Form XXXVIII, S. L., 1924.

1934.

(To be destroyed in 19..)

File No. 11R I 11 of 1933

Subject

A scheme for the Organisation of Statistical Researchs in Bengal

— Scheme of Prof. Mahalanobis —

Government of Bengal

Education Department

Edn Branch

No. of Proceedings.	Subject.	File No.	Date of order.	Previous Proceedings.	No. of years for which to be Preserved.

Bengal Form No. 2.

GOVERNMENT OF BENGAL.

OFFICE OF.....

	Department. Group. Branch.	Diary or Register No.	
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No. 1045 5M/300. dated the 20th Novr., 1933.

To

The Secretary to the Government of Bengal,
Education Department.

Sir,

I have the honour to invite a reference to this office letter No.1005, dated 11th November 1933, with which a comprehensive scheme prepared by Prof. Mahalanobis for the organisation of statistical researches in Bengal has been submitted to Government for consideration. Professor Mahalanobis in a note, dated 8th September 1933 (copy enclosed), has applied for a small nonrecurring grant of Rs.2,000/- (Rupees two thousand) only, for undertaking some work in connexion with statistical studies. He has stated that this sum of money will be required partly for a research allowance for Mr. Raj Chandra Bose, M.A., Lecturer in Mathematics of Ashutosh College, Calcutta, to enable him to complete the investigation he has taken in hand and partly for the necessary computation assistance. Mr. Bose is said to be an eminent scholar in Mathematics and whom Prof. Mahalanobis considers to be the most fit person to carry on with the proposed work.

2. In view of what has been stated by Prof. Mahalanobis, I consider that Government should not lose the opportunity of employing a man

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of

of Mr. Bose's calibre in exchange of such a small sum of money, and strongly recommend that a "Research grant" of Rs.2,000/- (Rupees two thousand) only may be granted in favour of Prof.P.C. Mahalanobis to enable him to meet the charges on account of research allowance to Mr. Raj Chandra Bose and other incidental charges in connexion with the research work.

3. The charge may be met from the provision under the head - "Other items (voted)" "Miscellaneous" "Miscellaneous" "General" (Transferred) in the Education Budget for the current financial year which ~~xxxx~~ will be increased by re-appropriation, if necessary, later in the year. There will be a large saving under the head owing to less expenditure having been incurred on account of travelling allowance of the members of the Provincial Text-Book Committee and also on account of law and other miscellanewous charges. I have, however, kept earmarked for reappropriation, if necessary, a clean saving of Rs.2000/- under the head - "Principal and other teaching staff" (voted) "Pay of Officers" "English Schools" "Government Special Schools" "Special" (Trsnsferred). The saving is due to the abolition of the post of Vice-Principal of the school for which provision was made in the Budget.

I have the honour to be,
Sir,
Your most obedient servant,

for Director of Public Instruction, Bengal.

N.18/11.
29/11/33

A non-recurring grant of Rs.2000/- for statistical researches.

A comprehensive scheme for the organization of statistical researches in Bengal has been already submitted, and is under consideration by Government. As it may take some time to reach a final decision in this matter it will be desirable to provide a small non-recurring grant of Rs.2000/- only for completing a fundamental investigation (connected with educational tests) on which work has been already started. This investigation is likely to remain unfinished unless such a grant is sanctioned for reasons explained below.

2. It has been known for some time that the classical theory of errors is not applicable to small samples. Very recently, within the last 6 or 7 years, considerable progress has been made in developing the theory appropriate to small samples with the help of hyperspace geometry. The great practical importance of these recent developments arises from the fact that in actual practice almost all experimental or economic data are of small size. The immense improvement in the precision of comparison of field trials in agriculture in recent years is a case in point. This became possible only after a particular distribution problem was solved with the help of hyperspace representation. Fundamental researches in the theory of small samples are therefore essential for the application of statistical methods to practical problems.

3. Serious workers in hyperspace of geometry are unfortunately extremely rare in India. It was only very recently that Prof. M. N. Saha put me in touch with a brilliant young scholar, Mr. Raj Chandra Bose, M.A., Lecturer in Mathematics in the Asutosh College, who had done distinguished work in hyperspace geometry and had published about 10 papers in this subject out of which 3 were published abroad. I succeeded in persuading Mr. Bose to start work on the application of hyperspace geometry to statistics by awarding him from February 1933 a research stipend through the

Indian Statistical Institute. He has already completed a preliminary note on the geometrical treatment of correlation theory, and is now working on a basic problem which has direct bearing on the theory of correlation between educational and intelligent tests. The topic is thus of great importance in connexion with vocational selection. A good deal of experimental results of intelligence tests and school marks have also been collected as suitable material for applying and testing theoretical developments.

