

## INDIAN STATISTICAL INSTITUTE

### Tenth Annual Report: 1941-42

The present report gives a brief review of the Institute's activities in the tenth year of its existence. In spite of growing difficulties under war conditions our work was continued on more or less normal lines. It became, however, increasingly difficult to maintain intellectual contact with countries outside India, and towards the end of the year, evacuation arrangements had to be made due to Calcutta being declared an emergency area. Details about these arrangements are given later on in this report.

#### THE FIFTH SESSION OF THE INDIAN STATISTICAL CONFERENCE, BARODA 1942.

The Conference was opened by His Highness Sir Pratap Singh Gaekwad, Maharajah of Baroda on the 3rd January 1942 in the Central Hall of the Science Institute, Baroda. Sir V. T. Krishnamachariar, Dewan of Baroda welcomed the members and visitors as Chairman of the Reception Committee. Sir T. Vijayaraghavacharyar, the General President of the Conference, in his address pointed out the importance of applying modern statistical methods in the design of agricultural experiments and in the collection of agricultural statistics. The technique of random sampling surveys was indispensable for improving the accuracy of our agricultural statistics. After the presidential address Prof. P. C. Mahalanobis, Honorary General Secretary, presented an Annual Review of the activities of the Indian Statistical Institute. The function was brought to a close with a vote of thanks proposed by Mr. A. C. Mukherjee, Local Secretary of the Conference.

The first academic session of the Conference was held jointly with the Section of Mathematics and Statistics and the Section of Agriculture of the Indian Science Congress on the 3rd January and was presided over by Sir T. Vijayaraghavacharyar. Dr. V. G. Panse of Indore opened a discussion on "The Use of Factorial and Incomplete Block Designs in Agriculture". Messrs. R. C. Bose (Calcutta), K. Nielsen (Cawnpore), R. S. Kohal (Bombay), S. S. Iyer (Delhi), Dr. P. V. Sukhatme (Delhi), and Mr. K. R. Nair (Calcutta) took part in the discussion.

The Presidential Address of the Section of Mathematics and Statistics, Indian Science Congress, was delivered by Prof. P. C. Mahalanobis on the 4th January. The subject was "Sample Surveys".

On the afternoon of the same day there was a joint meeting with the section of Mathematics and Statistics of the Indian Science Congress with Dr. C. W. B. Normal in the chair. There was an interesting discussion on "Problems of Discrimination" in which Prof. D. D. Kozambi (Poona), Mr. R. C. Bose (Calcutta), Dr. U. S. Nair (Trivandrum), and Dr. V. G. Panse (Indore) took part.

On the morning of Monday, January 6th, there was a discussion on "Administrative Statistics" with Dr. P. N. Banerjee in the chair. Among those who took part in the discussion were Mr. A. C. Mukherjee (Baroda), Prof. P. C. Mahalanobis, Prof. G. S. Ghurye (Bombay), Prof. K. B. Mahdava (Mysore), Mr. J. M. Kochar (Gwalior), Mr. M. V. Rao (Jodhpur), Dr. P. V. Sukhatme (Delhi), Rajya-Ratna S. V. Mukherjee (Baroda), Dr. U. S. Nair (Trivandrum), Mr. N. S. R. Sastry (Madras), Mr. G. D. Mathur (Ahmedabad), Mr. B. B. Sen (Calcutta) and Dr. M. Ziauddin (Lahore).

In the afternoon of the same day there was a joint meeting with the Section of Psychology and the Section of Mathematics and Statistics of the Indian Science Congress with Prof. K. B. Mahdava in the chair. There was a discussion on "Factor Analysis" in which Mr. R. C. Bose and Dr. Gopowar Pal of Calcutta, Mr. B. Kuppaswamy of Mysore and Mr. S. Jalota of Sholapur participated.

On the morning of Tuesday, January 8th, there was a discussion on "Census and Vital Statistics" presided over by Rajya-Ratna S. V. Mukherjee. Prof. K. B. Mahdava (Mysore), Prof. P. C. Mahalanobis, Mr. N. S. R. Sastry (Madras), Mr. A. C. Mukherjee (Baroda), Dr. U. S. Nair (Trivandrum), Mr. B. N. Datar (Calcutta), and Prof. M. Ziauddin (Lahore) took part.

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In the afternoon there was a discussion on "Teaching of Statistics" presided over by Mr. A. C. Mukherji (Baroda). Mr. K. R. Nair (Calcutta), Dr. M. Ziauddin (Lahore), Mr. R. C. Bose (Calcutta), and Dr. U. S. Nair (Trivandrum) took part.

All the meetings were well attended by statistical workers from different parts of India. A large number of papers on Theoretical and Applied Statistics was included in the programme, several of which were taken up for reading after the different discussions.

The following resolutions were passed by the Conference:

(1) Resolved that the Indian Statistical Conference welcomes the proposal to inaugurate an Indian Congress of Social Science which will hold its Sessions along and in cooperation with the Indian Science Congress, the Indian Association for Agricultural Economics, the Indian Political Science Conference, and other associations and institutions interested in this matter.

(2) Resolved that the Indian Statistical Conference and the Section of Mathematics and Statistics of the Indian Science Congress recommend to the Government of India (a) the creation in the immediate future of a Standing Advisory Board for the Indian Census to give advice in regard to the technical aspects of census operations and (b) the creation of a permanent Bureau for Census and Vital Statistics.

### THEORETICAL RESEARCHES

Theoretical researches were continued on a systematic plan on three main topics: (1) measure of statistical divergences with appropriate exact distributions; (2) design of experiments; (3) design of large-scale sample surveys together with model sampling experiments on non-random fields. A good deal of work was done in the third subject especially in connexion with the development of an efficient technique for crop-estimating surveys.

*D-Statistic*: Work on the theoretical side was continued under the leadership of S. N. Roy who investigated the sampling distributions, on the non-null hypothesis, of a set of  $p$ -statistics which enable us to discriminate between and classify a number of multivariate normal populations in respect of variances and covariances, and further a number of sets of multivariate normal populations (supposed to have the same dispersion matrix) in respect of sets of mean values for the different characters.

On the applied side tables for the five per cent and one per cent points of the "D" Statistic are being worked out by S. N. Roy and P. K. Bose under the guidance of P. C. Mahalanobis with the help of a grant from the Imperial Council of Agricultural Research.

*Design of Experiments*: Important contributions were made to the mathematical theory of the design and analysis of experiments by R. C. Bose, K. R. Nair and others. A new method of partitioning  $(m-1)$  degrees of freedom belonging to the contrasts between  $m^2$  objects into  $(m+1)$  sets of  $(m-1)$  degrees of freedom each ( $m = p^2$ ), which had no reference to orthogonal sets of Latin Squares, was discovered. Work on Non-deauxgussian Latin Squares was continued. The problem of confounding of interactions in asymmetrical factorial experiments was successfully tackled and methods of construction of balanced designs and their statistical analysis were investigated. Incidentally this work led to the discovery of a general type of quasi-factorial designs.

*Design of Sample Surveys*: Extensive model sampling experiments were organized in the Statistical Laboratory under the guidance of P. C. Mahalanobis for studying the variance function for random and non-random (or patterned) fields; and a first account was given in a note published in the *Science and Culture* (Vol. 7, p. 54, July 1941) and in the presidential address to the Mathematics and Statistics section of the Indian Science Congress held in Baroda (January 1942). The findings in previous sampling surveys actually carried out by the Institute led to further improvements in the technique of sample survey designs.

*Problems of Distribution*: Several problems on the multivariate distributions were worked out by M. P. Shrivastava, P. K. Bose and others in the current year. The basic integrals for the distribution of the multiple correlation coefficient of the second kind were also calculated which will be useful in the construction of tables.

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### SPECIAL ENQUIRIES AND PROJECTS

As in previous years a large number of statistical surveys was undertaken on behalf of various Government departments and public authorities.

*Jute Area Census Scheme* : In 1941, the concluding year of the five-year scheme for the improvement of the Jute forecast, we carried out for the first time a full scale provincial survey covering an area of 58,199 square miles in Bengal. We started in 1937 with a complete enumeration of only 124 square miles and a sample survey with units of size 5 acres ; we spent less than seven thousand rupees on the field work, and yet this gave us most valuable information regarding the cost of operations and the possibilities of the sample survey. In 1938 we started a systematic study of both variance and cost functions, and spent about eighteen thousand rupees on the field survey covering 414 square miles. The work done proved conclusively that the sample survey could be used with success in actual practice. In 1939 the field work was further expanded to cover 2,553 square miles at a total expenditure of Rs. 49,000. It now became clear that for general use sample-units of 4 acres would be a convenient size, but sample-units varying in size from 2 to 8 acres would also be useful. This completed the first phase of the work. In 1940 we carried out a trial survey on a large scale in eight important jute districts covering 20,553 square miles at a cost of about sixty thousand rupees for the field work alone.

In 1941, we used sample-units of size varying from 1 acre to 9 acres, nearly half the number being of size 3 or 4 acres ; the density (or number of sample-units) varied from 0.22 to 3.30 per square mile for the full sample. The geographical unit was the thana or police circle with an average area of 110 square miles. For purposes of zoning these were grouped into ten classes according to the intensity of cultivation, and were allotted the appropriate number of sample-units of the required size.

The field work was arranged in the form of two independent but inter-penetrating half-samples. Linked pairs of sample-units were located at random on maps in the form of dumb-bell shaped figures one end of which represented the sample-unit belonging to half-sample (A) and the other end represented the sample-unit belonging to half-sample (B). The information for all sample-units belonging to half-sample (A) was collected by one set of investigators while the information for the sample-units belonging to half-sample (B) was collected independently by an entirely different set of investigators. The time programme was arranged in such a way that investigators belonging to the two different sets (A) and (B) never worked in the same region at the same time. In this way we obtained independent records for each of a pair of adjoining sample-units, and two independent estimates of the area sown with jute.

The survey was carried out over an area of nearly sixty thousand square miles and required a staff of about 500 men. This in itself is not a large number, and had they been working in a compact group it would have been an easy matter to supervise their work. In actual fact these men were, however, scattered over the whole province. Careful preparations had to be made to keep contact with the field investigators, to arrange for the inspection of the primary work, to ensure that the field records were promptly despatched to head-quarters and so on. In spite of these difficulties the agreement between the two half-samples was quite satisfactory.

The line of progress was thus from intensive work on a small scale to a well-planned survey on an extensive scale covering practically the whole of Bengal. The method of a succession of gradually expanding exploratory surveys has been thus fully justified. In this plan each stage of the work was decided in the light of the experience gained during earlier phases. It enabled complete and flexible control being maintained over the whole work. And finally it made possible the gradual development of the statistical technique on one hand, and, on the other, the building up of a trained staff without which it would have been impossible to undertake the full scale survey in 1941.

The Jute Census Committee had decided that a final estimate with a margin of error not exceeding five per cent would be adequate for present purposes and had desired that attempts should be made to get the estimates ready, if possible, by the middle of August or within one week of the completion of the field work. The last batch of field records was received in the Statistical Laboratory on the 29th August 1941 and a preliminary estimate was submitted on the 27th August 1941. This therefore fully satisfied the condition of a quick estimate laid down by the Jute Census Committee.

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As regards accuracy, the sample estimate was 16,78,831 acres with a probable error of about 17,000 acres, that is, with a margin of error of about three per cent at odds of 80 to 1. Fortunately a completely objective check was available. In 1941 the Government of Bengal had prepared a complete record of each individual plot under jute for purposes of the Jute Regulation Act at a cost of about fifteen lakhs of rupees; and the final estimate according to this complete enumeration was 15,32,855 acres. The difference between the sample estimate and the complete census is thus only about 43,000 acres, which is less than three per cent. Considering that the sample estimate was considered over the whole sowing season while the registration figure referred to the end of the season the agreement is probably even better. The sampling estimate for 1941 thus fully satisfied the standard of accuracy laid down by the Jute Census Committee.

The total expenditure including statistical analysis on the 1941 Jute Census Scheme was Rs. 1,52,000. But in the Report on the 1941 Scheme which the Honorary Secretary submitted towards the end of 1941 it was mentioned that a sample census could be carried out in 1942, on the same scale as in 1941 and without sacrificing the precision, with a total expenditure of Rs. 1,14,000. If a combined scheme for estimating total production were to be taken up to get the area as well as the yield per acre of jute, it was estimated that a total expenditure of Rs. 1,34,000 in 1942 would be sufficient. The Jute Census Committee has provided Rs. 18,000 for crop-cutting experiments on jute in 1942. On the 27th March 1942 information was received that the Bengal Government had sanctioned Rs. 1,00,000 for an area census in 1942 in combination with the crop-cutting work. The Honorary Secretary submitted proposals suggesting that the whole amount should be given as a block grant to the Institute on certain conditions which were approved by the Council on the 8th April 1942. Preparatory work was started immediately and was progressing smoothly at the time of writing the report.

*Jute and Aus Paddy; Bengal 1941:* This was the second year of work on the yield of jute financed by the Indian Central Jute Committee and the Bengal Board of Economic Enquiry. The survey included the eight main jute-growing districts in Bengal, and about 2,550 sample-cents were finally recorded for Jute and Aus Paddy.

*Sugarcane; United Provinces, 1941:* This was the second year of the scheme financed by the Imperial Council of Agricultural Research. An area of 3,200 square miles slightly larger than that in the previous year was covered by this year's design. The technique of the design was further improved in the light of the experience gained in the previous year. The analysis of the previous year's data is nearing completion in the Statistical Laboratory, and a detailed report on the results is under preparation.

*Wheat; United Provinces, 1942:* In this case also, 1942 was the second year of the scheme financed by the U. P. Government. The design is on the same general principles as in the case of the Sugarcane Scheme. The field-work started in March 1942. The analysis of previous year's material is in progress in the Statistical Laboratory, and a detailed report on the results is under preparation.

*Paddy; South Bengal, 1941-42:* The Institute has been helping the Government of Bengal since 1939 in organising extensive crop-cutting experiments on paddy in the Burdwan-Hooghly-Bowrah Flushing and Irrigation Area. A design in three compartments was prepared this year on almost the same lines as in 1940-41, with some modifications suggested by the experience of last year's field work and statistical analysis of the material. The field work was carried out during the winter season of 1941-42, and the material is under analysis.

