulse, etc., and who cannot get meat or ghee.

Apart, however, from this larger question, I am, as repeatedly stated in my letters, trying to find a cheap but pure fat—vegetable if possible—for my fish pastes, and, when recently in England, I discovered a hydrogenated purely vegetable fat which seems eminently suitable as a possible basis; a parcel has just arrived at my cannery. I have also been in communication with other firms both English and Indian for edible stearines, such as that of cotton, and cocoanut preparations, etc., and experiments have already been made, but without present success—owing to flavour, fluidity at normal Indian temperatures, and other reasons—in so far as suitability for a butter substitute is concerned. It is most important to me to have expert assistance in this matter not only in the particular combinations of oils, milk, fats, dairy butter, etc., but in the flavouring and colouring of the compounds and in obtaining the butter texture. Moreover, since Government expressly allude to this experiment as an important subsidiary oil industry, and since I have not merely urged the experiment but am already engaged on it, I submit that the matter may, for the present, be left in my hands with Mr. Menon as my assistant.

11. In writing as above I am merely desirous of rendering to Government and the Director of Industries such assistance as may be specially in my power in matters in which I have much interest and some special knowledge and facilities. If, however, Government prefer to place the whole matter immediately under the Director of Industries, I will direct Mr. Menon to report himself at Madras for duty at the end of the official year, if this date is agreeable to Government.

Order—No. 354, Educational, dated 26th March 1915.

The Government consider that the experiments connected with the manufacture of soap and fats should continue to be conducted by Sir Frederick Nicholson in the Department of Fisheries. Mr. A. Kesava Menon will be retained in that department until the expiration of the period of his present employment, viz., the 31st March 1916.

2. Sir Frederick Nicholson is requested to submit a special report to the Government in regard to these experiments towards the close of 1915. The Government will then consider Mr. Kesava Menon's application for appointment permanently or for a definitely long period as oil chemist.

(True Extract.)

P. RAJAGOPALA ACHARIYAR,
Secretary to Government.

To the Honorary Director of Fisheries
" Director of Industries.
" Revenue Department.

EDUCATIONAL DEPARTMENT.

NOTES CONNECTED WITH G.O. No. 354, EDUCATIONAL, DATED
26TH MARCH 1915.

[SUBJECT.—*Regarding the appointment of Mr. A. Kesava Menon as oil-expert.*]

REVENUE DEPARTMENT.

From the Honorary Director of Fisheries, dated 13th October 1914, No. 530.

In G.O. No. 3553, Revenue, dated 3rd December 1913, Mr. A. Kesava Menon was appointed oil-expert on probation for one year on a salary of Rs. 250 per mensem. It was stated that Mr. Menon's permanent appointment would depend on the results of his probation, and the final determination of his pay and position on the future organisation of the Industries Department.

2. In G.O. No. 2666, dated 15th September 1914, the Government extended the period of his employment as oil chemist till the 31st March 1916.

3. At the instance of Mr. Menon Sir Frederick Nicholson now recommends that he may be appointed in the Department of Industries either permanently or on a term contract on such conditions as might seem proper.

4. In his letter No. 519, dated 13th October 1914, Sir Frederick Nicholson recommended the immediate establishment of an oil experimental station for examining the plant and processes most suitable to Indian conditions and for demonstrating results and methods to the public of small capitalists.

5. As the proposal for the further appointment of Mr. A. Kesava Menon may depend to some extent on the proposal of Sir Frederick Nicholson regarding the establishment of an experimental station, the decision on the linked file * may, it is submitted, be awaited.

B.V.—29-10-14.

K.A.M.—30-10-14.

M.R.N.—30-10-14.

L. J. P. JOLLY—30-10-14.

Yes: meanwhile submit this file also to the Honourable Member linked with that file and labelled for "reference only."

L. DAVIDSON—31-10-14.

[Secretary's remarks in the weekly arrear list.]

+ Establishment of an oil experimental station.

