

INDIAN STATISTICAL INSTITUTE

Twelfth Annual Report: 1943-44

We are writing this report in the midst of renewed enemy action in North-East India. The year under review has been one of unprecedented stress and strain in Bengal. The country passed through an acute food-crisis of a kind never known before. In consequence there has been rapidly growing demand for statistics in every direction. Although we were obliged to expand our staff at a rapid rate, the growth was not altogether healthy as there was a great scarcity of trained statistical workers. The only thing we could do was to train up as many men as we could in the course of the work itself.

During the year under review the total number of worker-months in employment on the statistical side was 2172 or an average of 504 workers per month. The statistical work itself had to be carried out at three places, in Calcutta, at Barranagore in the suburbs of Calcutta, and at Giridih a little over 200 miles away from Calcutta. The statistical staff was divided roughly in equal proportions in the three centres at the beginning, but, owing to lack of accommodation in the Presidency College in Calcutta, the number of workers at both Barranagore and Giridih had to be steadily increased so that early in 1944 it was something like 150 or 160 at each of these two places. It is only because of the unswerving loyalty and enthusiasm of the old guards of the Statistical Laboratory that it has been at all possible to carry on the work at such high pressure.

CROP SURVEY WORK IN BENGAL

The most notable program in the year under review was achieved in the sample survey of crops. It would be remembered that work was started on a small scale with a total expenditure of about Rs. 7,000 on an exploratory survey of the jute crop in Bengal in 1937. This was the beginning of a five-year scheme for the improvement of jute statistics which was financed jointly by the Indian Central Jute Committee and the Government of Bengal. The sampling technique, developed in the course of a gradually expanding series of surveys culminating in the full scale provincial work of 1941, which demonstrated beyond dispute the possibility of securing by this method a final estimate of jute acreage with a margin of error of only two or three per cent at a cost of one-fiftieth or one-twentieth of that of a complete enumeration. A general account of the five-year scheme with discussion of theoretical foundations was given in a monoir prepared by the Hon. Secretary in 1942 which is being published in the *Philosophical Transactions of the Royal Society of London*.

The Hon. Secretary had been pressing from the very beginning of the five-year scheme in 1937 for the extension of the method to cover paddy and other important crops in Bengal. Each year from 1938 to 1942 he repeated his efforts but without success. In 1942 the Indian Central Jute Committee had expressed their complete satisfaction with the method of the sample survey and had recommended its continuance by Government in future. The Government of Bengal however decided at first to discontinue the work but subsequently revoked their decision and asked the Hon. Secretary at the end of March 1942 to proceed with the Jute survey. By this time a good portion of Burma had been occupied by the Japanese, and the supply of rice from that country had been cut off. Apprehending a serious deterioration in the food situation (not because of the physical volume of the import which was small but because of the possible effect on prices) the Hon. Secretary submitted a definite scheme to the Government of India at the end of March 1942 for extending the sample survey to cover the paddy crop in Bengal. In the course of the next few months he also discussed the question with a large number of officials in Bengal but all his efforts failed completely. In the absence of reliable statistics both the provincial and the Central Governments were left entirely in the dark regarding the supply position of rice at the end of 1942. This made it impossible for Government to pursue a consistent food policy on any objective basis. The weakness of the statistical position was thus an important factor in bringing about the deplorable food crisis in Bengal in 1943. The Hon. Secretary has given a general account of the position in a paper presented before a symposium organized by the National Institute of Science of India held in Calcutta at the end of September 1943 which has been already printed in their *Proceedings* Vol. X, No. 1 (1944).

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Early in 1943 the Hon. Secretary again submitted a scheme to the Government of Bengal for a sample survey of all important crops in Bengal. Sanction was given to that portion of the scheme which related to the jute crop and preparatory work was started at the end of February 1943. On the basis of informal discussions the Hon. Secretary also proceeded with the preparatory work for the survey of paddy which however had to be discontinued in the middle of June 1943 under instructions from the Secretary of the Bengal Agricultural Department as it was not considered advisable by Government to proceed with the scheme. In August 1943 the Hon'ble Mr. H. B. Suhrawardy, Minister in charge of the Department of Civil Supplies, decided however to take up the survey from his own Department and issued orders to proceed with it. In this way we got the opportunity for the first time in 1943 to undertake a comprehensive survey of the paddy crop in Bengal covering about 70,000 square miles.