Consolidated reports on the results of analysis of material collected in the crop-estimating surveys of this area during 1938-39, 1939-40 and 1940-41 are under preparation. These reports would have been completed early this year, but owing to heavy pressure of work in connexion with A.R.P. and evacuation arrangements the Hon. Secretary was obliged to postpone the actual writing, although the bulk of the calculations was completed long ago.

*Cinchona, 1941-42:* At the request of the Government of Bengal, two schemes of an exploratory nature were prepared by the Hon. Secretary for developing a statistical method in order to forecast the yield of bark from the measurements of the characters on the living cinchona plant. In one of the schemes work was concentrated on two specified age groups, namely, at the time of coppicing the plant and that of uprooting the plant. Satisfactory results were obtained from the data and a report was submitted to the Superintendent, Cinchona Cultivation in Bengal, Mungpoo. In the other scheme six different age-groups were included; and variations due to the age factor on the functional relation between the yield and the characters are being studied on the basis of material collected at the cinchona plantations.

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*Regional Survey of Borer Pests of Sugarcane, 1940-41* : The scheme had been in operation for some considerable time when the Hon. Secretary was asked to devise a suitable sampling technique. Field work on the lines suggested by us was started in November 1940 in some regions distributed over the whole of India and the field survey was completed on 30th November 1941. A preliminary report was submitted in June 1941 on the basis of three months data; and a special grant has been recently sanctioned by the Imperial Council of Agricultural Research for the analysis of the material which is in progress.

*Labour Enquiry in Bengal* : In the last Annual Report we referred to a scheme for enquiry into labour family budgets in Bengal which was entrusted to this Institute in June 1940 by the Bengal Board of Economic Enquiry and the Government of Bengal. Preliminary arrangements including the training of the field staff were made during July and August, but work was suspended in September under Government orders owing to abnormal conditions in the jute mills. The actual enquiry thus started from about November 1940. During the year under review budgets were collected in the Hudge-Hudge, Usman, Nitaranpur and Ranaganj and also in the Jagadial area for the second time, and by the end of the year well over 3,000 labour budgets were collected altogether. The first sample of 673 budgets collected in the Jagadial area during the period December 1940 to April 1941 was subjected to detailed statistical analysis and a Draft Report was submitted thereon in November 1941 and was under consideration by the Board and Government at the time of writing this report. It should be mentioned in this connection that the present enquiry has a much wider scope than ordinary cost-of-living enquiries in so far as data were collected on a wide variety of subjects such as family composition; sources of income; indebtedness and interest rates; prevalence of gambling and intoxicating habits; how the labourers spend their leisure; housing conditions; literacy; trade union membership; unemployment; percentages of migratory and local labourers; and other topics. A special effort was also made to standardize price quotations by suitable grading of important commodities and by setting up comparable grades at different places.

*Nagpur Labour Enquiry* : Following up the recommendations of the Nagpur Textile Enquiry Committee in 1940, of which the Honorary Secretary was appointed Chairman, the C. P. Government decided to take up a Cost-of-living enquiry during the year under review. Mr. M. P. Shivastava was sent from the Institute in 1941 to be in technical charge of the enquiry under the general guidance of the Honorary Secretary and the work was progressing smoothly at the time of writing this report.

*Public Preference Survey* : As early as in April 1940 Pandit Jawaharlal Nehru suggested to the Honorary Secretary during a conversation that we should take up the study of public opinion in this country as in advanced countries like the United States and Great Britain. During the year under review we carried out several sample surveys among middle-class families living in Calcutta and also at one or two places in the mofussil with the help of a grant made by the All India Radio authorities. We had a 'Radio' sample as well as a 'General' sample. We worked with a large variety of questions, political, social, religious and cultural, in addition to those relating to preferences among radio listeners regarding the various types of radio programmes in this country. A comprehensive report was submitted to All India Radio in July 1941 on the topics in which they had written that they were interested. Preliminary results relating to belief in astrology and palmistry, and opinion regarding widow remarriage, inter-caste and inter-communal marriages etc. were given in the Annual Review presented by the Honorary Secretary before the Fifth Session of the Indian Statistical Conference held in Baroda in January 1942. A large volume of material however still remains to be analysed.

*Activities of the Honorary Secretary* : The Hon. Secretary attended the meetings of the Plant Management (Agronomic) Committee and Statistical Committee of the Imperial Council of Agricultural Research in New Delhi in April 1941. Owing to prolonged illness since August 1941 he took medical leave from the Presidency College but continued his statistical work in the Institute. He also continued to act as the President of the Committee appointed by the Bengal Board of Economic Enquiry for an enquiry into the cost of cultivation of standard yield of staple crops in Bengal and as the Honorary Head of the Department of Statistics in the Calcutta University which was started in July 1941. He was out on tour practically throughout January this year. Besides attending the Statistical Conference and presiding over the Section of Mathematics and Statistics of the Science Congress at Baroda in the first week of January he went to Bombay to attend the meeting of the Indian Central Cotton Committee on the 19th and 20th January 1942; from there he went to Ahmedabad and met Seth Anandlal Sarabhai, and discussed with him the possibilities of the application of statistics in industry. He again went to

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Delhi to attend the Cost-of-living Index Conference on the 28th January 1943. He saw Mr. C. E. Jones, Secretary, Finance Department, Government of India and other officials at New Delhi in connection with a grant for A.R.P. and evacuation arrangements.

### STATISTICAL ENQUIRIES

As in previous years a large number of enquiries from all parts of India was attended to during the year under review. The distribution by subjects and by provinces is given below —

*By subjects* — Agriculture 66; Anthropology 1; Economic and Business Statistics 11; Education 4; Forest Research 3; Industry 5; Mathematical Statistics 6; Medical 11; Irrigation 3; Labour 5; Sample Surveys 11; Miscellaneous 10; Total 146.

*By Provinces* :—Assam 5; Bengal 48; Bihar 6; Bombay 8; C. P. 3; Central 37; Madras 5; Orissa 2; Punjab 12; Sind 5; U. P. 9; Others 7; Total 146.

### STATISTICAL LIBRARY

The Library is taking a more and more important part in the activities of the Institute. The number of books purchased during the year was 310 and the number received for review in *Sankhya* was 43. The Library is at present receiving 351 annuals and 388 periodicals appearing more often than once a year. The number of books and periodicals issued for reference and on loan during 1941-42 was 7039. Among those who presented books and periodicals to the Library during the year, Mrs. S. Mukherjee should be gratefully mentioned for the valuable collection of books of the late Dr. Syamadas Mukherjee consisting of 250 volumes on Mathematics and Physics. The service of the Library is improving consistently, though additional strain was caused by the extensive use of the Library made by students and staff of the newly opened University Department of Statistics. Also, as already mentioned, the bulk of the Library has already been shifted to Giridih for the duration of the present emergency. Efforts are being made to resume the normal service of the Library at Giridih, where the bulk of the Institute workers as well as the whole University Department of Statistics with its teachers and students are going soon to settle down to normal work.

### TRAINING AND EXAMINATIONS IN STATISTICS

During the year under review 15 officers from Assam, Bengal, Bihar, Baroda, Bombay, U. P., Punjab, and Sind came on deputation to the Institute for training in statistical theory and technique. Mr. K. Raghavan Nair was in charge of this section. From December 1941 onwards many officers who had arranged for training could not come over here for the purpose as a result of the present emergency. Arrangements are being made to have the training facilities opened up at Giridih.

Since January 1939 people other than those who came on deputation have been admitted to a standard training course here. There were 5 advanced students during the year in addition to 10 apprentices for professional training. Besides practical classes and work on projects, lectures on theoretical and applied statistics were given by Prof. P. C. Mahalanobis, Messrs. S. N. Roy, K. R. Nair, S. Sen Gupta, B. N. Datar, K. S. Banerjee and Mrs. C. Bose. Mr. A. R. Sinha, Deputy Director of Statistics, Government of India kindly agreed as in the previous year to deliver a short course of lectures on Economic Statistics. Prof. P. C. Mahalanobis gave an additional advanced course of lectures on professional aspects of statistics. Mrs. C. Bose continued to be in charge of the training class during the year.

*Institute Examinations in Statistics* : Only 2 out of 9 candidates who appeared in Statistician's Diploma Part I examination held in January 1941 were successful and 2 more passed only in theoretical papers and another only in one of the two theoretical papers and of the three who took the Computer's Certificate Part I examination 2 passed in Section I. In August 1941, Computer's Certificate examinations under the revised syllabus were held. The Board of Examiners consisted of Prof. K. B. Madhava (Mysore University), Mr. R. C. Bose (Calcutta University), Mr. S. N. Roy (Statistical Laboratory), Mr. N. C. Chakravarti (Board of Economic Enquiry, Bengal) and Prof. P. C. Mahalanobis. There were 62 candidates for the examinations including Field Survey Certificate examinations. Only one candidate passed all the Sections of Part I (A), I (B) and of I (C) the Computer's Certificate examinations, and 21 were completely unsuccessful. If we take the field survey examinations alone, however, 3 out of 8 passed both sections of the theoretical examination as well as the practical portion, and none was completely unsuccessful.

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### INSTITUTE STAFF

As in previous years earmarked and block grants were received by the Institute from various sources for special enquiries and reports. The scientific work of the Statistical Laboratory was carried on as usual on a unitary basis. An additional grant of Rs. 70,000 was sanctioned during the year under review by the Government of India in response to an appeal made by the Honorary Secretary, for the purpose of strengthening the staff. During the year under review the workers were organized in the form of a basic staff who were engaged on long range projects and purely temporary workers who were recruited for a few months only.

The question of re-organization of the staff has been under consideration for a long time, but no action could be taken owing to the uncertainty of the financial position. Although most of the income of the Institute is derived from Government sources, the greater part of the money is sanctioned in an earmarked form for particular projects or enquiries, and even the research grants are usually sanctioned from year to year. However, as many of the projects are continued from year to year, or new projects are undertaken in the place of old ones, a large number of workers of the staff had in practice been in continuous employment for many years, and the question of giving them some kind of semi-permanent status became more and more pressing. After a careful review of the position a Provident Fund with equal contributions of one anna in the rupee from the workers and the Institute was started from January 1941, and workers engaged on long range projects were permitted to join it.

The question of staff organization assumed a new importance when in April 1941 the Imperial Council of Agricultural Research decided to discontinue its grant (which has been in existence since 1931) but requested the Government of India to stabilize the Institute on a secure foundation by providing adequate funds.

The absence of security of service was having a very bad effect on the staff; and many of the best workers were leaving the Laboratory for posts elsewhere. In April 1941 the Honorary Secretary discussed the question at some considerable length with Mr. C. E. Jones, Secretary, Finance Department to the Government of India, and explored the possibilities of making some interim arrangements until the question of stabilisation was settled by Government. As a result of this discussion the Government of India sanctioned an additional grant of Rs. 20,000 for strengthening the staff and creating a sense of security.

The need of re-organizing the staff was becoming urgent also for other reasons. The workers of the Laboratory had been advised for a long time to qualify themselves by passing the Institute Examinations. Three computers had passed the Computers' Certificate Part I Examination held in 1938; but it was found that it was difficult to pass the different parts of the examination as a whole, and it was decided by the Council in 1940 to re-organize the examination in several sections. In August 1941, as we have already mentioned, an examination was held for the first time under the compartmental system, and the results showed clearly that roughly one-third of the workers were not fully qualified in computational work as judged by the standards set up by the Institute itself; and there was a clear case for eliminating the weaker workers.

A general reduction in the computing staff had also become necessary owing to financial reasons. Since 1938 a large volume of work was being done in connexion with the Jute Census Scheme. In 1941 the total number of computer-months spent on the work was 470, which on the basis of 12 man-months for each worker engaged throughout the year means a total staff of 40 computers on an average. This was however a five-year scheme financed jointly by the Indian Central Jute Committee and the Government of Bengal which had started in 1937 and was due to be completed in 1941. The termination of the Jute Census Scheme thus meant a reduction of existing requirements by roughly 40 workers in the computing section. The position was carefully considered by the Honorary Secretary in October 1941, and it was found that about 18 could be possibly absorbed in other projects, but a reduction to the extent of at least 20 or 25 workers was inevitable which was immediately undertaken mainly on the basis of the examination results. This, quite naturally, gave rise to considerable dissatisfaction and discontent which however was entirely unavoidable.

At the same time it was realized that the workers who had passed the Institute examination or had proved their worth by efficient service should receive some recognition in the form of increments or graded scales. Owing to his continued ill health since August 1941 and his pre-occupation in

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connexion with evacuation arrangements in January and February 1942 the Honorary Secretary was however unable to make any definite recommendations. The financial position was also precarious. Although the Indian Central Jute Committee had recommended continuation of the Jute Census Scheme the Government of Bengal had decided not to proceed with it in 1942 owing to the war situation. This meant a drop in income of roughly Rs. 40,000 per year.

The Government of Bengal however suddenly decided towards the end of March to continue the Jute Census Scheme in 1942, and informed the Honorary Secretary officially of this decision on the 29th March 1942. On receiving this information the Honorary Secretary immediately took up the question of staff re-organization, and submitted definite recommendations which were generally approved by the Council of the Institute on the 8th April 1942 and were brought into effect from 1st April 1942. Although this re-organization, strictly speaking, falls outside the scope of the present report it would not be out of place to mention the salient features in view of the importance of the question.

In view of the fact that the question of stabilizing the Institute was still under consideration by the Government of India it was felt that in the case of the higher technical staff whose scale of pay would begin at Rs. 100 or above, it would not be possible to take any concrete action at present. The question of re-organization of the computational and office staff with pay not exceeding Rs. 100 was however more pressing, and after careful consideration the Council decided to introduce two scales of pay, Rs. 25-4-75 and Rs. 50-5-100. In view of the uncertain financial position all appointments were to be made in the first instance for one year terminable by two months' notice on either side. All workers appointed in the graded scales would be immediately admitted to the Provident Fund. The Honorary Secretary was also empowered to make appointments in the graded scales for a period of not more than six months subject to subsequent confirmation by the Council.