G.O. 52, Educational, 16th January 1915.

Please put it (C. No. 1941-A) up separately for orders. I am by no means certain it need await disposal of No. 14 (C. No. 1602 A-14).†

L.D.—3-12-14.

The file is put up. The file relating to the establishment of an oil experimental station was submitted (in print) yesterday.

K.R.N.—3-12-14.

M.R.N.—3-12-14.

L.J.P.J.—4-12-14.

We might, I think, fill in time by consulting the Director of Industries on this proposal. By the time his views are received, the future of the oil-pressing schemes may have assumed a more definite shape.

L. DAVIDSON—5-12-14.

I agree. I returned the file on the oil-pressing scheme today. Mr. Menon will probably have to come under Mr. Tressler who, for some reason or other, seems inclined to regard him with disfavour. But if a regular scheme is sanctioned Mr. Menon will have to work at it in accordance with instructions, and won't be left free, as he has hitherto been, to play about with all kinds of stray experiments.

A. G. C[ARDEW]—7-12-14.

A draft endorsement is submitted for approval.

K.R.N.—8-12-14.

M.R.N.—8-12-14.

Issue.

L. J. P. JOLLY—9-12-14.

[Endorsement to the Director of Industries, dated 10th December 1914,
No. 1941-A/14-1.]

From the Director of Industries, dated 21st December 1914, No. 7329.

Mr. Tressler's reply has been received. The main file on the development of oil and linked industries has since been transferred to the Educational Department for disposal. It is submitted that this file may also be transferred to that department in continuation.

K.A.M.—22-12-14.

M.R.N.—30-12-14.

Yes.

L.D.—30-12-14.

To the Educational Department.

EDUCATIONAL DEPARTMENT.

From the Director of Industries, dated 9th January 1915, No. 19.

Please see Revenue Department notes *supra*. The question of Mr. Menon's appointment in the Department of Industries may, it is submitted, be considered after orders have issued on the file regarding the development of the oil industry. The latter file has been circulated to His Excellency the Governor.

S.K.—12-1-15.

C.R.—12-1-15.

Yes; let us get that file back first.

P. RAJAGOPALA ACHARIYAR—15-1-15.

Orders on the file regarding the development of the oil industry have issued—please see G.O. No. 52, Educational, dated the 16th January 1915. Sir Frederick Nicholson's scheme for the establishment of a factory for extraction of oil and for the manufacture of such articles as soap and glycerine has not been accepted by the Government. It cannot, therefore, be now decided whether Mr. A. Kesava Menon's services will be required by the Industrial Department permanently or for any long period. Orders on his memorial in the current file may therefore, for the present, be deferred.

2. In the meanwhile in his letter of the 9th instant, Mr. Tressler enquires whether Mr. Menon's services could be placed at his disposal for carrying on certain experiments in connection with soap manufacture. Mr. Menon's present term of engagement lasts till the 31st March 1916.

In October last Sir Frederick Nicholson stated that Mr. Menon should be with him during the first oil season, that is, till December. He may perhaps be asked by demi-official whether he can spare Mr. Menon's services for the Department of Industries. If this is accepted, the draft placed is for approval. It is not stated how long Mr. Tressler would require the

Very necessary.

P.R.—23-1-15.

Before the demi-official to Sir Frederick Nicholson issues, Mr. Tressler may be asked by telephone how long he requires Mr. Menon's services. The following draft is for approval.

S.K.—23-1-15.

C.R.—23-1-15.

P. RAJAGOPALA ACHARIYAR—23-1-15.

*Telephonic message—from the Secretary to Government, Educational Department.
To—the Director of Industries.
Dated—the 23rd January 1915.*

Please refer to your letter No. 19, dated 9th January 1915, and say how long you will require the services of Mr. Menon for soap experiments.

*Telephonic message—from the Director of Industries.
To—the Superintendent, Educational Department.
Dated—the 25th January 1915.*

[Reference telephonic message of to-day.