Design of the Survey : Work in 1942 had to be carried out under great difficulties in consequence of which the quality of the field work had deteriorated somewhat. Conditions in the country in 1943 continued to be, if anything, even more difficult on account of the acute food crisis. Many of the field staff were new recruits and had no previous experience of this kind of work. We, therefore, decided to strengthen the statistical control by securing duplicate ascertainment of about one-sixth of the grids. In order to do this the uni-stage method had to be given up. Adjoining police stations were paired, and out of each pair one was selected at random thus including in the sample 50 per cent of the police stations from all over the province. Within each selected police station a certain number of sheets of maps were selected at random; and within each sheet a suitable number of grids were located again at random. In view of the fact that jute as well as paddy had to be covered in the survey it was decided to use one uniform size of grid, namely, 2.35 acre for the whole province; and the total number of such grids actually enumerated was about 68,000.

Field Organization : Eight training camps were opened in February 1943 and about 225 workers of different ranks were given field training. The total field staff numbering 385 was organized early in April and the area survey of jute and aus paddy was started in the East Bengal districts by the middle of May 1943 and was extended to other districts in the course of a few weeks. The area survey was completed by the end of August but crop cutting work on jute and aus paddy continued till the middle of September. The area survey of Aman paddy began early in October and was finished by December 1943; crop cutting work started by the middle of November and continued till January 1944.

Precision of Estimates : The area under Aman paddy based on the sample survey was found to be in large excess of the official figure of 179 lakhs of acres. The field records were therefore carefully scrutinized. Although there was some evidence of the field work not having been done quite honestly in certain areas, as far as we could judge, these defects were not sufficient to explain the large difference. In this situation we made a careful comparison of the acreage under Aman paddy as given in Settlement Reports with the contemporaneous official forecasts and found that during the period of 41 years from 1900 to 1941 the official estimates were on an average 24 percent below the corresponding Settlement figures. In the light of this comparison the sample estimate was quite plausible.

Crop-cutting work in the Jute-Aus season could not be made fully representative of the different regions. In the Aman season work was done at 120 centres in 25 districts. The margin of error (at odds of 1 to 20) of the estimated total production of rice (root in husk) in the case of aman paddy was of the order of 7 or 8 per cent. Such a large margin of error is of course unsatisfactory, but must be attributed mainly to the unreliability of the primary material especially in crop cutting work. Here difficulties of inspection and checking are very great and everything depends on the honesty of the investigators. Unfortunately, in 1942 we were obliged to work with 305 new recruits (or 61 per cent of total field staff of 476 men) who had no previous experience of the work and about whom we did not know anything. It is not surprising, therefore, that certain portions of the material were found to be unreliable. No remedy is possible unless and until the Government of Bengal adopt the policy of building up a more permanent staff of investigators.

BENGAL CROP SURVEY : 1944-46

A scheme for a sample survey of Jute, Aus and Aman paddy in Bengal in 1944-45 was approved by the Government of Bengal early in 1944 and a consolidated block grant of Rs 4,50,000 has been sanctioned for this purpose. In order to improve the efficiency certain modifications have been introduced in the

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design of the survey. The whole province has been divided into zone-cells of practically equal size of 64 square miles (miles square parallel to the latitude and longitude lines) and a two-stage sampling technique is being used on the basis of sub-cells of size one square mile each. The preparatory work is progressing smoothly at the time of writing this report. The Government of Bengal have placed at the disposal of the Institute the part-time services of Mr. N. C. Chakravarti, D.C.S. (Addl. Asst. Secretary, Revenue Department) as Superintendent of Statistical Surveys and the Field Branch is being actively supervised by him.

CROP SURVEY OF BIHAR

At the request of the Government of Bihar the Hon. Secretary went to Patna on the 16th November 1943 and discussed the possibility of organizing a sample survey of crops in the province with H. E. Mr. R. F. Mudie, Governor of Bihar, and other officials. A five-year scheme at an estimated cost of twenty-five lakhs of rupees was submitted on the 19th November and the main proposals were accepted in principle by the Government within a few days. This visualized a series of gradually expanding surveys beginning from the rabi season of 1943-44 and reaching a full scale provincial survey in the aghoni (winter) season of 1946-48. In this scheme the field work would be done under the direct control of the Government of Bihar for which a new post of whole time Superintendent of Statistical Surveys was created in December 1943 and was filled by a senior and experienced Deputy Collector, Rai Bahadur S. P. Sinha, in December 1943. The Indian Statistical Institute would remain responsible for the statistical work during the first five years, but would gradually transfer the work to the Government of Bihar.