The Council decided that in making appointments to the graded scales due consideration should be given to length of service, efficiency of work, academic qualifications including Institute examinations and special experience. After a careful examination of individual records of work and in consultation with the inspecting and supervising staff the Honorary Secretary prepared a list of 56 workers who were admitted provisionally to the graded scales subject to confirmation by the Council. As already mentioned, action could not be taken owing to lack of financial resources in the case of 14 senior workers drawing Rs. 100 or more per month. Besides this there were 28 workers who had either not appeared in or failed to pass even a single section of the Institute Examination or had no satisfactory record of work. Of these 19 were retained on a purely temporary basis but were informed that success in the Institute Examination or improved efficiency of work would make them eligible for the graded scales, while 9 were given provisional appointments for six months because though they had not passed any of the Institute examinations, they were considered to be efficient in their work.

During the year under review some of the workers left us to accept posts elsewhere. Mr. A. N. Bose left in June 1941 to be Principal, Srikail College, Tippera. He however rejoined in March 1942 as Assistant Secretary specially appointed by the Council to be in charge of the Calcutta office during the period of emergency. Earlier Mr. K. Gupta who had left us in January 1941 to be Acting General Secretary, the Central Secretariat of Associations, Calcutta came back in May 1941 and was later appointed Assistant Secretary by the Council to help the Honorary Secretary in general administration. Mr. M. P. Shrivastava went to Nagpur in July 1941 to take up the C. P. Cost-of-living enquiry. Messrs. S. Sen Gupta and A. Bhattacharya left us to take up University appointments in the Department of Statistics of the Calcutta University in July 1941. Mr. B. N. Datar who took leave in January 1941 to join a statistical post in Baroda State in connexion with Census work came back in August 1941 to leave us again a few days ago. Mr. G. D. Mathur left us in September 1941 to be Statistician, Jubilee Mills, Ahmedabad, and Mr. P. M. Salvekar left in April 1941 to accept the post of Statistician, J. K. Mills, Cawnpore.

### PROVIDENT FUND

The Provident Fund put into operation in January 1941 with a basic contribution of one anna in the rupee from each worker and an equal contribution from the employers' filled a serious gap in facilities available to the Institute staff. This does not however meet our requirements, which refer in the main to the necessity of giving a sense of security to the workers. We hope and trust that we shall receive public support in our attempts to stabilize the Institute.

## ANNUAL REPORT FOR 1941-42

### VISITORS

As in previous years a large number of visitors came to see the work of the Institute among whom the names of the following persons may be specially mentioned :—

Prof. B. P. Adarkar (Secretary, Fact-Finding Committee, Government of India); Rajpreya Motilal Doshi (Law Member, Government of Baroda); Mr. C. D. Deshmukh, C.I.E., I.C.S. (Deputy Governor, Reserve Bank of India); Mr. S. H. Dholpande (Special Officer, Department of Labour, Government of India); Dr. T. E. Gregory (Economic Adviser to the Government of India); Mr. Norris S. Howland (American Vis-Consul); Mr. A. Hughes, I.C.S. (Labour Commissioner, Government of Bengal); Dr. J. L. Hysbrick (of U. S. A. Consulate); Mr. J. V. Joshi (Director General of Commercial Intelligence and Statistics, Government of India); Mr. E. F. McInerney, I.C.S. (Sub-Divisional Officer, Assam); Dr. D. N. Majumdar (University of Lucknow); Mr. D. L. Mazumdar, I.C.S. (Secretary, Indian Central Jute Committee); Dr. C. W. H. Norman, C.I.E. (Director General of Observatories, Poona); Mr. B. G. Roy, (Commercial Officer, A. H. Railway); Rai Bahadur N. C. Sen, (Director of Land Records and Surveys, Bengal); Mr. S. C. Sen (Superintendent, Unconscious Cultivation in Bengal, Munypos); Mr. M. K. Sen Gupta (Financial Adviser, Communications Department, Government of India); Mr. J. N. Talukdar, I.C.S. (Controller of Emigrant Labour, Assam); Mr. A. N. Tampi (Census Commissioner, Travancore), and Dr. V. S. Nair (Travancore University).

### LOCAL BRANCHES OF THE INSTITUTE

The activities of the various branches of the Institute in different parts of India are continuing to help in the matter of popularizing the study of and interest in statistics among students and businessmen in India. Increasing interest has been taken in the work of the Branches generally, and the local Secretaries are continuing to arrange a number of valuable lectures to cater to a wide variety of tastes.

### BOMBAY BRANCH

The Bombay Branch had another busy year with Sir Homi Mehta as President, and Prof. John Maclean and Mr. S. K. Murnanjan and later Mr. M. Sanjiva Rao as Joint Secretaries.

The following lectures were arranged during the course of the year :—

15th July 1941.	Sir Homi Mehta : Future of Cotton.
24th August 1941.	Prof. D. D. Kosambi : Theory of Probability.
28th August 1941.	Mr. F. J. Karaka : Some Aspects of Price Control.
30th October 1941.	Mr. V. L. Sapsu : Rates of Mortality and their Graduation.
19th November 1941.	Mr. P. P. Bock : Some Aspects of Exchange Control.
26th January 1942.	Mr. R. C. Bose : Importance of Design in Quantitative Experiments.
29th January 1942.	Mr. K. M. Prenchand : Exchange Control.

Eight meetings were held during the year; and the Local Council of the Branch met six times. Courses of lectures were also given to M.A. students of Statistics of the Bombay University by Professors Diwan, Maclean, Pandit and Sankpal. The Branch expressed its indebtedness to the authorities of the University School of Economics, the Royal Institute of Science and the Indian Merchants Chamber for the use of their premises for holding the meetings.

Arrangements for enquiry into the "Employment of Educated Persons" which could not be undertaken during 1940-41 were completed during the year. Sir Homi Mehta had kindly extended his usual generosity by agreeing to meet the expenses of the Enquiry. Prof. M. V. Pandit, B.Sc. (Hon.) B.Sc. (Lond.) was appointed to conduct the enquiry and a Special Committee consisting of Prof. Anjaria, Prof. Maclean, Mr. K. M. Prenchand, Dr. S. R. Savur, Prof. G. M. Sankpal and Prof. C. N. Vakil (Convener) to direct it.

The Branch Committee regrets that the payment of subscriptions continued to be tardy. Special appeals addressed individually have not elicited any encouraging response. Although expenditure was kept down as much as possible, it is regretted that the financial position of the Branch is anything but satisfactory.

## INDIAN STATISTICAL INSTITUTE

### POONA BRANCH

Prof. V. G. Kale and Prof. D. O. Karve continued to be President and Local Secretary of the Branch respectively, and the membership strength remained unchanged with ten life-members and two associates. Besides the members and associates several other persons interested in statistical and allied work continued to be in touch with the Branch.

Most of the members had been engaged in important statistical work and they met often to exchange notes and discuss problems. Professors Gadgil and Karve were engaged in the work of an economic enquiry in the Sangli State in the Southern Maratha Country. Statistics for the organisation of business in rural as well as urban areas in the State have been collected on an extensive scale. Prof. Gadgil continued with his very valuable research in the fields of farm accounts and industrial organization. Prof. V. G. Gokhale continued to maintain detailed accounts for a farm which he is running as a representative farming unit in the dry farming districts of the Deccan.

### MYSORE BRANCH

The Mysore Branch of the Indian Statistical Institute worked, as in previous years, in close co-operation with the teaching departments of the Mysore University. This year there was however increased academic contact with the newly opened Mathematical Association in the Maharaja's College. Interesting topics were discussed—among them "Rationale of Approximation", "Conventions in Mathematics" and "Inverse Probability" attracted considerable discussion. Among the distinguished visitors was Dr. H. J. Bhabha, F.R.S. During the year the Education Department of the Mysore Government deputed one of their officers for special statistical training under Professor K. B. Madhava. Professor Madhava also served during the year on a Committee appointed by the Mysore Government to enquire into the methods of compiling and publishing Cost of Living Index in Bangalore City.

### MADRAS BRANCH

The President of the Branch, Prof. P. J. Thomas, was absent from Madras in connexion with his duties as the Chairman of the Cotton Textile Fact-finding Committee (Handloom and Mills) during the year. In April 1941, Mr. N. Sundara Rama Sastry, the Secretary of the Branch, delivered a course of six lectures to the members of the Madras Teachers' Guild, on the application of statistical methods to education. A summary of these lectures was published in the "South India Teacher". He also delivered eight lectures to the research students in Economics and others interested in the subject on Economic Statistics. As in previous years the work of the Branch was done in active co-operation with the Department of Economics of the University of Madras. This year the University recognized Statistics as an independent Department of Study and Research and started a Diploma Course in Statistics which attracted a large number of applications for admission.

### LUCKNOW BRANCH

With the transfer of the Bureau of Economic Intelligence of the U. P. Government to Cawnpore the Lucknow Branch which had not been functioning for a long time was reorganized in November 1941 with Mr. N. C. Mehta, L.C.S. as President and Dr. Radhakamal Mukerjee as Secretary. At the Inaugural Conference in November 1941 Dr. T. E. Gregory, Economic Adviser to the Government of India, spoke on current affairs from the economic and statistical point of view. Prof. Radhakamal Mukerjee read an address on Statistics in the Service of Planning. Mr. N. C. Mehta then delivered his Presidential Address the subject of which was Statistics and Social Values. About sixteen papers were presented before the Conference by Mr. R. C. Shrivastava, Prof. Radhakamal Mukerjee, Mr. J. K. Panda, Prof. N. N. Sen Gupta, Mr. S. C. Chaturvedi, Mr. S. P. Saksona and others.

*Lahore Branch:* The Hon'ble Sir Manohar Lal and Dr. N. K. Basu continued as President and Secretary respectively.

### PROPOSED NEW BRANCHES

At a meeting of the Council of the Institute held at Baroda on the 3rd January 1942 resolutions were passed requesting Dr. U. S. Nair, Dr. P. V. Sukhatm and Mr. A. C. Mukherji to take necessary action for starting local Branches and appointing them as provisional Local Secretaries respectively at Trivandrum, Delhi and Baroda. It was also resolved that the rule requiring the minimum membership of ten members should be waived in the case of these local Branches.

## ANNUAL REPORT FOR 1941-42

### SAMVAYA : THE INDIAN JOURNAL OF STATISTICS

Two issues of the Journal were published during the year. The Monotype machines received in January 1941 has helped us in overcoming difficulties experienced in making necessary typographical arrangements under the present war conditions. The bill of Rs. 26,154-6-0 net for the machines was fully settled by September, a rebate of Rs. 708/- having been secured for early settlement; but additional expenses to the extent of about Rs. 3000/- had to be incurred for accessories and additional type-matrices. It should be mentioned in this connexion that the Government of India had made a grant of Rs. 12,431 for the purpose and the Bengal Government one of Rs. 7,500. The personal advance of Rs. 9,000 made by Prof. Mahalanobis for the purpose was partly repaid in the year; but additional advances were made by him the total outstanding amount due at the end of the year being Rs. 5293-4-0.

### EVACUATION ARRANGEMENTS

At the meeting of the Council held in Haroda on the 3rd January 1942, the question of evacuation and A.R.P. arrangements was considered in great detail. In view of the possibility of the rooms occupied by the Institute in the Presidency College, Calcutta, being to be released for A.R.P. or other work, it was decided to remove one portion of the Statistical Laboratory to the Honorary Secretary's garden house "Amrapali" at 87, Barrackpore Trunk Road, in the suburb of Calcutta. It was also decided to remove another portion of the Laboratory including valuable books, records and instruments to Giridih where "Mahua", a house belonging to Mrs. Mahalanobis, would be made available for this purpose. The Government of India sanctioned a special grant of Rs. 12,000 and the Government of Bengal Rs. 3,000 for evacuation arrangements. Deeds permitting the Institute to use these two houses "Amrapali" and "Mahua" for the duration of war and subsequent one year without payment of any rent and to undertake necessary alteration and construction work for this purpose were approved by the Government of India in letter No. F.41-7(1)-E dated 14th March 1942 and by the Council on the 9th April 1942, and were executed by Prof. P. C. Mahalanobis and Mrs. Mahalanobis on the 9th April 1942.

Evacuation to Giridih was started in January and was nearly completed by the end of March. As from the 14th April 1942 the distribution of work between Calcutta and Giridih has been as follows:—

- (1). *Theoretical Research* : This section has been transferred to Giridih.
- (2). *Training Courses* : There are two training courses here, one attended by officers on deputation and the other by apprentices and advanced students. Both these sections have been shifted to Giridih and attempts would be made as and when necessary to make suitable arrangements for interesting candidates regarding board and lodging.
- (3). *Projects* : Statistical work on the schemes financed by the Imperial Council of Agricultural Research, Indian Central Jute Committee, Bengal Agricultural Department, and Cinchona Cultivation, Mungpoo is being done at Giridih. Work on schemes financed by the Bengal Board of Economic Enquiry is being carried on at both Giridih and Calcutta.
- (4). *Jute Census Scheme 1942* : The field office will be located in Calcutta, where the preparatory work on the statistical side will also be done. Tabulation and advanced analysis will be carried out both in Calcutta and Giridih.
- (5). *Library* : Most of the books have already been removed to Giridih and further details are given in an earlier section of this Report.
- (6). *Accounts Section* : This will remain in Calcutta for the present.
- (7). *Sanskrit, The Indian Journal of Statistics* : The business office will remain in Calcutta but the editorial work will be carried on from Giridih.

### MISCELLANEOUS

During the year under review the Calcutta University opened a Post-Graduate Department of Statistics; the Honorary Secretary was appointed Honorary Head of this Department; and fifth year classes started in July 1941 with ten students. The Department is located in the Statistical Laboratory

## INDIAN STATISTICAL INSTITUTE

and is working in close co-operation with the Institute; the lecturers themselves are either old workers of the Laboratory who are still in touch with us or, as in the case of part-time lecturers, are whole-time employees of the Statistical Laboratory. Arrangements were made at the end of March to remove the Statistical Department to Giridih along with the Statistical Laboratory, and it is intended to continue lectures and practical classes during the summer vacation.