Six months to begin with (Mr. Menon).

Mr. Tressler states that Mr. A. Kesava Menon's services will be required for six months to begin with. Sir Frederick Nicholson may be asked by demi-official whether he can lend Mr. Menon for that period. A draft demi-official is submitted for approval.

S.K.—25-1-15.

C.R.—25-1-15.

P.R.—26-1-15.

*Demi-official—from the Hon'ble Diwan Bahadur P. RAJAGOPALA ACHARIYAR, M.A.,
B.L., C.I.E., Secretary to Government, Educational Department.
To—Sir FREDERICK NICHOLSON, K.C.I.E., Honorary Director of Fisheries.
Dated—the 26th January 1915.
No.—109-1, Educational.*

Mr. Tressler requires a man for a period of six months to begin with to conduct experiments connected with the manufacture of soap. I am to ask you whether Mr. A. Kesava Menon's services can be placed at the disposal of Mr. Tressler in connection with those experiments.

*Demi-official—from Sir FREDERICK NICHOLSON, K.C.I.E., Honorary Director of Fisheries.
To—The Hon'ble Diwan Bahadur P. RAJAGOPALA ACHARIYAR, M.A., B.L., C.I.E.,
Secretary to Government, Educational Department.
Dated—Calicut, the 3rd February 1915.
No.—7.*

Your demi-official No. 109-1, Educational of the 26th January, reached me simultaneously with G.O. No. 52, Educational, of the 16th idem, in which several of my letters have been read. With the permission of Government I will send an official reply covering both the above communications: it has gone for fair copying and will reach you in four or five days.

I assume that the matter of your demi-official is not of extreme urgency.

From the Honorary Director of Fisheries, dated 8th February 1915, Ref. No. 80.

At the instance of Mr. Tressler, Sir Frederick Nicholson was asked to state whether he could spare Mr. A. Kesava Menon's services for certain soap experiments proposed to be carried on in the Industrial Department. He replies that experiments connected with the manufacture of soap are already being carried on by Mr. Menon under his supervision and hence desires that Mr. Menon should continue to work under him and that the experiments should be carried on in the Fisheries Department. It is doubtful if Mr. Tressler will agree to this arrangement. He is urging for an early reply as to whether Mr. Menon would be sent to his department as otherwise he should recruit another candidate for the experiments he proposes to undertake. It is for orders what reply should be given to Mr. Tressler. Sir Frederick Nicholson has stated that if, however, the Government should decide that the soap experiments should be carried on under the Director of Industries, he would place Mr. Menon's services at the disposal of Mr. Tressler at the end of the official year.

2. Sir Frederick has already been carrying out experiments in this direction. It may perhaps be better to leave him to make progress with it, instead of allowing Mr. Tressler to commence afresh the experiments. It is not desirable that two independent sets of experiments should be carried on on the same subject under the auspices of the Government. Sir Frederick's unusual enthusiasm in the matter is also a point in favour of his completing the experiments. He needs no additional staff. He is also unwilling to spare Mr. Menon at once. In these circumstances, it is for consideration whether Mr. Tressler may be told that Mr. Menon's services will not be immediately available and that the soap experiments had better be carried on by Sir Frederick, who has already made some advance in the matter.

3. As regards the proposal of Sir Frederick Nicholson to carry on the experiment on a commercial scale in a small factory, attention is invited to the notes to G.O. No. 52, Educational, dated the 16th January 1915, in which the question whether such action is permissible under the Secretary of State's despatch is discussed. It is observed that Sir Frederick is already manufacturing soap on more or less commercial scales; he has made and sold ten tons of the commodity and has orders on hand for more. This is done as part of the work of the Fisheries Department which is itself run on a somewhat commercial scale. The manufacture of soap from fish oil might perhaps also have been justified on the ground that it was meant for the purpose of demonstrating that it was possible to do so. It is for consideration whether Sir Frederick should be left to carry on the further work which he proposes in the way he has been doing it till now.