The preparatory work for the rabi season was started in Calcutta and Giridih in December 1943. The first design, which took a good deal of time and labour to prepare had to be abandoned owing to the delay in receiving village maps from different districts. At the end of December 1943 the programme was revised; it was decided to take up the exploratory work in the two districts of Monghyr and Shahabad; and a new design was got ready for this purpose and the preparatory work was pushed on with all possible speed at Giridih.

Arrangements were made to send a staff of 75 field workers from Bengal on loan to Bihar and 108 men were recruited locally for the work. The field survey started on the 15th February and was closed on the 18th April 1944. Two special camps were opened at Hirsamgunj in Shahabad district and Cogri in Monghyr district, and a number of trained statisticians were posted to these two places for special studies. The Hon. Secretary inspected the work at Hirsamgunj on the 25th and 26th March 1944 and a conference of statistical and field workers was arranged there during his visit.

The field survey in the rabi season was organized with such success that it was decided to do the work on the full provincial scale beginning from the next kharif (autumn) season. This means a stepping up of the programme by about 18 months and would naturally involve a very heavy pressure of work in the near future. Preparatory work has been already started for the Modoi (autumn) season of 1944-45, and it is hoped that the field survey for the early crop of maise (maize) would be started in the first week of May, and of the other regular crops of the season in July.

A block grant of about Rs. 62,000 was received from the Government of Bihar up to 31st March, 1944, and a budget of Rs. 2,48,000 has been submitted for the statistical portion of the work in 1944-45. The Bihar Government also sanctioned a contribution of Rs. 15,000 per year with effect from 15th November, 1941, in lieu of the services as Statistical Adviser of Prof. P. C. Mahalanobis who had expressed a desire that such a contribution should be made instead of paying him any remuneration.

BURDWAN-HOOGLY-HOWRAH IRRIGATION SCHEME

This is the sixth year of the scheme of crop-cutting work in this area. In 1938-39 the individual plots of land in this region were classified in terms of certain standard soil classes, and the object of the crop cutting scheme is to assess and grade the different classes of soil in terms of fertility as measured by the rate of yield of paddy. During the first four years the whole of the crop cutting work was done under the direct control of Government. In 1943 the work was done for the first time under our technical guidance and in 1943 crop cutting material was collected along with similar work done in the Bengal Crop Survey Scheme. A comparison of the material collected in 1943 with those collected in earlier years has revealed glaring discrepancies. It is now proposed to make a detailed scrutiny of the primary data with a view to ascertaining whether the material collected in earlier years is sufficiently reliable to be included in the analysis or whether it will have to be rejected altogether.

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OTHER PROJECTS AND SPECIAL ENQUIRIES

Besides the crop-area and yield estimation surveys described above, work was also done on other projects and special enquiries. The most important among these are mentioned below.

Regional survey of Borer Pests of Sugarcane 1940-41 : The remaining portion of reduction of $\frac{1}{2}$ primary material and preparation of 100 flow tables included in the scheme of analysis approved by the Imperial Council of Agricultural Research, was completed during the current financial year. Most of the computational work for this purpose was conducted at Girdih. The report for Gurdaspur region (Punjab) was submitted to the I.C.A.R. by the middle of November 1942. The remaining regional reports, namely those for *Muzaffargarh* (United Provinces), *Gorakhpur* (United Provinces), *Dacca* (Bengal), *Cuttack* (Orissa), *Gudiyatam* (Madras), *Padgaon* (Bombay), *Sepaya* (Bihar) and *Pusa* (Bihar) were completed in quick succession within the next two months. Each report included more than 200 pages of tables dealing with the incidences of damage to Sugarcans from different kinds of Borer Pests.

U. P. Anthropometric Measurements : All calculations leading to the mean values, standard deviations and coefficients of variation with the standard errors of these constants were completed for thirteen characters and five indices for each of 23 castes from the United Provinces and were sent in November 1943, to Dr. D. N. Majumdar of the Lucknow University who had taken the measurements at the time of the 1941 Census. All the correlation coefficients have been determined and advanced work is now being carried on at Calcutta including the use of the D^2 statistic.

River Research : A grant of Rs. 6000 per year has been sanctioned by the River Research Institute of the Government of Bengal for statistical analysis of data relating to river physics, rainfall and floods in Bengal. Work was started in November 1943 on the analysis of gauge readings of the river Damodar a severe flood in which during the monsoon season had completely interrupted communications in the East Indian Railway near Burdwan for more than two months. A preliminary report on maximum floods near Burdwan was submitted in December, 1943.

Blood Pressure Survey 1935-36 : Analysis of the large body of material collected during a survey started in 1935-36 in Bengal was taken up this year and the work is now nearing completion.