We are glad to note that two of our Vice-Presidents, the Hon'ble Mr. N. R. Sarker and the Hon'ble Dr. S. P. Mookerjee took up the posts of Member-in-charge of the Department of Education, Health and Lands, Government of India, and Finance Minister of the Government of Bengal respectively. We also note with pleasure that a knighthood was bestowed on Mr. Chunilal B. Mehta, one of the Life Members of the Institute.



INDIAN STATISTICAL INSTITUTE

Indian Statistical Institute: Receipts and Payments Account for the year ending 31st March, 1942: (Emarked & Special Enquiries Fund).

RECEIPTS		PAYMENTS	
		<i>Block Grants from the Indian Central Jute Commission</i>	
		(1) Jute Census Scheme, 1941.	
(a) To Block Grant	39,000 0 0	By repayment of advance ..	15,196 0 0
" " " " " " " "	450 0 0	By Salary & allowance ..	17,589 0 0
" " " " " " " "	3,068 11 6	By Other expenses (hire charge, house rent, ..	10,225 10 0
" " " " " " " "	44,873 8 3	By Jute Repatriation & contingencies) ..	242 9 6
		By Purchase of maps ..	218 4 6
		By Printing of Report, 1940 ..	3,182 3 6
		By Adjustment of advance 1941-42 for ..	42,872 2 2
		By Census Scheme in 1940-41. ..	
		(b) Photographic Arrangements for Jute Census Scheme	
To unspent balance	4,753 14 0	By Salary and allowance ..	888 0 0
To Advance from Institute Funds	141 13 6	By Leave & Provident Fund Contribution ..	142 1 0
		By Other expenses (hire of apparatus ..	8,865 10 6
		contingencies) ..	4,895 11 6
		(2) Block Grants from the Government of Madhya Pradesh	
		By Salary and allowance ..	2,145 10 0
		By Leave & Provident Fund Contribution ..	315 0 0
		By Other expenses ..	1,185 4 6
To unspent balance	4,085 16 0		4,655 10 0
		(3) Block Grants from the Government of Bihar	
		By Salary and allowance ..	990 6 0
		By Leave & Provident Fund Contribution ..	188 7 0
		By Other expenses ..	681 1 0
To unspent balance	1,789 13 0		1,799 13 0
To Advance from Institute Funds	1,200 0 0		4,871 14 0
		(4) Block Grants from the Government of West Bengal	
		By Salary and allowance ..	398 3 0
		By Leave & Provident Fund Contribution ..	1,700 6 6
		By Other expenses ..	1,200 0 0
To unspent balance	2,998 9 6		2,998 9 6
		By Closing balance ..	1,200 0 0



INDIAN STATISTICAL INSTITUTE

Indian Statistical Institute: Receipts and Payments Account for the year ending 31st March, 1942. (Miscellaneous)

RECEIPTS		PAYMENTS		Bal. A. P.	
Rs.	A. P.	Rs.	A. P.	Rs.	A. P.
To Opening Balance .. .. .	4,440 3 2	By disbursements against miscellaneous grants, Leave & Provident Fund Contribution .. .. .	1,200 0 0	4,240 3 2	0 0
Miscellaneous Grants & Contributions .. .. .	885 8 0	Other expenditure .. .. .	4,450 14 9		6,017 8 9
Shree Ram Chandra Bhargava (Bengal) .. .. .	2,350 0 0				
London Tea Market Expansion Board .. .. .	5,500 0 0				
All India Radio .. .. .	4,000 0 0				
Govt. of Andhra-Pradesh (Census Office for Anthropometric Work) .. .. .	13,938 8 0				
To Advance received from .. .. .	4,113 0 0				
Jude Census Scheme, 1941 .. .. .	4,113 0 0				
Jude Census Scheme, 1940 .. .. .	3,102 3 6				
by adjustment with Jude Census Scheme 1941 in the A/c of 1941-42 .. .. .	7,305 13 0				
To Leave & Provident Fund Contribution .. .. .	5,554 11 0	By Advance (to Statistical Publishing Society for purchasing paper & stationery for printing of Statistical Abstracts) .. .. .	1,102 9 0		
To Leave & Provident Fund Contribution .. .. .	5,502 9 0	By Surplus (for Giridih Camp Office & ration for Government) .. .. .	5,036 11 3		
Burdwan Hooghly Howrah Scheme .. .. .	186 4 0	By Advances to .. .. .	3,653 11 8		
Burdwan .. .. .	186 4 0	Statistical Abstracts, 1941 .. .. .	141 13 8		
Burdwan Hooghly Howrah Scheme .. .. .	2,700 6 0	Photographic arrangements .. .. .	1 19 0		
I. C. (1942) Regional Survey of Berar .. .. .	3,350 3 0	Burdwan Hooghly Howrah Scheme 1941 .. .. .	4,898 14 3		
U. P. State of Sugarcane .. .. .	1,360 8 0	Lab. (Field Branch) Dept. Electricity Scheme .. .. .	4,109 8 6		
U. P. Sugarcane Scheme (1941) .. .. .	1,360 8 0	Lab. (Statistical) Dept. Inquiry Scheme (Statistical Analysis) .. .. .	953 13 6		
	7,717 6 0	By Closing balance — Cash .. .. .	30,871 11 0	12,308 15 0	
	49,050 4 5	By Closing balance — Bank .. .. .	49,050 4 5	21,225 8 6	49,050 4 5

8. MATTHEW BAKER, CAULIFFA,  
The 27th April 1942.  
Examined and Verified by  
P. C. NARAYAN, Chairman,  
Chartered Accountants,  
Hyderabad, Andhra-Pradesh.

APPENDIX I. LIST OF PAPERS PUBLISHED AND  
REPORTS SUBMITTED IN 1941-42.

1. BONE, PURNENDU. On the Reduction Formulae for the Incomplete Probability Integral of the Multiple Correlation Coefficient of the Second kind. (*Science & Culture*, Vol. 7, No. 3. September 1941, pp. 171-173).
2. ——— Certain Moment Calculations connected with Multivariate Normal Populations. (*Science & Culture*, Vol. 7, No. 8. February 1942, pp. 411-412).
3. BONE, R. C. & NAIR, K. R. On Complete sets of Latin Squares. (*Sankhyā*, Vol. 5, Pt. 4. December 1941, pp. 361-382).
4. GANGLULY, M. A Method of Estimating Variances of Sample-Grand-mean and Zone variances in Unequal Nested Sampling. (*Science & Culture*, Vol. 8, No. 12. June 1941, p. 724).
5. ——— A Note on Nested Sampling (*Sankhyā*, Vol. 5, Pt. 4. December 1941, pp. 449-452).
6. GHOSH, B. N. On some methods of Random Sampling in a Region having some known characteristic. (*Science & Culture*, Vol. 7, No. 2. August 1941, p. 117).
7. HODA, S. M. The Young Farmers' Club. (*Indian Farming*, Vol. 2, No. 12. December 1941, pp. 626-627).
8. KARBEN, K. Symmetrical Unequal Block Arrangements. (*Sankhyā*, Vol. 5, Pt. 3. August 1941, pp. 323-344).
9. MAHALANOBIS, P. C. Statistical Survey of Public Opinion. (*Modern Review*, April 1941, pp. 293-297).
10. ——— Preliminary Statistical Report on the Regional Survey of Floor Pests of Sugarcane. (Submitted to the Imperial Council of Agricultural Research, June 1941).
11. ——— A Statistical Report on the Rupee Census (Revised). (Published in the *Report on Currency and Finance, 1940-41*, by Reserve Bank of India, June 1941, pp. 40-55).
12. ——— Statistical Report on Crop-Estimating Experiments on Jute in Bengal, 1940. (Submitted to the Indian Central Jute Committee, June 1941).
13. ——— A Note on Random Fields. (*Science & Culture*, Vol. 7, No. 1. July 1941, p. 54).
14. ——— Report on Programme Preference and Broadest Reaction, Calcutta. (Submitted to the Department of Information, Government of India, July 1941).
15. ——— Report on the Sampling Technique for Forecasting the Bark-yield of Cinchona Plants: Experiments Series (B). (Submitted to the Superintendent, Cinchona Cultivation in Bengal, Mungpo, October 1941).
16. ——— A Statistical Note on Nutritional Investigations in College Hostels in Calcutta. (*Sankhyā*, Vol. 5, Pt. 4. December 1941, pp. 439-448).
17. ——— General Report on the Sample Census of the Area under Jute in Bengal, 1941. (Submitted to the Indian Central Jute Committee, December 1941).
18. ——— Family Budget Enquiry of Labourers, Jagaddal. (Submitted to the Board of Economic Enquiry, Bengal, January 1942).
19. MAHALANOBIS, P. C. and BONE, CHANDELL. Correlation between Anthropometric Characters in some Bengal Castes and Tribes. (*Sankhyā*, Vol. 5, Pt. 3. August 1941, pp. 240-260).
20. MAHALANOBIS, P. C. and NAIR, K. R. Statistical Analysis of Experiments on Differential Limb Values for Lifted Weights. (*Sankhyā*, Vol. 5, Pt. 3. August 1941, pp. 283-294).
21. MATHUR, N. T. The Influence of Seasons on Human Reproduction. (*Sankhyā*, Vol. 5, Pt. 3. August 1941, pp. 261-288).
22. NAIR, K. R. A Note on the Method of 'Fitting of Constants' for Analysis of Non-Orthogonal Data arranged in a double classification. (*Sankhyā*, Vol. 5, Pt. 3. August 1941, pp. 317-328).

APPENDIX 1. (Contd.)

23. NAZ, K. R. and RAO, C. R. Confounded Designs for Asymmetrical Factorial Experiments. (*Science & Culture*, Vol. 7, No. 6. December 1941, pp. 313-314).
24. ——— Confounded Designs for the  $k \times p \times q \times \dots$  Type of Factorial Experiments. (*Science & Culture*, Vol. 7, No. 7. January 1942, pp. 361-362).
25. ——— A General Class of Quasi-factorial Designs leading to Confounded designs for Factorial Experiments. (*Science & Culture*, Vol. 7, No. 9. March 1942, pp. 467-468).
26. SINGHA, A. R. A Preliminary Note on the Effect of Price on the Future Supply of Raw Jute. (*Sankhyā*, Vol. 5, Pt. 4. December 1941, pp. 413-416).
27. ——— A Statistical Study of the Foreign Demand for Raw Jute. (*Sankhyā*, Vol. 5, Pt. 4. December 1941, pp. 433-438).
28. SHUKLA, M. P. Bi-variate Correlation Surfaces. (*Science & Culture*, Vol. 6, No. 10. April 1941, pp. 615-618).
29. ——— On the D-Statistic. (*Bulletin of the Calcutta Mathematical Society*, Vol. 33, No. 2. June 1941, pp. 71-85).

APPENDIX 2. OFFICERS ON DEPUTATION FOR TRAINING, 1941-42.

1. P. G. CHODHURY, B.Sc., M.B., D.P.H., Superintendent of Vital Statistics (on probation). (*Department of Public Health, Bengal*). January-December, 1941.
2. S. T. LAKSHMI, B.Sc. (*King George V Institute of Agriculture, Saharad, Sind*). January-April, 1941.
3. BANWARI RAM YADAVA, Inspector. (*Rural Development, U. P.*) January-June, 1941.
4. HEMCHANDER MUKHERJEE, B.Sc. (*Forest Research Institute, Dehra Dun*). February-May, 1941.
5. AJAY CHANDRA DAS GUPTA, M.Sc. (*Forest Research Institute, Dehra Dun*). February-May, 1941.
6. KAPILDEO PRASAD SINGH, (*Rice Research Station, Sabour, Bihar*). April-June, 1941.
7. FANINDRA SARKAR DUTTA, B.Ag., Botanical Assistant, (*Karimganj Farm, Assam*). April-May, 1941.
8. JAYESH CHANDRA BANJAN, B.Ag., Botanical Assistant (*Karimganj Farm, Assam*). April-May, 1941.
9. M. T. MAHJUB, M.A., Professor of Mathematics. (*O. & S. College, Sikarpur*). April-May, 1941.
10. DARYAO SINGH, M.Sc., M.A., LL.B., Principal. (*Amarsingh Jai Internationals College, Lakhoni, D.P.*). May-June, 1941.
11. S. R. BHOSE, M.Sc., Lecturer in Physics & Mathematics. (*Kala Bharati Technical Institute, Baroda*). June, 1941.
12. RAM SARDU, M.A., Lecturer in Mathematics. (*D.A.V. College, Rewalpindi*). July-December, 1941.
13. S. C. CHATURVEDI, M.A., Senior Statistical Assistant. (*Bureau of Economic Intelligence, U. P., Cawnpore*). July-December, 1941.
14. SUBRATA SEN, M.Sc., Botanical Assistant. (*Dacca Farm, Bengal*). August-September & November-December, 1941.
15. G. N. CHAPKAR, M.A., Lecturer in Mathematics. (*St. Parasuramdas College, Poona*). August-October, 1941.
16. B. C. GHOSH, M.B., Junior House Surgeon. (*Medical College Hospital, Calcutta*). September-December, 1941.

### APPENDIX 3. OFFICERS WHO CAME FOR SCIENTIFIC CONSULTATION AND DISCUSSION, 1941-42.

1. N. C. CHAKRAVARTI, M.A., B.C.S., Secretary (*Board of Economic Enquiry, Bengal*). May 1941.
2. M. N. CHAKRADAR, M.Sc., Soil Physicist (*Department of Agriculture, Bengal*). 2nd July, 1941.
3. P. R. ROY, M.Sc., Statistician. (*Department of Agriculture, Bengal*). 24th-26th July, 1941.
4. B. SIKHOL, M.A., Statistician. (*Rice Research Station, Pusa*). 11th-12th July, 1941.
5. M. ZIAUDDIN, Ph. D. (Wales), Lecturer in Statistics (*Punjab University*) 18th-27th September, 1941.
6. S. K. HAR, M.A., Revenue Officer (*Damodar Canal Division, Bursurah*). 3rd November, 1941.
7. K. A. CHOWDHURY, D.Sc. (Edin.), Utilisation Officer. (*Forest Research Institute, Dehra Dun*). 10th-18th November, 1941.
8. V. K. NATOG, M.A., Deputy Cane Development Officer. (*Moradabad, U.P.*) 14th-19th November, 1941.
9. D. D. DASEN, M.A., Ph.D., F.Z.S. (*Madras*). 21st November, 1941.
10. S. HEDAYETULLAH, Ph.D. (London), Economic Botanist (*Bengal*). 27th November, 1941.
11. P. M. GARGOUL, L.Ag., Economic Botanist (*Assam*). 2nd December, 1941.
12. A. N. TAMPI, M.A. (Oxon). Census Commissioner (*Tamil Nadu State*). 17th February, 1942.
13. U. S. NAIK, Ph.D. (London), Statistical Adviser to the Census Commissioner (*Tamil Nadu State*). 17th February, 1942.
14. A. K. CHAKRAVARTI, M.Sc., Assistant Rice Research Officer, Chinsurah (*Bengal*). 9th-12th March, 1942.