S.K.—17-2-15.

C.R.—17-2-15.

As personally directed by the Secretary a draft demi-official to Mr. Tressler pointing out the difficulties about funds and the inadvisability of carrying on two independent investigations is submitted for approval.

C.R.—18-2-15.

P. RAJAGOPALA ACHARIYAR—19-2-15.

*Demi-official—*from the Hon'ble Diwan Bahadur P. RAJAGOPALA ACHARIYAR, M.A., B.L., C.I.E., Secretary to Government, Educational Department.
To—K. T. B. TRESSLER, Esq., Director of Industries.
Dated—the 19th February 1915.
No.—479-1/Educational.

With reference to your letter No. 19, dated the 9th January 1915, enquiring whether Mr. A. Kesava Menon's services may be placed at your disposal for conducting certain experiments in connection with soap manufacture, I am to say that Mr. Menon will not be immediately available for work under you.

Before considering your proposal to appoint another officer, I am to enquire what will be the total ultimate cost of the experiments you propose to conduct. As already intimated to you in my Demi-official No. 432-2, Educational, dated the 18th instant, the total amount available for experiments in 1915-16 is only one lakh, and presumably a major portion of this will be

required for the oil-pressing experiments, leaving only a small sum for other experiments. If your proposals in regard to soap manufacture are likely to cost an appreciable amount, it may probably not be desirable to start them just now.

Also it is understood that Sir Frederick Nicholson is carrying on experiments in soap manufacture and has actually progressed to an appreciable extent. It is desirable that the experiments you propose to conduct should not overlap those which have already been undertaken by Sir Frederick; and it is not advisable that two separate officers of the Government should carry on independent investigations about the same matter.

In these circumstances I am to enquire whether you would urge your original proposal to undertake soap experiments.

*Demi-official—*from K. T. B. TRESSLER, Esq., Director of Industries.
To—the Hon'ble Diwan Bahadur P. RAJAGOPALA ACHARIYAR, M.A., B.L., C.I.E., Secretary to Government, Educational Department.
Dated—the 24th February 1915.
No.—19.

In reply to your demi-official regarding soap expert I should like to enquire whether it is intended ultimately to transfer the man to this department. I believe Mr. Menon was originally appointed with this end in view; but he has not so far joined and the kind of training he is receiving in the Fishery Department is not of a character that would make him useful as a subordinate for me. If he is to remain in that department much longer I request that arrangements may be made to keep him there permanently or rather, not to send him back to me.

As regards the second point the cost of experiments will be about Rs. 400 a month for three months to begin with. If at that time funds run short the work may be stopped.

As regards Sir Frederick Nicholson's experiments, I do not think that these have anything whatever to do with my experiments. I want to find out if soap making pays. You are no doubt aware that it is an extremely simple thing to make soap; but the problem is to make a soap which will sell at a profit. I doubt whether considerations of this kind enter into Sir Frederick's researches.

You say it is not advisable for two separate officers of Government to carry out independent investigations on the same question. In this I concur. But, I cannot see what soap-making has to do with fisheries. If this industry is regarded as falling within his sphere and not mine I request to be informed what other industries besides soap manufacture Sir Frederick is to deal with. I believe he has submitted proposals regarding wood-pulp, glass, pencils, oil-pressing and a number of other industries and I shall be glad to hand those over to him on receipt of orders.

Please see Mr. Tressler's demi-official above. It raises two questions:—

- (1) The ultimate appointment of Mr. Menon; the oil chemist, and
- (2) The agency to carry out soap experiments. The disposal of the first question depends upon the decision about the second.

Mr. Tressler is unwilling to allow Sir Frederick Nicholson to have anything to do with the soap experiments. His reasons seem to be—

- (a) that Sir Frederick Nicholson may not conduct the experiments which he proposes from the commercial point of view, and
- (b) that soap experiments are beyond the province of Sir Frederick's legitimate duties.