Sriniketan Rural Survey : Work on the analysis of a large volume of material relating to rural families collected by the Visvabharati Institute of Rural Reconstruction at Sriniketan was taken up at Girdih.

THEORETICAL RESEARCHES

Theoretical work was continued on the following main topics : (1) Design of Large Scale Sample Surveys ; (2) Design and Analysis of Experiments ; (3) Multivariate Distributions ; and (4) Construction of Numerical Tables. A list of papers published and reports submitted in the year under review by the workers associated with the Institute is given in Appendix I below.

Large Scale Sample Surveys : This topic is receiving increasing attention from statisticians and Government Departments, as it provides an efficient yet cheap alternative method to that of surveying by complete enumeration. A paper embodying the findings of the theoretical and experimental researches on this topic written by P. C. Mahalanobis will be shortly published in the *Philosophical Transactions* of the Royal Society. A paper on multi-stage sampling was communicated to the 31st Session of the Indian Science Congress (Delhi) 1944.

Design and Analysis of Experiments : Further progress has been achieved in the mathematical theory of the design and analysis of experiments by R. C. Bose, K. R. Nair, C. R. Rao and H. K. Nandi. A general method of approach for recovering the intra and inter-block informations from the results of a general incomplete block design and the necessary tests of significance have been discovered. Confounded balanced t -designs in the case of symmetrical factorial designs 2^m in block of k plots ($k < m$) have been constructed. Analysis of co-variance has been extended to the case of a general incomplete block design. New types of designs in quasi-Latin squares with efficiencies higher than that of incomplete block designs have been discovered. Considerable progress has been made in finding out the number of non-isomorphic solutions in the case of incomplete block designs.

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Multivariate Distributions : In the year under review S. N. Roy has obtained suitable reduction formulae by which it is possible to evaluate numerically the incomplete probability integrals (both on the null and the non-null hypotheses) of the individual p -statistics. These statistics had been introduced by him for purposes of discrimination in respect of variances and co-variances between two multi-variate normal populations, or in respect of mean values of k multivariate normal populations supposed to have the same set of variances and co-variances; the individual distributions of these p -statistics had already been worked out by him in the preceding year. It may be further mentioned that Mahalanobis's Generalized Distance (D^2) is finding suitable application in discriminating between and classifying different castes and tribes in the United Provinces on the basis of anthropometric measurements made during the 1941 Census.

Construction of Numerical Tables : Very useful work on the construction of mathematical tables, and the unbiased partitioning of the tail areas of various important statistical distributions including those for χ^2 and t , (under non-null hypotheses) is being continued by P. K. Bose and S. Raja Rao under the general guidance of P. C. Mahalanobis. Calculations of 0% and 1% points of the classical D^2 -statistic for different values of the number of variates is bearing completion. A table of Bessel Functions for different values of an imaginary argument has been prepared and will be soon published.

STATISTICAL ENQUIRIES

A large number of enquiries were attended to through correspondence this year, as in previous years. The distribution by subjects and administrative regions of the more important enquiries are shown below—

By Subjects : Agricultural 9; Anthropological 2, Educational 7; Industrial 19; Sample Survey 4; Socio-economic 3; Theoretical 7; Vital 1; Miscellaneous 1; Total 53.

By Regions : Assam 1; Bengal 15; Bihar 1; Bombay 16; C. P. and Berar 2; Delhi 5; Madras 1; Orissa 1; Sind 1; U. P. 6; Total 53.

ARRANGEMENTS IN THE STATISTICAL LABORATORY

As mentioned in earlier reports, portions of the Statistical Laboratory were removed as an evacuation measure in 1942 to Giridih and Baranagore; and the work of the Institute had therefore to be carried on at three places, namely, Calcutta, Baranagore and Giridih. The Hon. Secretary went to Giridih several times during the year, and other workers were also sent there from time to time. Owing to increasing postal delays and difficulties of communication arrangements had to be made for important records being carried between Giridih and Calcutta by special messengers. The number of workers in Calcutta remained more or less stationary on account of lack of accommodation, but the staff at Baranagore and Giridih had to be steadily expanded to cope with the increasing pressure of work.

NUMBER OF WORKERS

The number of workers employed on a monthly basis was 91 and the number of piece-rate workers 17 on the last April 1942. During the year under review 331 new appointments were made on a monthly basis and 142 as piece-rate workers while 141 on monthly basis and 130 piece-rate workers left the Laboratory so that on the 31st March 1944 the year closed with 271 workers on a monthly basis and 29 piece-rate workers with a total strength of 300 workers in all. The average strength of workers was 80 in Calcutta, 61 at Baranagore, and 63 at Giridih during the year under review.