### APPENDIX 4. STUDENTS AND APPRENTICES, 1941-42.

- \*\*1. M. ABDUL WALI, M.A. (*Damania*). July 1939—
- \*\*2. S. M. HUDA, B.A., Dip. Rur. Econ. (*Oxford*). January-September, 1941.
3. S. N. CHATTERJEE, M.Sc. (*Calcutta*). September, 1940-April, 1941.
4. P. N. CHODHURY, M.Sc. (*Calcutta*). July, 1940—
5. A. K. PAL, M.Sc. (*Dacca*). September, 1940-December, 1941.
6. Om Prakash, M.Sc. (*Allahabad*). January, 1941—
7. P. M. SALVEKAR, B.Sc. (*Bombay*). January-April, 1941.
8. S. C. SEN GUPTA, M.Sc. (*Calcutta*). January, 1941—
9. R. N. SEN GUPTA, M.A. (*Calcutta*). January, 1941—
10. B. SINGAR, M.Sc. (*Calcutta*). January, 1941—
11. S. P. SUBRAMANIAN, B.Sc. (*Annamalai*). January-May, 1941.
12. J. P. PANDEY, B.Sc. (*Calcutta*). November-December, 1941.
- \*13. C. RADHAKRISHNA RAO, B.A. (*Hons.*) (*Amthor*), January-July, 1941. (Joined 5th Year Class in Statistics, Calcutta University).
- \*14. PARMATMA SHARAN, B.A. (*U. P.*). January-December, 1941.
- \*15. JAYA CHANDRA GUPTA, M.A. (*U. P.*). January-December, 1941.

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\*\* Advanced Students.

\* Students in the Training Class.

**INDIAN STATISTICAL INSTITUTE**  
**PROCEEDINGS OF THE ANNUAL GENERAL MEETING, 29th APRIL, 1942.**

The Annual General Meeting of the Indian Statistical Institute was held at 4.30 p.m. on Wednesday, the 29th April 1942 in the Statistical Laboratory, Presidency College, Calcutta.

In the absence of the President, Sir A. B. Ghuznavi, Kt., one of the Vice-Presidents of the Institute took the Chair.

The following members were present :—

- Mr. M. Ganguli (*Indian Jute Mills Association, Calcutta*)
- " K. C. Mahindra (*Messrs. Martin & Co., Calcutta*).
- " S. N. Roy (*Statistical Laboratory, Calcutta*).
- " S. B. Sen (*Indian Tea Market Expansion Board, Calcutta*).
- " A. R. Sinha (*Department of Commercial Intelligence & Statistics, Calcutta*).

Dr. H. Sinha (*Calcutta University*).

Mr. K. R. Nair (*Honorary Joint Secretary*).

Mr. K. R. Nair, Hon. Jt. Secretary reported that Prof. P. C. Mahalanobis had gone to Giridih on the 20th April, 1942 and had come back to Calcutta on the 28th April but owing to a severe attack of anaphylaxis following a serum injection was lying seriously ill and was unable to attend the meeting.

**ANNUAL REPORT AND AUDITED ACCOUNTS.**

1. Mr. K. R. Nair, Hon. Jt. Secretary, placed before the meeting the Annual Report and Audited Accounts for 1941-42 as approved by the Council, and mentioned that the accounts had been audited by Messrs. P. C. Nandi & Co., Chartered Accountants.

Resolved that the Annual Report and Audited Accounts (annexed) for 1941-42 be adopted.

Proposed by Mr. A. R. Sinha

Seconded by Mr. M. Ganguli

(*Carried unanimously*).

**ELECTION OF OFFICE-BEARERS AND MEMBERS OF THE COUNCIL.**

2. Mr. K. R. Nair, Hon. Jt. Secretary, reported that, in accordance with Bye-law 3 for the election of office-bearers and members of the Council, nominations for 1942-43 approved by the Council of the Institute had been circulated together with the notice of the Annual General Meeting on the 6th April 1942. As the number of nominations was in no case in excess of the number of officers no voting was necessary and no voting paper was therefore issued.

The election of the following office-bearers and members of the Council as circulated was then announced from the Chair.

*President*

The Hon'ble Mr. N. R. Sarkar, .. .. . *Member-in-charge of the Department of Education, Health and Lands, Government of India.*

*Hon. Vice-President (having filled the office of President)*

Sir Badridas Coomra, Kt, C.I.E., .. .. . *Indian Chamber of Commerce, Calcutta*

*Vice-Presidents*

Dr. P. N. Banerjee, M.A., D.Sc., M.L.A. (Central), *Calcutta.*  
Mr. C. D. Doshiwadhk, C.I.E., *Deputy Governor, Reserve Bank of India.*  
Sir A. H. Ghuznavi, Kt., M.L.A. (Central), *Messrs. A. H. Ghuznavi & Co., Calcutta.*  
Dr. T. E. Gregory, D.Sc., *Economic Adviser to the Government of India, Delhi.*  
Dr. John Mathai, D.Sc., C.I.E., I.E.S. (Retd.), *Messrs. Tata & Sons, Ltd., Bombay.*  
The Hon'ble Dr. S. P. Mukherjee, M.A., B.L., *Finance Minister, Bengal.*  
D.Litt., Bar at law.  
Dr. C. W. B. Normand, C.I.E., M.A., D.Sc., F.N.I., *Director General of Observatories, Poona.*  
Sir Shri Ram, Kt., *Delhi Cloth and General Mills, Delhi.*

PROCEEDINGS OF THE ANNUAL GENERAL MEETING

Sir C. V. Raman, D.Sc., F.R.S., N.L., *Indian Institute of Science, Bangalore.*  
 The Hon'ble Mr. Justice T. J. Y. Rorburgh, B.A., *Judge, Calcutta High Court.*  
 Bar-at-law, C.I.E., I.C.S.,  
 Mr. H. B. Subrahmany, M.L.A.,  
*Calcutta.*

*Treasurer*  
 Dr. Satya Churn Law, M.A., B.L., Ph.D., *Calcutta*  
 F.Z.S., M.B.O.U.,  
*Secretary*  
 Prof. P. C. Mahalanobis, .. .. . *Statistical Laboratory, Calcutta.*  
*Joint Secretaries*  
 Prof. K. N. Chakravarti, M.Sc., *Presidency College, Calcutta.*  
 Mr. K. Raghavan Nair, M.A., M.Sc., *Statistical Laboratory, Calcutta.*

*Members of the Council for 1942-43*

Mr. B. P. Amlakar, M.A., *University of Allahabad.*  
 Dr. Nazir Ahmad, O.R.F., M.Sc., Ph.D., F.Inst. P., *Director, Cotton Technological Laboratory, Bombay.*  
 Mrs. C. Bose, B.Sc. (London), *Statistical Laboratory, Calcutta.*  
 Mr. N. C. Bose, M.A., *Lecturer, Calcutta University.*  
 Prof. S. N. Bose, M.Sc., *University of Dacca.*  
 Mr. P. H. Carpenter, O.R.E., F.I.C., F.C.S., *Chief Scientific Officer, Indian Tea Association,*  
*Taizong, Assam.*  
 Mr. E. T. Cordwell, *Messrs. Hind & Co., Calcutta.*  
 Prof. H. C. Ghosh, M.A., P.R.S., *University of Calcutta.*  
 Dr. J. B. Grant, M.D., Dr. P.H., *Director, All India Institute of Hygiene and Public*  
*Health, Calcutta.*  
 Prof. L. C. Jain, M.A., LL.B., D.Sc., *University of the Punjab, Lahore.*  
 Mr. J. V. Joshi, M.A., *Director General of Commercial Intelligence & Statistics,*  
*Calcutta.*  
 Prof. F. W. Levi, Dr. Phil. Nat., *University of Calcutta.*  
 Mr. K. C. Mahindra, M.A., *Messrs. Martin & Co., Calcutta.*  
 Dr. K. C. K. S. Raja, L.R.C.P. & S., D.P.H., *Assistant Public Health Commissioner with the Govern-*  
*D.T.M. & H. ment of India, Delhi.*  
 Dr. V. K. R. V. Rao, M.A., Ph. D., *Principal, S. L. D. Arts College, Ahmedabad.*  
 Mr. B. Ranga Reddy, *Joint Revenue Secretary, H. F. H. the Nizam's Govt.,*  
*Serundrabotol.*  
 Mr. S. N. Roy, M.Sc., *Statistical Laboratory, Calcutta.*  
 Dr. H. C. Sinha, M.Sc., Ph.D., *Lecturer, Calcutta University.*  
 Prof. J. C. Sinha, M.A., Ph.D., *Presidency College, Calcutta.*

APPOINTMENT OF AUDITORS

1. Mr. K. R. Nair, Hon. Jt. Secretary, stated that Messrs. P. C. Nandi & co., Chartered Accountants, had kindly agreed to audit the accounts of the General Fund of the Indian Statistical Institute free of charge as in previous years. It was proposed however that the usual honorarium of Rs. 250 should be increased to Rs. 500 this year in view of extra work in connection with the Jute Census Scheme, to be paid to them out of the Earmarked and Special Enquiries Fund for auditing the accounts relating to this fund.

Resolved that Messrs. P. C. Nandi & Co., Chartered Accountants, be appointed auditors for the year 1942-43, and an honorarium of Rs. 500 be paid out of the grant for Earmarked and Special Enquiries Fund for a detailed audit of this fund.

*Proposed by Mr. S. N. Roy*  
*Seconded by Dr. H. Sinha* (Carried unanimously).

APPOINTMENT OF COMMITTEES

4. Resolved that as recommended by the Council the Journal Committee be constituted as follows:-

Prof. S. N. Bose, Mr. J. V. Joshi, Prof. K. B. Madhava, Mr. N. C. Mehta, Dr. U. S. Nair, Mr. T. J. Y. Rorburgh, Dr. S. R. Savur, Prof. N. R. Sen, Dr. H. Sinha, Prof. P. C. Mahalanobis (Editor, *ex officio*) and Mr. R. C. Bose as Secretary.

*Proposed by Mr. S. B. Sen*  
*Seconded by Mr. A. R. Sinha* (carried unanimously).

A. H. Obstnavi K. R. Nair  
 Chairman, Honorary Joint Secretary.

## INDIAN STATISTICAL INSTITUTE

### PROCEEDINGS OF THE COUNCIL, DATED 29th APRIL, 1942.

A meeting of the Council of the Indian Statistical Institute was held at 4 p.m. on Wednesday, the 29th April 1942 at the Statistical Laboratory, Presidency College, Calcutta.

*Present* : In the absence of the President, Sir A. H. Ghuznavi, one of the Vice-Presidents of the Institute, took the Chair.

*Messrs.* K. C. Mahindra, S. N. Roy, H. Saha and K. R. Nair (*Honorary Joint Secretary*).

1. Proceedings of the meeting of the Council dated 9th April 1942 were read and confirmed.

#### ANNUAL REPORT AND AUDITED ACCOUNTS

2. In the absence of Prof. P. C. Mahalanobis owing to indisposition, Mr. K. R. Nair, *Honorary Joint Secretary*, placed before the Council the Annual Report and Audited Accounts for 1941-42 (circulated).

Resolved that the Annual Report and Audited Accounts be passed and forwarded to the Annual General meeting.

#### EVACUATION ARRANGEMENTS

3. Mr. K. R. Nair, *Honorary Joint Secretary*, reported that in accordance with resolution No. 2(i) of the Council dated 9th April 1942, deeds regarding the use by the Institute of "Amrapali", 87 Barrackpore Trunk Road, Calcutta and "Mahua", Giridih for the duration of war and one year thereafter had been executed and registered.

Mr. K. R. Nair, *Honorary Joint Secretary*, stated that Prof. P. C. Mahalanobis had gone to Giridih on the 26th April 1942 to see to local arrangements and had prepared certain schemes in regard to housing accommodation for workers, emergency stocks of foodstuffs and medicine, and an extension section of the library, and explained generally the nature of these schemes.

(i) Resolved that the *Honorary Secretary* be authorized to make necessary arrangements for acquiring stocks of essential foodstuffs and medical supplies during the emergency for the benefit of the Laboratory workers, provided the Institute were to recover all expenses incurred in this connexion in such time as might be considered practicable.

(ii) Resolved that the Housing Scheme at Giridih prepared by the *Honorary Secretary* be approved, and he be authorized to start an extension section of the Library and to throw it open to the general public at Giridih on a suitable contributory basis.

#### BANKING ARRANGEMENTS

4. Mr. K. R. Nair, *Honorary Joint Secretary*, reported that the Imperial Bank of India wanted the Council to pass certain resolutions before they could open an account of the Institute with their New Delhi office.

(i) Resolved that the Imperial Bank of India, be and are hereby appointed Bankers to the Indian Statistical Institute.

(ii) Resolved that all cheques on the banking account be signed and all bills, notes, and other negotiable instruments be drawn, accepted, and made on behalf of the Indian Statistical Institute by Sir Abdul Halim Ghuznavi and Professor Prasanta Chandra Mahalanobis jointly for Account 'A', and by Professor Prasanta Chandra Mahalanobis for Account 'B'.

(iii) Resolved that cheques, bills, notes, and other negotiable instruments payable to the Indian Statistical Institute may be endorsed for the Indian Statistical Institute by any one or more of the persons mentioned in the Resolution No. (i) or by the Secretary of the Indian Statistical Institute for the time being.