As regards the first point, it is submitted that Mr. Tressler's doubt in this regard is unfounded. Sir Frederick specially deprecates any *laboratory* experiments in the matter and strongly pleads for experiments on *factory scale* to ascertain whether the manufacture of soap can be undertaken at a profit. It will thus be seen that both he and Mr. Tressler have the same aim.

In respect of the other point, it is submitted that Sir Frederick was in G.O. No. 3553, Revenue, dated the 3rd December 1913, authorized to investigate the problems connected with oils with which the Fisheries Department was more immediately concerned. In the proposals which were approved in that Government Order, Sir Frederick specifically stated that one of the objects of the investigation was to work up "oils especially, those of inferior grades into soaps and the manufacture of better substitutes."

Paragraph 12, page 4 of G.O. 3553, Revenue, 3rd December 1913.

In his letter No. 463, dated the 7th September 1914, requesting the retention of the oil chemist for a further period, Sir Frederick pointed out that Mr. Menon had successfully used fish-oil in making fish-oil soap for use on harness and leather goods and for sale to planters. Sir Frederick's current letter states that Mr. Menon's investigations in the matter have been extended to vegetable oils and tallow also and that some progress has already been made in the manufacture of soap out of them. It will thus be seen that soap experiments are not entirely beyond the province of Sir Frederick's legitimate work. There seems also to be no harm in Sir Frederick being allowed to conduct the further experiments. He specially asks that the two investigations regarding the production of suitable vegetable substitute for ghee and the manufacture of soap at a profit may be left in his hands with the technical aid of Mr. Menon. He also points out that the Government, by deciding to take this investigation from his hands, would be interrupting "the initiation and progress of the very manufacture which the Government desire" should be carried out, and the carrying on of a going business intended "to demonstrate not only the possibilities of one class of soap manufacture but a profitable outlet for even the commonest fish-oil."

Mr. Tressler's estimate of the cost of the experiments, namely, Rs. 400 a month for three months, which apparently includes the pay of the expert also, does not seem to be sufficient enough to carry on any investigation on a commercial scale. Most of the allotment that has been made in the budget for the next year will be needed for the purchase of oil-pressing plant; and Financial have definitely stated that no additional provision will be made for industrial experiments. Mr. Tressler points out that if no funds are forthcoming, he would stop the experiment after the third month. It is doubtful whether Mr. Tressler should be asked to undertake the experiment under such precarious financial conditions. No doubt Sir Frederick has no *locus standi* in carrying on the investigations, which properly belong to Mr. Tressler; but as the former has at present the facilities to do them, has already done an appreciable portion of it and is anxious to carry them through to a successful termination, it is for consideration whether Sir Frederick should be asked to transfer them to Mr. Tressler at this stage. If it is decided to allow Sir Frederick to continue the operations, matters will have to be explained to Mr. Tressler (preferably orally).

2. If further experiments on soap manufacture are to be conducted by Sir Frederick Nicholson, he must retain Mr. Menon under him; if not, he (Mr. Menon) may be immediately transferred to Mr. Tressler. The original idea was to send him eventually to the Industrial Department after his probation under Sir Frederick in connection with oil investigations ceases. In this connection please see Mr. Tressler's note, dated 11th April 1913, printed on page 8 of notes with G.O. No. 3553, Revenue, dated the 3rd December 1913. But if Sir Frederick is to retain Mr. Menon for a longer time, Mr. Tressler would refuse to take him under him. Mr. Menon wants also some assurance as to his future employment. In the present state of the unsettled condition of the future investigation, it may not be possible to give any *permanent* employment to Mr. Menon. It may, in these circumstances, be better to engage Mr. Menon for some definite period at least, say, five years, as he himself suggests, and place him under Sir Frederick. On this point, Revenue will have to be consulted after a decision has been arrived at on the point raised in paragraph 1 above.

G.O. 3553, Revenue, 3rd December 1913.