INSTITUTE STAFF

K. R. Nair, Brindra Nath Ghose, Jitendranathan Sen Gupta and Mrs. Chameli Bose worked in Calcutta most of the time; N. T. Mathew was in charge of the Giridih Branch during the whole of the year under review. Rajchandra Bose, Samasroodanath Roy and Purnendu Kumar Bose although working as whole-time teachers in the Post-graduate Department of Statistics of the Calcutta University, maintained their intimate contacts with the Statistical Laboratory and shared fully in its activities. In the Computing Section, Nirmalchandra Ghose and S. Raja Rao assisted by Sambhu Nath Halder, Arun Kumar Ganguli, Suraj Chandra Sarkhel, and Shyam Sundar Bose were in general charge of the work in Calcutta; at Baranagore, while Jitendra Nath Talupur with Haribhajan Chaudhuri assisted by Dhivendra Chandra Sarkar looked after the computing work at Giridih. Among old workers Sulbir Kumar Banerji, Hemamba Chandra Ghose, Subodh Chandra Das Gupta, Jaleelhar Sarma, Gayanath Adak, Sarat Chandra Mitra, Prabhat Chandra Sinha, Debabratra Datta, Sukumar Hazra, Purna Chandra Ghosh, looked after various

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sections in Calcutta, Banarapore and Giridih. M. K. Dutt has been appointed as Assistant Secretary of the Institute from 1st February 1944, in place of K. Gupta who has resigned. In the Field Branch, Dharendra Mohan Ganguly was in charge as Supervisor and Pranay Kumar Chatterjee and Santipriya Bose acted as Assistant Supervisors.

Women's Section in Calcutta: A Women's section was started in Calcutta after the successful experiment at Giridih. The women workers, about fifteen in number, are being paid on the piece-rate basis. An organizer has been appointed and put in charge of this section. Some of these workers take their work home and do it there, and some work regularly under the supervision of the organizer.

Changes in staff: During the year under review a good number of our workers (both senior and junior) left the Institute to take up more remunerative appointments elsewhere. K. R. Nair, who had been with us for about seven years, and K. Gupta, Assistant Secretary, joined the Food Department of the Government of India, early in 1944 both as Assistant Directors of Statistics. Anil Bhattacharyya, another senior worker, joined the Department of Commerce of the Bihar Government in December 1943 as statistician. Many of the technical apprentices also left us. Sushil K. Banerjee joined the Office of the Controller of Rationing of the Bengal Government in Calcutta as statistical officer in November 1943; Manindra Nath Ghose went to the Dacca University in November 1943 as lecturer in statistics; V. Ramachandra Rao joined the Swastika Oil Mills, Bombay in January 1944 as statistician; Promoda Nath Chowdhury joined the Labour Commissioner's Office at Patna in December 1943; Bibhutook Sircar joined the Calco Mills at Ahmedabad in January 1944; M. B. Rudra joined as Deputy Superintendent of Central Excise; Abani K. Mukherjee (a student of the post-graduate department of Statistics, who had just passed his M.A. examination in statistics in the first class) joined the Office of the Sugar Controller of the Government of India at Siuma in September 1943. Mr. Tu, a post graduate Research Fellow from China, who had joined the Laboratory in June 1943 left us in February 1944 to take up some war work in his own country.

Against these departures, several young persons have joined our Laboratory either as technical apprentices or in other capacities: C. Radhakrishna Rao, Hanthikar Nandi and Nirmalkumar Chakravarti stood 1st, 2nd and 3rd respectively in the first class in the M.A. and M.Sc. examinations in Statistics of the Calcutta University held for the first time in 1943; Miss Bina Sen is a first class first M.A. in Mathematics of the Dacca University and had Statistics as an optional subject in the degree examination; Mrs. Sri Ranganama Muthanna is an M.A. in Mathematics with Statistics as a special part of the Mysore University; Ramkrishna Mukherjee is a first class first M.A. in Anthropology of the Calcutta University. A list of the technical apprentices is shown in Appendix 3.

BRANCH LABORATORY AT GIRIDIH

The year 1943-44 was one of steady expansion at Giridih. The number of workers started with 43, in April 1943 and increased to 155 in January 1944. N. T. Mathew, Statistician, was in charge of the Giridih Laboratory throughout the year, and carried on his work with great energy, enthusiasm and ability.