(iv) Resolved that a copy of these Resolutions, signed by the Chairman, be handed to the Bank, together with specimens of the necessary signatures.

## PROCEEDINGS OF THE COUNCIL

4. (a) In view of the present emergency resolved that any two of the following persons be authorized to operate jointly on both accounts 'A' and 'B' in Calcutta and New Delhi branches of the Imperial Bank of India.

Sir Badri Das Gosha, Calcutta ;  
The Hon'ble Mr. Nalini Ranjan Sarkar, Member, Viceroy's Executive Council, New Delhi ;  
The Hon'ble Dr. S. P. Mookerjee, Finance Minister, Government of Bengal, Calcutta ;  
Sir A. H. Ghaznavi, Messrs. A. H. Ghaznavi & Co., Calcutta ;  
Sir Shri Ram, 20-22 Curzon Road, New Delhi ;  
Mr. C. D. Dashmukh, Deputy Governor, Reserve Bank of India, Bombay ;  
Mr. K. C. Mahindra, Messrs. Martin & Co., Calcutta ;  
Dr. S. C. Law, Honorary Treasurer ;  
Prof. P. C. Mahalanobis, Honorary Secretary ;

(b) In view of the present emergency any two of the following Joint Secretaries and Assistant Secretaries be authorized in the absence of the Honorary Secretary to operate jointly on account 'B' of the Indian Statistical Institute in Calcutta and New Delhi branches of the Imperial Bank of India.

Prof. Khageshwar Nath Chakravarti, 22/2/3 Fern Road, Calcutta ;  
Mr. K. Raghavan Nair, P44 Southern Avenue, Calcutta ;  
Mr. Krishnadas Gupta, 2/2 Southern Avenue, Calcutta ;  
Mr. Atindranath Bose, 240-E Copal Lal Thakur Road, Baranagar, 24 paraganas.

### REORGANIZATION OF STAFF

5. Mr. K. R. Nair, Honorary Joint Secretary, reported that in accordance with the Council resolutions passed at its meeting held on the 9th April, 1942, the Honorary Secretary had made provisional appointments in the graded scales of Rs. 36-4-75 and Rs. 60-5-100 for a period of six months. Due considerations had been given in making these appointments to length of service, efficiency of work, academic qualifications including Institute examinations and special experiences. After careful examination of individual records of work and in consultation with the inspecting and supervising staff the Honorary Secretary had prepared a list of 55 workers (list circulated) who had been admitted provisionally to the graded scale. It is to be noted that there were 28 workers (list circulated) who had either not appeared in or failed to pass even a single section of the Institute examination or had no satisfactory record of work. Of these 19 had been retained on a purely temporary basis while 9 had been given provisional appointments for six months because though they had not passed the Institute examinations they were considered to have special qualifications and it had been considered desirable to give them a provisional grade to enable them to appear again in the institute examination.

(i) Resolved that the Honorary Secretary's recommendations be adopted and he be empowered to make the suggested appointments for a year with effect from the 1st April 1942 it being understood that the appointments would be terminable by two months' notice on either side.

(ii) Resolved further that the Honorary Secretary be empowered to make additional appointments to the graded scales for a period not exceeding six months and subject to confirmation by the Council as and when any of the workers retained on a purely temporary basis had passed the Institute examinations or otherwise demonstrated improved efficiency of work.

(iii) Resolved that the Honorary Secretary be empowered to withhold future increments in respect of such computers and inspectors in graded scales as did not show improved efficiency of work by passing successive sections of the Institute examinations for Computer's Certificate Part I ; and in respect of such workers put into graded scale belonging to the office staff as were not to improve or at least maintain their output records.

### JOURNAL COMMITTEE

6. Resolved that the Council recommends to the Institute that the following persons be on the reconstituted Journal Committee :-

Prof. S. N. Bose, Mr. J. V. Joshi, Prof. K. B. Madhava, Mr. N. C. Mehta, Dr. U. S. Nair, Mr. T. J. Y. Roxburgh, Dr. S. R. Sevier, Prof. N. R. Sen, Dr. H. Sinha, Prof. P. C. Mahalanobis (Editor, ex-officio) and Mr. R. C. Bose as Secretary.

## INDIAN STATISTICAL INSTITUTE

BUDGET FOR 1942-43

7. Mr. K. R. Nair, Honorary Joint Secretary, placed before the meeting draft budget for 1942-43.  
Resolved that the following budget estimate (General Fund) for 1942-43 be passed :—

	R <small>.</small> A <small>.</small> P <small>.</small>		R <small>.</small> A <small>.</small> P <small>.</small>
Opening Balance ..	1,708 12 3	Research Staff & honorarium ..	28,000 0 0
Grant from the Government of India ..	35,000 0 0	Books & Journals ..	2,500 0 0
Grant from the Govt. of India earmarked for Sankhya ..	2,000 0 0	Laboratory equipment ..	1,500 0 0
Membership fee ..	1,600 0 0	Contribution for Journal ..	2,500 0 0
Examination and other fees ..	1,500 0 0	Establishment & travelling ..	2,500 0 0
		Postage, stationery and contingency ..	2,500 0 0
		Earmarked for Sankhya ..	2,000 0 0
		Closing Balance ..	41,708 12 3
	41,708 12 3		41,708 12 3

### ELECTION OF MEMBERS

8. (i) The following persons were elected Life Members of the Institute :—

- (1) Mr. C. D. Deshmukh, C.I.E., I.C.S., Deputy Governor, Reserve Bank of India, Bombay.
- (2) Mr. B. Ranga Roddy, Joint Revenue Secretary, H.E.H. the Nizam's Government, Secunderabad.

(ii) The following person was elected an ordinary member of the Institute :—

Dr. C. Chandrasekar, Ph.D. (London), Asst. Professor of Vital Statistics & Epidemiology,  
All-India Institute of Hygiene & Public Health, Calcutta.

### OPENING OF AN INSTITUTE BRANCH AT DELHI

9. Mr. K. R. Nair, Honorary Joint Secretary, read a letter from Mr. G. R. Seth of Hindu College, Delhi addressed to Prof. P. C. Mahalanobis, Honorary Secretary, regarding opening of a branch of the Institute at Delhi.

(i) Resolved that Messrs. G. R. Seth, Sasya Swaroop and P. V. Sukhatme be appointed Secretary, Joint Secretary and Treasurer respectively of the local Branch to be opened at Delhi.

(ii) Resolved further that local residents at Delhi be permitted to be members of the local Branch on payment of subscription of Rs. 2/8/- per year provided however such members would not be entitled to receive issues of Sankhya free of charge and other rights and privileges enjoyed by ordinary full members of the Institute.

### MISCELLANEOUS

10. Resolved that the Honorary Treasurer of the Institute be authorized to repay as and when possible the outstanding amount of Rs. 5289-4-0 of advances made to the Institute by the Honorary Secretary, Prof. P. C. Mahalanobis in his personal capacity.

A. H. GHOSHANI  
Chairman.

K. R. NAIR  
Honorary Joint Secretary.

## INDIAN STATISTICAL INSTITUTE

### PROCEEDINGS OF THE COUNCIL, DATED 9th APRIL, 1942.

A meeting of the Council of the Indian Statistical Institute was held at 4.30 p.m. on Thursday, the 9th April 1942 at the residence of the President, Sir Badrinath Goenka, "Goenka House," 145 Mukherjee Babu Street, Calcutta.

*Present :* Sir Badrinath Goenka (in the chair).

Dr. P. N. Banerjee, Dr. S. C. Law, Messrs. K. N. Chakravarti, K. R. Nair and P. C. Mahalanobis (Honorary Secretary).

1. Proceedings of the Council dated 5th March 1942 were read and confirmed.

#### EVACUATION ARRANGEMENTS

2. K. Raghavan Nair, Joint Secretary, stated that Mr. John Sargent, Joint Secretary to the Government of India, Department of Education, Health and Lands, in his letter No. F. 41-741-E dated 11th March, 1942 had approved of the draft deed regarding the use by the Institute of 'Amrapali', 87 Barrackpore Trunk Road, Calcutta and 'Mahua', Barganda, Giridih, for the duration of war and one year thereafter.

- (i) Resolved that Dr. Satya Churn Law and Mr. K. Raghavan Nair be authorized on behalf of the Indian Statistical Institute to execute the following deeds.

- (A) "Memorandum of Agreement made this Ninth day of April, one thousand nine hundred and forty-two between Professor Prasanta Chandra Mahalanobis of "Amrapali", 87, Barrackpore Trunk Road, Thana Baranagore in the District of 24-Pargannas (hereinafter called the "Owner") of the One Part and The Statistical Institute a Society registered under the Societies Registration Act being Act XXI of 1860 of the Governor General of India having its office at the Presidency College in the town of Calcutta (hereinafter called the "Institute") of the Other Part whereby it is mutually agreed by and between the parties hereto as follows :—

- (1) That the owner shall permit and allow the Institute to use and occupy during the period of the war and for one year thereafter portions of house verandah and open terrace and some of the out-houses measuring about Three thousand and five hundred Square Feet at "Amrapali" premises No. 87 Barrackpore Trunk Road at Baranagore in the District of 24-Pargannas belonging to the owner for enabling the Institute to remove a portion of the Laboratory of Institute and for accommodating computers and other workers.

- (2) That the Institute shall be at liberty to erect at its own costs such buildings and structures in the portions of the premises it is permitted to occupy as may be necessary for housing its Laboratory and at its own costs to remove all materials buildings and structures brought in or erected by the Institute on the expiration of the said period. It shall make good any damages caused to the premises by reason of such removal.

- (3) That the owner shall not charge any rent for the Licensee agreed to be granted as herein-contained.

- (4) That the Institute shall not interfere with the possession of the owner and shall be deemed to be a Licensee and shall not acquire any interest in the property.

In witness whereof the parties hereto have set and submitted their respective hands and seals this day month and year first above written."

- (B) "Memorandum of Agreement made this Ninth day of April, one thousand nine hundred and forty-two between Nirmal Kumari Mahalanobis wife of Professor Prasanta Chandra Mahalanobis of "Amrapali", No. 87 Barrackpore Trunk Road, Baranagore in the District of 24-Pargannas (herein after called "the Owner") of the One Part and The Statistical Institute

## INDIAN STATISTICAL INSTITUTE

a society registered under the Societies Registration Act, being Act XXI of 1890 of the Governor General of India, having its office at Presidency College in the town of Calcutta (hereinafter called "Institute") of the Other Part whereby it is mutually agreed by and between the parties hereto as follows :—

(1) That the owner shall permit and allow the Institute to use and occupy during the period of the war and for one year thereafter a portion of the land measuring about three thousand square feet in the house "Mahua" at Giridih in the District of Hamirbag belonging to the owner for enabling the Institute to remove a portion of its Laboratory and valuable records and books and for accommodating computers and workers.

(2) That the Institute shall be at liberty to erect at its own costs such buildings and structures on the said land and premises as may be necessary and also at its own costs remove all materials buildings and structures brought in or erected by the Institute on the expiration of the said period. It shall make good any damages caused to the premises by reason of such removal.

(3) That the owner shall not charge any rent for the License agreed to be granted as hereinafter contained.

(4) That the Institute shall not interfere with the possession of the owner and shall be deemed to be a Licensee and shall not acquire any interest in the property.

In witness whereof the parties hereto have set and subscribed their respective hands and seals this day month and year first above written."

¶ (iv). Resolved that during the period of occupation of 'Amrapali' at 87 Barabekpora Trunk Road and 'Mahua' at Giridih, the municipal taxes for the respective premises be paid out of the funds of the Institute.

(Prof. P. C. Mahalanobis did not participate in the proceedings during the consideration of this item).

3. Prof. P. C. Mahalanobis, Honorary Secretary, stated that originally he had not contemplated removing the Monotype machine and accessories from Calcutta but in view of the further deterioration of the situation he was of opinion that it might be desirable to remove this expensive machine to Giridih.

Resolved that the Honorary Secretary's proposal be approved and he be authorized to take all necessary action and incur necessary expenses in removing the Monotype machine to Giridih and also to purchase additional motors, accessories or machines as may be considered necessary for maintaining and running the Monotype machine at Giridih.

### BANKING ARRANGEMENTS

4. Prof. P. C. Mahalanobis, Honorary Secretary, made certain suggestions about emergency arrangements regarding Bank accounts.

(i). Resolved that the Imperial Bank of India be requested to open in the New Delhi Branch of the Bank two accounts corresponding to accounts 'A' and 'B' in the Calcutta Branch by transferring Rs. 1000 each from the respective accounts in the Calcutta Branch.

(ii). Resolved that Honorary Secretary be authorized to open subsidiary accounts in local banks in Giridih to be operated by him or other workers of the Statistical Laboratory authorized by him to do so on his behalf.

(iii). In view of the present emergency resolved that any two of the following persons be authorized to operate jointly on both accounts 'A' and 'B' in Calcutta and New Delhi branches of the Imperial Bank of India.

- (1). Sir Badridas Goska, Calcutta.
- (2). The Hon'ble Mr. Nalin Ranjan Sarkar, Member, Viceroy's Executive Council, New Delhi.
- (3). The Hon'ble Dr. S. P. Mukerjee, Finance Minister, Govt. of Bengal, Calcutta.
- (4). Sir Shri Ram, 20-22, Curzon Road, New Delhi.
- (5). Mr. C. D. Doshi, Deputy Governor, Reserve Bank of India, Bombay.
- (6). Mr. K. C. Mahindra, Messrs. Martin & Co., Calcutta.
- (7). Dr. S. C. Law, Honorary Treasurer.
- (8). Prof. P. C. Mahalanobis, Honorary Secretary.

## PROCEEDINGS OF THE COUNCIL

4 (iv). In view of the present emergency any two of the following Joint Secretaries and Assistant Secretaries be authorized in the absence of the Honorary Secretary to operate jointly on account 'B' of the Indian Statistical Institute in the Calcutta and New Delhi branches of the Imperial Bank of India.

- (1). Khageshwar Nath Chakravarti, 22/2/C, Fern Road, Calcutta.
- (2). K. Raghavan Nair, P44, Southern Avenue, Calcutta.
- (3). Kriahmulla Gupta, 7/2, Southern Avenue, Calcutta.
- (4). Atindranath Bose, 240E, Gopal Lal Thakur Road, Baranagar, 24-Parganas.