4. Mr. Bose is a most competent mathematician, and I am confident that he will be able to do outstanding work in this subject. But a peculiar difficulty has arisen in this connexion. On the strength of his geometrical researches he has been offered a full studentship in the Hamburg University by Prof. Blaschke the eminent geometrician. If he accepts this scholarship he will have to give up his statistical studies and concentrate on geometry. ~~Hon.~~ Mr. Bose, however, would prefer to continue his work in theoretical statistics, and is prepared to forego the German scholarship, provided he is given suitable research facilities in statistics.

5. It is of the utmost importance for the progress of statistical studies in India that at least one worker should specialize in the new technique based on hyperspace geometry. I do not know of any one in India who is Mr. Bose's equal or can replace him for work in this subject. I therefore suggest that pending decision on the larger scheme a small ~~xx~~ non-recurring grant of Rs.2000/- be provided in 1933-34 partly for a research allowance for Mr. Bose to enable him to complete the investigation he has already taken in hand and partly for the necessary computational assistance. In case the larger scheme is sanctioned in time, the proposed non-recurring grant of Rs.2000/- may be merged with the consolidated grant.

P.C. Mahalanobis

8/9/33

Letter No.1045, dated 20-11-33, from the D.P.I., Bengal.

(1)

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T/33

D.P.I's letter and its enclosure may be read. Pending consideration of the comprehensive scheme submitted by the D. P. I. in his previous letter, a non-recurring grant of Rs.2,000/- for completing investigation connected with educational tests may be sanctioned with the consent of the Finance Deptt. The D.P.I. has indicated the source from which the expenditure can be met.

Sd.B.N.Sarkar,
25-11-33.

Sd.B.B.S.,
27-11-33.

Sd.S.M.Murshed,
27-11-33.

for

This may be sanctioned with the consent of Finance Dept. The may be informed that H.M. Finance has considered the comprehensive Scheme submitted by Professor Mahalanobis.

28-11-33.

In Dept:
30/11

On the meagre material on the file, I do not propose to take cognizance of the "larger" comprehensive Explained more fully and Scheme." It has still to be subjected to considerable examination.

S. Ca. Ta
30/11/33

2. This ad hoc Scheme of a small non-recurring grant of Rs 2,000 involves new expenditure. We cannot agree to the expenditure being incurred by reappropriation. There is no

apparent urgency about the case. It is a case which should go through the Schedules, and it is now too late for 1934-35.

3. Moreover, ~~[illegible]~~ it is not clear to us that the proposed investigations in "hyperspace geometry", important as they may be from other points of view, are of particular value to Government. This aspect of the case will doubtless be made clearer when a schedule is put in for 1935-36.

R. Gladding
23.12.33

26/12

Fin Dept notes above may be shewn to the D.P.I. for his remarks.

Boulton
2.1.34

3/1/34 Lee

* * *

Finance Deptt.'s note of 23-12-33, may be shown to the D.P.I. for his remarks and for advice whether he wishes to press the proposal contained in his letter No.1045, dated 20-11-33, it seems to me that the expenditure is justifiable and desirable but perhaps Education Department is concerned chiefly through the accident that Prof. Mahalanobis is an officer working in that Deptt.; Commerce Deptt. or the Economic Council Committee is primarily interested in pressing on the scheme and perhaps we should leave it to them to press the matter.

Sd. H. R. Wilkinson,
4-1-34.

Recd in C.A. 8.1.34.

To D.P.I. 9.1.34

Mr. Mahalanobis has applied for leave from April to November. When he comes back we may know more of the Economic Council and how far they are prepared to help.

13. 2. 34.

Perusal. We may await further developments. The file may be closed for the present.

16.2.34

17-2-34.

17/2/34

Kn.

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File Disposal Slip

(*Vide* Section 239, Secretariat Instructions, 1924.)

Government of Bengal

Edn Department.

Branch.

File of IIR/I 1933

India's sanction is/~~is not~~ required.

All necessary and also subsidiary orders have been passed.

All orders that have been passed have been issued.

Record-room papers should be returned to record-room/kept for future reference.

Submitted to Head Assistant

The 24/2 1934 *Assistant in charge.*

The 24/2/1934 *Head Assistant.*

To Recorder/Takid Clerk.

Certificate by the Head Reference Clerk.

The record-room papers have been returned/kept as directed.

Head Reference Clerk.

REFERENCE TO FORMER CASES.

REFERENCE TO LATER CASES.