In April 1943 the staff consisted of men who had been transferred from Calcutta as an evacuation measure in 1942 together with a few workers recruited locally. This was gradually strengthened chiefly by local recruitment on a piece-rate basis about which further details are given below. In October 1943 the Hon. Secretary together with a large number of statisticians and other workers arrived from Calcutta and stayed at Giridih for more than one month for advanced work and research of various kinds. In January 1944 the staff had to be expanded very rapidly for the preparatory work for the Bihar Crop Survey Scheme the bulk of which was done at Giridih; a general description has already been given of this work in an earlier section. The peculiar feature of the arrangements at Giridih is the fact that a large number of the workers live in premises in the occupation of the Institute. This has made it possible to make various experiments in organization and has led to an appreciable increase in co-operative activities of many kinds.

Piece-rate System: At Giridih systematic efforts were made to work out a flexible scheme for payment by piece-rate system. This was introduced in the beginning partly to meet a fluctuating demand for computing work and partly to ensure equitable remuneration being given to more painstaking and careful workers. In actual practice a standard rate of output has been prepared (and is revised from time to time) for a large number of individual items of computational work, and definite rates of payment are fixed for

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each item. Payment however is not made only on the basis of output, accuracy is also taken into consideration and suitable deductions are made for mistakes in calculation. The system has worked successfully and it has been found possible to provide work on piece-rate basis for from 50 to 75 per cent of the total number of workers.

Women's Section : One advantage of the piece-rate system is the possibility of supplying certain items of work to women who could not keep regular hours. They could devote a certain amount of time during leisure hours at home. In the beginning all the women workers used to work at home, but gradually a number of them began to attend the Laboratory regularly at first on half-time basis and later on some of them attended as whole-time workers.

Training Section : At Girdih great difficulties had to be faced due to shortage of trained hands especially in January when the staff had to be more than doubled all on a sudden from 72 to 156 in order to cope with the Bihar Crop Survey work. This led to the initiation of organized training courses for computers, and such training was given to about 30 workers including three women in February and March.

Library : As mentioned in earlier reports the main library and valuable records were removed to Girdih early in 1942 as an evacuation measure and have been stored there for the present. From Girdih nearly 4,000 pages of photoprints of books and articles were sent to Calcutta for the use of workers there. The preparation of a classified catalogue with author and titles was taken in hand and was progressing smoothly. In spite of limited resources a circulating library of general literature was started at Girdih in 1942 and has been working successfully.

Bihar Crop Survey. The bulk of the preparatory work of the Bihar Crop Survey was done at Girdih. This was started early in December. The work had to be expanded rapidly in January and about 60 workers were transferred from Calcutta to Girdih for this purpose and a large number were recruited locally. At the end of January the total number of workers at Girdih was about 155 among whom more than 90 had to be provided with both food and lodging. Lack of accommodation was a great difficulty. At the instance of the Government of Bihar, the Deputy Commissioner, Hazaribagh, placed at our disposal buildings and premises belonging to one Mr. Myers situated very close to the premises at present occupied by the Institute. This however is not adequate, and an application has been already submitted for the acquisition of land near the Institute premises and as soon as possession is obtained of this land it is proposed to put up additional buildings.

Other activities : The Hon. Secretary during his stay at Girdih in October 1943 gave a series of 15 lectures followed by discussions on the history of statistics with special reference to the work of Karl Pearson and his school. A large number of statistical workers and university teachers who were present at Girdih attended these meetings which often continued for two or three hours at a time. At the end of October 1943 the workers of the Statistical Laboratory at Girdih staged Rabindranath Tagore's play *Yajusthar Khela* in Bengali in aid of the Beagal Famine Relief Fund; the Hon. Secretary took the part of Yajusthar. A sum of over Rs. 2,000 was collected and has been handed over to famine relief organizations.

BRANCH LABORATORY AT BARANAGORE

Early in 1942 it had been decided to remove a portion of the Statistical Laboratory to Amrapali, the Hon. Secretary's garden house at Baranagore, as a safety measure against the contingency of our being requested to vacate the rooms in the Presidency College, Calcutta. In 1943 owing to expansion in our activities the computing staff had to be steadily increased, and, as no further accommodation was available in the Presidency College, more and more men had to be transferred to Baranagore from Calcutta so that during the preparatory work for the survey of paddy in Bengal in 1943 the total number of workers increased to over 100 at Baranagore. Even this was not enough, and a new shed for computing work was built in October 1943 which increased the accommodation appreciably. At present the bulk of the primary computational work of the Beagal Crop Survey is being done at Baranagore; over 2,00,000 C.S. village maps are stored there for this purpose. The Central Store of the Institute has been removed there, and a separate office has also been organized. The total number of workers at Baranagore increased to over 150 in February 1944. A number of workers live in the premises with the Hon. Secretary and Mrs. Mahalanobis; they all have food from a common kitchen run by the workers themselves. Two other messes for workers are run in rented houses in the neighbourhood and provide accommoda-

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tion for about 40 workers. Under war conditions the Institute has been thus obliged to run residential establishments for workers at two places, Calcutta and Baranagore.