5. (i) In view of the present emergency in case the Honorary Secretary is unable to take necessary action K. N. Chakravarti and K. Raghavan Nair, Joint Secretaries and K. Gupta and Atindranath Bose, Assistant Secretaries, be authorized individually to exercise all the powers of the Honorary Secretary.

(ii). In case the Honorary Secretary or any of the Joint and Assistant Secretaries is unable to take necessary action any of the following persons be authorized to exercise the powers of the Honorary Secretary in the following order (1) Samarvendranath Roy, (2) Sudhir Kumar Banerjee, (3) Jitendra Nath Sengupta.

### ADMINISTRATIVE ARRANGEMENTS

6. Resolved that the Honorary Secretary in consultation with the President or one of the Vice-Presidents be authorized to take such action as may be considered necessary during the present emergency.

### JUTE CENSUS SCHEME 1942

7. Prof. P. C. Mahalanobis, Honorary Secretary placed before the meeting the following letter No. 151J dated 26th March, 1942 from Mr. Stevens, I.C.S., Special Officer "Jute", Government of Bengal, Calcutta, sanctioning a grant of one lakh of rupees for repeating the jute census scheme in 1942.

"I have to inform you that Government have been pleased to sanction the carrying out of an area census under jute in Bengal on the same lines and same scale as last year. I will request you to begin at once your preparations for this work and to submit as soon as possible detailed estimates of the cost of this area survey, which will of course be in addition to the yield survey which is being undertaken with funds provided jointly by Government and the Indian Central Jute Committee. The total cost of the area survey must not exceed Rs. 1,00,000 (Rupees one lakh) only."

The Honorary Secretary reported that he had suggested to the Government of Bengal that this grant together with about Rs. 18,000 already sanctioned for crop-cutting work in 1942 should be handed over as a block grant to the Indian Statistical Institute on the following conditions.

(i). The work will be done under the administrative control of a Joint Committee consisting of Mr. Stevens (representing the Government of Bengal), Prof. Todd (Govt. of Bengal), Prof. Mahalanobis (Honorary Secretary of the Indian Statistical Institute and Statistical Adviser), and Mr. B. B. Das Gupta (representing Indian Central Jute Committee) as Secretary of the Joint Committee.

(ii). This Committee will have full authority to make necessary changes in the programme of work.

(iii). The Indian Statistical Institute in consultation with the above Committee will have authority to make necessary reappropriations between different sections of the budget on condition that the total sanctioned grant is not exceeded.

(iv). The Indian Statistical Institute will submit to Government a statement of accounts audited by Chartered Accountants, and surrender in due course the unspent balance of the block grant, if any.

Resolved that the action taken by the Honorary Secretary be approved and in case the block grant is sanctioned by the Government of Bengal the Honorary Secretary be authorized to make new appointments, sanction allowances to workers of the Statistical Laboratory, and take all necessary action and incur necessary expenditure up to the limit of the block grant in connexion with the area census and crop-cutting works on jute in 1942.

### REORGANIZATION OF COMPUTING AND OFFICE STAFF

8. Prof. P. C. Mahalanobis, Honorary Secretary, stated that the question of the reorganization of the Institute staff had been in contemplation for some considerable time. The Honorary Secretary had been given to understand that the question of stabilizing the Indian Statistical Institute would be taken

## INDIAN STATISTICAL INSTITUTE

up by the Government of India at an early date. The scales in the case of the higher technical staff would certainly begin on a salary not less than Rs. 100. The Honorary Secretary was therefore of opinion that the reorganization of the higher technical staff would have to wait necessarily until the Government of India reached a final decision regarding the future of the Institute.

As regards the computing section and office staff the starting salary would be low and the maximum salary would not exceed Rs. 100 per month. The Honorary Secretary thought that the reorganization of the computing section and office staff would be easier and was certainly more pressing. With a view to such reorganization all workers of the Statistical Laboratory had been advised to qualify themselves by passing the Institute examinations; and 62 workers appeared for the examination held in August 1941 (which was conducted by Prof. K. B. Malhava of Mysore and Messrs. R. C. Bose and S. N. Roy) and 41 workers had passed in at least one section. In the case of the office staff also many of the workers had proved their worth by efficient and loyal service for a long time. The Honorary Secretary regretted that owing to his continued ill health from August to November 1941 and heavy pressure of work in connexion with evacuation arrangements subsequently he had not been able to submit any scheme so far. He was of opinion that it would be desirable to reorganize the computing section and the office staff at an early date. In view of the uncertainty regarding the financial position it would not be possible to make permanent or any long term appointments but he thought the best policy would be to adhere to certain minimum scales of salary in the case of qualified workers and he recommended two simple grades Rs. 35-4-75 and Rs. 60-5-100 for the present.

8 (i). In view of the uncertain financial condition and also in view of the fact that the question of stabilizing the Indian Statistical Institute is under consideration by the Government of India, the Council regrets that the reorganization of the higher technical staff of statisticians and assistant statisticians cannot be taken up until a final decision regarding the future of the Institute is made by the Government of India.

(ii). Resolved that the recommendations of the Honorary Secretary be accepted, and that the computing section and office staff be reorganized on the basis of two scales of pay for qualified workers, namely, Rs. 35-4-75 and Rs. 60-5-100, but in view of the uncertain financial position all appointments in the reorganized scale be made in the first instance for one year and terminable with two months' notice on either side; and the Hon. Secretary be requested to make detailed recommendations in this regard taking into consideration success in Institute examinations, duration of service in the Statistical Laboratory and other academic and special qualifications.

(iii). Resolved that all workers admitted before 30th April 1942 to any of the reorganized scales be permitted to join the Provident Fund scheme with retrospective effect and all persons appointed to any of the reorganized scales in future be permitted to join the Provident Fund Scheme from the date of Appointment.

(iv). Resolved that the Honorary Secretary be authorized to make temporary appointments for not more than six months in the reorganized scales in the computing section and office staff in anticipation of sanction by the Council.

### STATISTICAL CONFERENCE

9. Prof. P. C. Mahalanobis, Honorary Secretary, placed before the Council a letter dated 4th March, 1942 from Mr. N. Sundara Rama Sastry making various suggestions regarding future sessions of the Statistical Conference.

(i). Resolved that the Council place on record its appreciation of the valuable suggestions made by Mr. N. Sundara Rama Sastry. The Council is of opinion that the possibility of arranging a joint session of the Statistical and Economic Conferences should be explored at the earliest opportunity.

(ii). Also resolved that a Committee consisting of Prof. J. Maclean (Bombay), Dr. P. V. Sukhatme (New Delhi), the Honorary Secretary (ex-officio) with Mr. N. Sundara Rama Sastry as Convener and Secretary be appointed to take all necessary action for inviting papers on a selected number of topics for being presented before the next session of the Statistical Conference, and to hand over all papers accepted by the Committee for this purpose to the Honorary Secretary not later than 31st October, 1942 for being printed and circulated before the opening session of the Statistical Conference.

## PROCEEDINGS OF THE COUNCIL

### MISCELLANEOUS

10. Read a letter dated 2nd April, 1942 from Mr. B. N. Datar together with a report thereon prepared by the Honorary Secretary in which he stated that Mr. B. N. Datar joined the Statistical Laboratory on the 14th July 1940 and was given an interim allowance of Rs. 100 p.m. by the Honorary Secretary, and was subsequently awarded a research fellowship by the Standing Research Committee of the Institute and a special allowance of Rs. 50 by the Honorary Secretary out of the earmarked and special emolument fund with retrospective effect; he was recommended by the Honorary Secretary for a statistical post in the office of the Census Commissioner, Baroda and was granted leave without pay from 25th January 1941; he rejoined the Statistical Laboratory on the 11th August 1941, but was subsequently given leave for interviews for statistical posts in Cawnpore and Bombay; he left Calcutta on the 17th December 1941 on special leave to visit his relative in Bombay, and was on duty at Baroda in connection with the Statistical Conference from 29th December 1941 to 6th January 1942; he took "advance" leave from 7th January to 17th February 1942 on urgent private business, and immediately on his return to Calcutta he asked for permission to work in Giridih as he would not be able to work in Calcutta under present conditions; the Honorary Secretary was unable to give any definite guarantee regarding the place of work but permitted him to go to Giridih on 11th March, 1942 and assigned him the work of preparing a draft report on certain crop-cutting experiments; on 27th March, 1942 he asked for special leave for 4 days to go to Bombay to bring his wife to Giridih; the Honorary Secretary, who had in the meantime (27th March, 1942) received instructions from the Government of Bengal to proceed with the jute census scheme this year, recalled all senior workers to Calcutta and informed Mr. Datar on the 29th March that in view of the heavy pressure of work in connection with the Jute Census Scheme it was likely that he would have to work in Calcutta in the immediate future. On the 30th March the Honorary Secretary was informed by Mr. K. Raghavan Nair, Joint Secretary, that Mr. Datar had been probably called for an interview for a statistical post elsewhere; the Honorary Secretary immediately informed Mr. Datar at Giridih that there was no objection to his going for an interview but the Honorary Secretary would like to know whether Mr. Datar had applied for a statistical post elsewhere without the knowledge of the Honorary Secretary. Mr. Datar came to Calcutta on the 2nd April when he was informed by the Honorary Secretary that he would have to work in Calcutta for the present. Mr. Datar resigned his post in his letter of the 3rd April (Good Friday) from which date he ceased to attend the Statistical Laboratory, without handing over charge or seeing the Honorary Secretary; and in his letter of the 5th April (Sunday) stated that he would leave Calcutta on the same day. The Honorary Secretary mentioned that certain statements in Mr. Datar's letter of the 3rd April were not correct, for example, the Honorary Secretary had never promised to give him a permanent post on Rs. 200-500. The Honorary Secretary also pointed out that Mr. Datar did not submit periodic returns of work done by him in accordance with standing instructions which were complied with regularly by all other senior workers.

After a careful review of the case the Council notes with regret that many of the statements made in Mr. Datar's letter are not correct; that the language used in his letter is highly objectionable; that he failed to submit periodic reports on the work done by him; that he ceased to attend the Statistical Laboratory without notice or without handing over charge and without adjusting the "advance" leave of 42 days taken by him in January 1942. The Council is not prepared to accept Mr. Datar's claim to have the right to apply for posts directly elsewhere without informing the Honorary Secretary and is also not prepared to entertain his claim of choosing his place of work. In view of the fact that he ceased attending the Statistical Laboratory from 3rd April, 1942 without notice and without handing over charge and also without submitting any report as to the work done by him in connection with various projects allotted to him, resolved that Mr. B. N. Datar be considered as having left the service of the Institute without notice from the 3rd April 1942, and the whole of the employer's share of the Provident Fund contribution be forfeited.

Balridda Goswami  
Chairman.

P. C. Mahalanobis  
Honorary Secretary.

# INDIAN STATISTICAL INSTITUTE

## PROCEEDINGS OF THE COUNCIL, DATED 5th MARCH, 1942.

A meeting of the Council of the Indian Statistical Institute was held at 4 P.M. on Thursday, the 5th March 1942 in the Statistical Laboratory, Presidency College, Calcutta.

*Present:* Prof. F. W. Lavy (in the chair)

*Members:* R. C. Bose, K. N. Chakravarti, K. R. Nair, S. N. Roy, Dr. H. C. Sinha and Prof. P. C. Mahalanobis (Hon. Secretary).

1. Proceedings of the Council dated 17th December 1941 and 3rd January 1942 were read and confirmed.

### ELECTION OF OFFICE-BEARERS FOR 1942-43.

2. (i) Resolved that the following panel of names be circulated for election as office-bearers and members of the Council of the Institute —

#### President

The Hon'ble Mr. N. R. Sarkar, .. .. . *Member-in-charge of the Department of Education  
Health and Lands, Government of India.*

#### Hon. Vice-President (having filled the office of President)

Sir Badriñās Goonka, Kt., C.I.E., .. .. . *Indian Chamber of Commerce, Calcutta.*

#### Vice-Presidents

<p>Dr. P. N. Banerji, M.A., D.Sc., M.L.A. (Central), Mr. C. D. Dashmukh, C.I.E., Sir A. H. Ghuznavi, Kt., M.L.A. (Central), Dr. T. E. Gregory, D.Sc., Dr. John Mathai, D.Sc., C.I.E., I.E.S. (Reid.) The Hon'ble Dr. S. P. Mukherjee, M.A., B.L., M.L.A., D.Litt., Bar-at-law.</p> <p>Dr. C. W. B. Norman, C.I.E., M.A., D.Sc., F.N.L., Sir Shri Ram, Kt., Sir C. V. Raman, D.Sc., F.R.S., N.L., The Hon'ble Mr. Justice T. J. Y. Rowborough, B.A., Bar-at-law, C.I.E., I.C.S., Mr. H. S. Sahuwardy, M.L.A.,</p>	<p><i>Calcutta.</i> <i>Deputy Governor, Reserve Bank of India.</i> <i>Member, A. H. Ghuznavi &amp; Co., Calcutta.</i> <i>Economic Adviser to the Government of India, Delhi.</i> <i>Member, Tata &amp; Sons, Ltd., Bombay.</i> <i>Finance Minister, Bengal.</i></p> <p><i>Director General of Observatories, Poona.</i> <i>Drift Cloth and General Mills, Delhi.</i> <i>Indian Institute of Science, Bangalore.</i> <i>Judge, Calcutta High Court.</i></p> <p><i>Calcutta.</i></p>
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#### Treasurer

Dr. Satya Churn Law, M.A., B.L., Ph.D., .. .. . *Calcutta.*  
F.Z.S., M.B.O.U.,

#### Secretary

Prof. P. C. Mahalanobis, .. .. . *Statistical Laboratory, Calcutta.*

#### Joint Secretaries

Prof. K. N. Chakravarti, M.Sc., .. .. . *Presidency College, Calcutta.*  
Mr. K. Raghavan Nair, M.A., M.Sc., .. .. . *Statistical Laboratory, Calcutta.*

#### Members of the Council for 1942-43

<p>Mr. E. P. Adarkar, M.A., Dr. Nazir Ahmad, O.B.E., M.Sc., Ph.D., F. Inst. P., Mrs. C. Bose, B.Sc. (London), Mr. H. C. Bose, M.A., Prof. S. N. Bose, M.Sc., Mr. P. H. Carpenter, O.B.E., F.I.C., F.C.S.,</p> <p>Mr. E. T. Coxwell, Prof. H. C. Ghosh, M.A., P.R.S., Mr. J. B. Grant, M.D., Dr. P.H., Prof. L. O. Jain, M.A., LL.B., D.Sc., Mr. J. V. Joshi, M.A.,</p>	<p><i>University of Allahabad.</i> <i>Director, Cotton Technological Laboratory, Bombay.</i> <i>Statistical Laboratory, Calcutta.</i> <i>Lecturer, Calcutta University.</i> <i>University of Dacca.</i> <i>Chief Scientific Officer, Indian Tea Association, Teesta, Assam.</i> <i>Member, Birla &amp; Co., Calcutta.</i> <i>University of Calcutta.</i> <i>Director, All-India Institute of Hygiene and Public Health, Calcutta.</i> <i>University of the Punjab, Lahore.</i> <i>Director General of Commercial Intelligence &amp; Statistics, Calcutta.</i></p>
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## PROCEEDINGS OF THE COUNCIL

Prof. F. W. Levi, Dr. Phil. Nat.,  
Mr. K. C. Mahabala, M.A.,  
Dr. K. C. K. E. Raja, L.R.C.P. & S., D.P.H.,  
D.F.M. & H.,  
Dr. V. K. R. V. Rao, M.A., Ph.D.,  
Mr. B. Ranga Reddy.