Sir Frederick Nicholson's u.o. note on page 12 of notes to G.O. *ibid*.

C.R.—26-2-15.

I think, taking all circumstances into consideration, that it would be well if Sir Frederick Nicholson is allowed to proceed with the experiments he has already on hand, and Mr. Tressler may be asked to leave this branch of work alone for the present. It would be a great pity to do anything which may appear to show want of sufficient consideration for Sir Frederick Nicholson. Mr. Kesava Menon has already been engaged for work under Sir Frederick up to the end of March 1916. This would give sufficient time for the

G.O. 2666, Revenue, 15th September 1914.

experiments which Sir Frederick has in hand to be pushed through to completion. I had a talk with Mr. Tressler about this yesterday and he was by no means keen that he should be permitted to conduct these particular experiments. Mr. Tressler has a lot of other work on hand and there is no chance of his finding himself without adequate employment.

In regard to Mr. Kesava Menon's request for a permanent appointment or a long term one, I would rather not agree to it just now. I confess to an uneasy feeling that he is probably not quite so good as Sir Frederick thinks him to be, and in any case, as he would, if now confirmed or taken on a long term, have to serve in the Department of Industries, it may not be expedient to take any action which would end in his becoming a permanent member of that department without giving Mr. Tressler an opportunity to see and judge of his work. Mr. Kesava Menon may possibly resolve to sever his connection with the Government because we are unable to take him into the permanent service at once or to give him a long term covenant, but I would accept that contingency. That would be a lesser evil than taking him permanently into the department behind the back as it were of its head. Sir Frederick may be told that the Government would be glad to have a special report in regard to the experiments on soap, etc., some time in February 1916, so that the Government may determine the further action to be taken in the matter and also in regard to Mr. Kesava Menon.

By the end of 1915.

P[ENTLAND]—19-3-15.

P. RAJAGOPALA ACHARIYAR—18-3-15.

P[ENTLAND]—19-3-15.

A. G. C[ARDEW]—20-3-15.

To the Educational Department.

EDUCATIONAL DEPARTMENT.

A draft order is submitted for approval. It may be sent to the Revenue Department for perusal before issue.

S.K.—22-3-15.

C.R.—22-3-15.

P.R.—23-3-15.

To the Revenue Department.

REVENUE DEPARTMENT.

Perused and returned with thanks.

L. DAVIDSON—24-3-15.

To the Educational Department.

EDUCATIONAL DEPARTMENT.

Submitted that the draft may now issue.

C.R.—25-3-15.

Issue.

P.R.—26-3-15.

[G.O. No. 354, Educational, dated 26th March 1915.]

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

" " " " 191 ..

READ ALSO:-

C. No., From the Hon. D. of Fisheries, No. 5-30, dated 13. 10. 1914.
D. J. 7329 21. 12. 14
 " " 109 " " " " 19 " " 9. 1. 1915
 " " 479 " " Hon. D. of Fisheries, No. 80, dated 8. 2. 1915

ORDER.
 P.S.

No. 3524, dated 26. 3. 1915

*Spencer
 CA
 26/3*

The Govt considers that the experiments connected with the manufacture of soap + fats should continue to be conducted by Sir Frederick Nicholson in the Dept. of Fisheries. ~~Mr. A. Kesava Menon~~ ~~Mr. A. Kesava Menon~~ will be retained in that Dept. until the expiration of the period of his present employment, viz., the 31st March 1916.
 2. Sir Frederick Nicholson is requested to submit a special report to the Govt in regard to the experiments towards the close of 1915. The Govt will then consider Mr. Kesava Menon

Memorandum application for
appointment permanently
or for a definitely long
period as oil chemist.

SK
22.3.15
22/3/15

23/3

The Hon. Director of Fisheries

" D. I.

" Rev. Dept.

(500)
Intt. by. to go in print

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SK
27/3/15

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19/4/15

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SPECIAL INSTRUCTIONS.

Soap and fat experiments
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