Summer Vacation Camp at Kalimpong. During the summer vacation of 1943 a Camp Laboratory was set up at Kalimpong for about three months and was attended among others by Prof. P. C. Mahalanobis, Rajchandra Bose, Ramareddinath Roy, Anath Ghosh, Purmandakumar Bose, Jitendramohan Sen Gupta, S. Raja Rao, Manimohan Mukherjee, S. Kumar Ganguli, Prabhat Kumar Sinha, Hanailal Indre; about 7 or 8 computers were also recruited to July. Sudhir Kumar Basu and the three Field Supervisors in the Bengal Crop Survey Scheme, Dharendra Mohan Ganguli, Santipriya Bose and Pradyumn Kumar Chatterjee also went there for a short time. A good deal of progress was made in research work on both theoretical and applied topics, the workers being comparatively free from the routine administration and outside engagements of the Calcutta Laboratory. It may be mentioned here that such vacation camps were being organized almost continuously from 1939, at first informally up to 1937, and since then in a more formal manner from the Institute beginning with the summer camp at Darjeeling in 1938.

STATISTICAL LIBRARY

The bulk of the stock of the library continues to be maintained at Giridih in accordance with the general policy adopted for the duration of the war. For the convenience of the workers a branch is maintained in Calcutta, and a branch was opened at Baranagore in the year under review. The library functioned normally and books were requisitioned from Giridih for Calcutta and Baranagore as necessary. This was supplemented by the use of the micro film photo record apparatus by which photographs were made of articles and books on cinema films and sent to Calcutta.

The total number of books added to the library during the year was 440. Of these 384 books were purchased; 31 were received as free gifts; and 15 books were received for review in Sanjhya. Even after four years of war we received 69 annuals and 101 periodicals. The number of volumes issued by the lending section was 1347 and the number issued by the reference section was 2688, the total being 3935 (as against 2231 in 1942-43).

The Librarian, Jibananda Saha, who was sent for training to the Imperial Library (Government of India) passed the Diploma examination with credit. A reorganization scheme was adopted for making the Library arrangements up-to-date and scientific. An Assistant Librarian, Biswajit Roy, trained at the Imperial Library and Bengal Library Association (in co-operation with Calcutta University) was appointed to speed up the scheme. Systematic work has been taken up in classifying the books in accordance with the Dewey Decimal classification system and preparing (a) a Dictionary and (b) a Classified catalogue. A current bibliography of Statistics based on the stock in the library is also being prepared. Besides the main scientific library, a circulating library of general literature is also being maintained for the benefit of the workers.

SANJHYA : THE INDIAN JOURNAL OF STATISTICS

Due to the war emergency it was not possible to bring out last year more than two issues (Vol. 5 Parts 3 and 4). In some cases there was a most deplorable lag between the date of receipt of a paper and its publication. As a result of a series of discussions among senior workers a strong group of workers under the leadership of Mr. Raj Chandra Bose have undertaken to bring up to date the technical editing of all papers in hand at the earliest opportunity.

The audited accounts are given below :-

Sanjhya : Receipts and Payments Account for the year ending 31st March, 1944

RECEIPTS				PAYMENTS			
	Rs.	A.	P.		Rs.	A.	P.
To Opening Balance				By Allowance			
Cash in hand	..	41	4	" Press Bills and Paper	..		159
Cash at Bank	..	294	1	" Costing Expenses	..		23
				" Closing Balance :			
			335	Cash in hand	..	3	5
" Subscriptions	..		340	Cash at Bank	..	390	15
" Grants from the Government of India	2,000		0				
" Advances from Statistical Publishing Socy.	..		300				383
			2,975				6
			6				2,975
			0				6

ANNUAL REPORT FOR 1943-44

TRAINING WORK AND EXAMINATIONS IN STATISTICS

During the war emergency it is natural that offers should not come for training or consultation, especially from outside Bengal, so freely as in the pre-war days. Still a fair number of them came here for training or scientific consultation and a complete list of such visitors is shown in Appendix 2. K. R. Nair was in charge of this section up to 8th February 1944 and thereafter Nath Ghosh from that date. As regards the standard training course run by the Institute, which started owing to the war emergency, we had six students in all, but mostly they stayed for a shorter period than the full session of one year as they were either absorbed in the Institute staff or they accepted employment elsewhere (Appendix 3).