Mr. S. N. Roy, M.B.S.,  
Dr. H. C. Saha, M.Sc., Ph.D.,  
Prof. J. C. Saha, M.A., Ph.D.,

*University of Calcutta,  
Messrs. Martin & Co., Calcutta.  
Assistant Public Health Commissioner with the Govern-  
ment of India, Delhi.  
Principal, S. L. D. Arts College, Akhmedabad.  
Joint Revenue Secretary, H. K. H. the Nizam's Govt.,  
Secunderabad.  
Statistical Laboratory, Calcutta.  
Lecturer, Calcutta University,  
Presidency College, Calcutta.*

2. (i) In view of the war situation in Calcutta resolved that members of the Institute be requested to send in their proposals, if any, for alterations in the above para as to reach the Honorary Secretary within fifteen days of the issue of the notice; and that the notice of the annual general meeting together with the voting paper be issued not less than 15 days before the date of the annual general meeting.

### EVACUATION ARRANGEMENTS

3. (i) The Honorary Secretary reported that in accordance with the decision of the Council of the Institute he submitted the following application for a special grant for evacuation and A.R.P. arrangements to the Government of India and the Government of Bengal. He also discussed the question personally with Mr. F. E. Jones, Finance Secretary to the Government of India, Mr. J. D. Tyson, Secretary, Department of Education, Health and Lands; and Mr. J. M. Bottomley, Director of Public Instruction, Bengal.

D/4842

Camp : New Delhi, 20th January, 1942.

The Secretary to the Government of India,  
Department of Education, Health and Lands,

New Delhi.

Sir,

I am directed by the Council of the Indian Statistical Institute to apply for a special grant of Rs. 12,000 for A.R.P. arrangements and safe custody of the Library and other equipment of the Statistical Laboratory.

2. The total number of indexed volumes in the Library is about 11,000, but counting separately different parts of the same volume, the total number would be about 16,000. Besides the library the Statistical Laboratory possesses original records relating to various statistical enquiries, calculating machines and other equipment. The estimated value of the library and other equipment is about one lakh and thirty thousand rupees. This, however, is not the most important point. The library contains many books and complete series of journals and reports and over one thousand reprints of scientific papers which it will be difficult, if not impossible, to replace in case of loss or damage.

3. The Statistical Laboratory is housed at present in one portion of the Presidency College and in hired rooms in the neighbourhood. Owing to difficulties in securing reliable night-watchmen and caretakers we were, however, obliged to vacate some of the rented rooms at the end of December, 1941; the rooms in the Presidency College may also have to be vacated at short notice in case these are required for A.R.P. work. The need of arranging suitable accommodation in or near Calcutta is thus urgent. Secondly, there is the question of complete or partial evacuation and the storing of the library and other equipment in a safe place for the duration of the war in case of further deterioration of the situation in Calcutta.

4. The total number of workers including the statistical and office staff and computers is about 100; and the total floor-space occupied by the Statistical Laboratory at the end of December 1941 was about 6,500 sq. feet. The position was carefully considered by the meeting of the Council of the Indian Statistical Institute which was held in Baroda on the 3rd January, 1942 and which was attended by among others Dr. P. N. Hensley, M.I. A. (retired); Dr. C. W. B. Normand (Director General of Observations, Poona); Mr. P. H. Carpenter (Director, Twinkl's Tea Experimental Station, Assam); Mr. Ranga Reddy (Joint Secretary, Revenue Department, Mysore); Prof. K. B. Mahabha (Mysore); Mr. A. C. Mukherji (Director of Statistics, Baroda); Dr. P. V. Sukhatme (Delhi); Dr. U. S. Nair (Travancore); Mr. N. S. R. Sastry (Madras); Mr. K. R. Nair (Calcutta). Relevant extracts from the proceedings are enclosed.

5. The course of action decided by the Council falls broadly under three heads:

(a) To make immediate A.R.P. arrangements in Calcutta in the way of erecting baffle-walks, purchasing sand-bags, stirrup-pumps, first-aid boxes, setting apart a refuge room etc.

(b) To remove a portion of the Laboratory to the house of the Honorary Secretary at 87 Barnackpore Trunk Road which is situated in fairly open country in the suburbs of Calcutta at a distance of about six miles and a half from the Government House. By enclosing verandahs, covering portions of open terraces, and with some structural alterations to out-houses and construction work it is estimated that about 2,500 sq. feet could be made available here in the course of six or eight weeks. Needless to say the Hon. Secretary would not charge anything for any space taken, and the Statistical Laboratory would be entitled to remove all materials or structures erected at its cost on the expiration of the arrangement.

(c) To remove a portion of the Laboratory and valuable records and books to a house belonging to Mrs. Mahalanobis at Giridih in the Hazaribagh district at a distance of 200 miles from Calcutta. With suitable alterations and some construction work it would be possible in the course of three or four months, to make available

## INDIAN STATISTICAL INSTITUTE

about 3,000 sq. feet a portion of which would be used for residential purposes by the workers. Mrs. Mahalanobis also will not be entitled to charge anything to the Laboratory for such use of her premises, and the Council will be entitled to remove all materials and structures erected at its cost on the expiration of the arrangements. A document or documents will be executed by Mr. and Mrs. Mahalanobis in such form as the legal advisers of the Institute may consider proper precluding all claim on the part of Mr. and Mrs. Mahalanobis for rent or over any property of the Institute brought in or erected. If necessary the documents may be approved by the Government of India.

5. It would be seen, therefore, that it is proposed to provide roughly 3,600 sq. feet in the suburb of Calcutta and about 3,000 sq. feet at Giridih, and to start removing portions of the Statistical Laboratory to those two places as early as possible. All structural alterations and construction work are proposed to be carried out in cement brick-work and reinforced concrete as this is considered indispensable for adequate protection against air-raids, and the total cost, at present prices and wage-rates, is estimated at about Rs. 15,000. We shall need about Rs. 1000 for sand-bags, stirrup-pumps and other immediate A.R.P. arrangements in Calcutta; and about Rs. 2000 for packing, freight and other expenses for removal. The total cost is thus estimated to come to about Rs. 18,000, but may be higher if prices rise appreciably before the work is completed.

7. In the absence of any reserve fund we have no other alternative but to approach the Government of India with the request for a non-recurring grant of Rs. 12,000 on condition that we shall undertake to provide Rs. 6,000 from other sources. In view of the emergency we have the honour further to pray that this grant should be made available as soon as possible in the current financial year.

3. (iv) The Honorary Secretary reported that the Government of India had sanctioned a special grant in letter No. F. 41-7/41-E dated 20th February, 1942. (copy annexed)

Sir,

With reference to your letter No. D/44/42, dated the 30th January 1942, I am directed to convey the sanction of the Governor General in Council to the payment to you of a special grant of Rs. 12,000 (Rupees twelve thousand only) to cover two thirds of the expenditure on air-raid precautions for the premises of the Indian Statistical Institute and evacuation of the library and equipment of the Institute to safer places outside Calcutta. The grant is payable from the budget grant of the Central Governments for 1941-42 under "Demand No. 27-other Scientific Departments: India - B. Grants-in-aid and Donations to Scientific Societies and Institutes" and should be drawn from the Accountant-General, Central Revenue before the 31st March 1942.

2. I am to request that an audited statement of the expenditure mentioned in paragraph 1 above may be submitted to the Government of India in due course. I am to add that if the amount of actual expenditure is less than the amount of Rs. 18,000 estimated by you, the difference between the special grant of Rs. 12,000 paid to the Institute and two-thirds of the actual expenditure will be deducted from the grants payable to the Institute from central revenues in 1942-43.

(ii) The Hon. Secretary reported that he had made arrangements for handing over to the Institute 1600 sq. feet at "Amrapali", 87 Barrackpore Trunk Road with effect from 15th March 1942 and he hoped to be able to hand over about an additional 2000 sq. feet in the course of six weeks.

(iv) A portion of the Statistical Laboratory including valuable books and records, calculating machines, photographic apparatus etc. had been removed to Giridih and a staff of about 20 persons were already working there. Some more workers would be sent to Giridih in the course of the next fortnight. In view of uncertain conditions arrangements were being made for storing a certain amount of essential foodstuff, oil etc. at Giridih.

(v) A.R.P. arrangements for both Calcutta and Giridih were being speeded up. Sand-bags, stirrup pumps, first-aid boxes had been purchased, and a number of computers were being trained in A.R.P. work.

(vi) Dr. H. Sinha reported that several members of the staff of the Indian Statistical Institute and of the Statistical Laboratory were experiencing financial difficulty for removing their families from Calcutta. Advances had been granted by many institutions in Calcutta including the University for this purpose. It was desirable to provide similar facilities to the staff of the Indian Statistical Institute and of the Statistical Laboratory. Mr. K. N. Chakravarty supported the proposal.

Resolved that Rs. 100, or one month's salary or the amount of member's own contribution to the Provident Fund, whichever is less, be advanced to every member of the Statistical Workers' Provident Fund, applying for the loan, on his executing the following document:

"I do hereby bind myself, my heirs, successors, or assigns to refund Rs. .... being the amount drawn in advance by me on ..... or such part of it as remains unpaid in the event of my leaving service or dying before the advance is repaid in full. I further agree that the amount may also be recovered by the Indian Statistical Institute from any sum that might be found due to me."

Such advances to be recoverable in ten equal monthly instalments out of his salary, with effect from the beginning of the month subsequent to the advance.

## PROCEEDINGS OF THE COUNCIL

3 (vii). The Hon. Secretary reported that as he had not yet fully recovered from his illness and was still having a temperature he had applied for leave for six weeks from the Presidency College from the second week of March and he intended to go to Giridih immediately to look after local arrangements. He also intended to spend the summer vacation at Giridih so that he himself would be able to look after the work of Giridih. As the Honorary Secretary was likely to be absent from Calcutta for a long time he considered it desirable to appoint a special officer who would be prepared to remain in responsible charge of the work in Calcutta even in an emergency. In this connexion he suggested the name of Atindranath Bose who was one of the senior workers of the Statistical Laboratory and a Research Fellow of the Institute for nearly three years, but had left the Institute in July 1941 to accept the post of Principal, Srikail College. He had expressed his willingness to rejoin the Statistical Institute, and to remain in Calcutta during the period of emergency. He used to get a pay of Rs. 175 at the time he left the Laboratory.

Resolved that Atindranath Bose be appointed Assistant Secretary in charge of work in Calcutta, and that he be authorized to assume full control as Branch Secretary and to exercise all the powers of the Honorary Secretary under emergency conditions (with effect from such date as may be considered necessary by the Honorary Secretary) on a salary of Rs. 175/- per month plus an administrative allowance of Rs. 75/- per month as long as he remains in charge of work in Calcutta.

### MISCELLANEOUS

4. Considered the following letter dated 2nd March, 1942 from Kamesh Chandra Mukerjee, stenotypist, reporting a loss of Rs. 147/- from office cash.

I have the honour to place before you the fact that while travelling with Professor Mahalanobis in the Bombay Mail leaving Howrah on the 15th January 1942 I was robbed of Rs. 147/- out of Rs. 150/- which was handed over to me from office for expenses during the tour. I found the cash in fact before I went to bed on the night of 16th January just after Iarni Station. On the following morning at Kalyan I discovered to my amazement that all the notes totalling Rs. 147/- were missing from my purse but the small coins which were kept in a separate section with zip-fastener as well as the railway ticket were not touched. I informed the matter to Professor Mahalanobis on our arrival at Bombay station and reported the matter to the Railway Police Station, Bombay Victoria Terminus on the same day.

I am a poor employee with a small salary. It will be the greatest hardship on me, if I am required to pay off the money from my own salary. I was robbed in spite of the usually good precautions that I take while travelling with Laboratory money and property. I hope, therefore, in view of the above circumstances, and in consideration of my past loyal services to the Institute, the Institute will kindly relieve me from the responsibility of paying off this amount.

Resolved that the whole amount of Rs. 147/- be written off, but this not to be considered a precedent.

5. The Honorary Secretary recommended an increment of pay to Krishanadas Gupta who had been appointed, on the unanimous recommendation of a Selection Committee, as Assistant Secretary on a pay of Rs. 175/- per month in May 1941. He was doing excellent work; and would remain in administrative charge of the Giridih centre. He resigned a post on Rs. 250/- as General Secretary, The Central Secretariat of Associations, (Calcutta) and his successor was getting Rs. 400/- per month at present.

Resolved that he be given an increment of Rs. 75/- with effect from January 1942.

F. W. Levi  
Chairman.

P. C. Mahalanobis  
Honorary Secretary.