Institute Examinations in Statistics: In spite of the war emergency, Computer's Certificate Examinations were held from 13th to 17th August 1943, in which 19 candidates appeared of whom 9 were successful. The Board of Examiners consisted of Professors K. B. Madhava, U. S. Nair, P. C. Mahalanobis and Messrs. R. C. Bose, S. N. Roy and K. R. Nair. It is proposed to hold these examinations again in the near future.

VISITORS

As in previous years a large number of visitors came to the Statistical Laboratory during the year under review. Among them was Prof. A. V. Hill, F.R.S., M.P., Secretary, Royal Society of London, who looked into the work in the Calcutta Laboratory and also spent several hours at Benares where he saw the arrangements made for the large staff engaged on the Bengal Crop Survey Scheme. Sir C. D. Deshmukh, Governor, Reserve Bank of India and one of the Vice-Presidents of the Institute saw the work both in Calcutta and at Benares at close quarters. Another distinguished visitor was Dr. Shih Shan Chen a member of the Chinese Academy who had come to India for a short visit. During the year under review contacts were also established with a number of Army Officers interested in the application of Statistics to various subjects.

LOCAL BRANCHES OF THE INSTITUTE

Up to the time of going to the press, we received the reports of the following branches, and short summaries of their activities are given below.

Delhi Branch: The Delhi Branch, though only in its second year of existence, has been carrying on its activities with energy. Thanks are due to the authorities of the Hindu College, who are allowing the Branch to hold its meetings in the College premises. Election of office bearers and members of the Executive Committee took place on 26th October, 1943 with Sir Shri Ram in the chair. Sir T. E. Gregory, Economic Adviser to the Government of India, was elected President, Dr. P. V. Sukhatme Treasurer, and Mr. G. R. Seth, Secretary of the Branch. The following three lectures were arranged during the year, all of which were well-attended and were followed by lively discussions:—

- (1) Statistical Engineering in Business Organization by Mr. M. V. Divatia.
- (2) A Study on the Comparison of Milk by Dr. P. V. Sukhatme.
- (3) Large Scale Sample Surveys by Mr. K. R. Nair.

Lucknow (U. P.) Branch: During the year 1943-44, this branch has been conducting an investigation into the standard of living and social conditions of the middle classes in Lucknow City. Two investigators have been appointed and have collected data from 500 families by random sample method in respect of the size of the family, diet, fertility, income, literacy, housing, sickness etc. The data collected are now being analysed and a report will be ready shortly. Prof. Radhakamal Mukerjee was in charge as Secretary of the Branch.

Poona (Deccan) Branch: Prof. V. G. Kale continued to be the Chairman of the Branch. Prof. D. G. Karve who ably filled the office of the Local Secretary for the last 12 years, laid down his office in January 1944, and Mr. N. V. Sovani was elected as the new Secretary. The number of life-members increased to 12 this year. The members of the Branch were frequently consulted by official and non-official agencies in connexion with rationing, price control, procurement of food grains, etc.

Mysore Branch: The Branch worked, as usual, in collaboration with the departments of Statistics, Economics, and Psychology of the University of Mysore. Five meetings were held in the year at which papers were read and discussed. An exhibition was arranged at which computing machines, chainman diagrams, schedules of certain statistical enquiries and portraits of leading statisticians were on view. Prof. K. B. Madhava was Secretary during the year under review.

INDIAN STATISTICAL INSTITUTE

MISCELLANEOUS

Post-Graduate Department of Statistics : Our collaboration with the post-graduate department of Statistics of the Calcutta University continued as before and the Hon. Secretary was the Hon. Head of the department throughout the year. Purvendu Kumar Bose officiated as whole-time Assistant Lecturer for about three months in place of Sadasi Sen Gupta (a former senior worker of the Institute) who had taken leave from the University in August 1943 to go to work as Statistician to the East Indian Railway. Purvendu Bose is now acting as part-time lecturer in place of K. R. Nair who left for Delhi in 1944. Mukunda Chandra Chakravarti from Dacca (who had been working in the Statistical Laboratory during vacations since 1943) joined as Asst. Lecturer in December, 1943. Birendra Nath Ghosh joined the department in November, 1943 and is acting as part-time lecturer in place of Anil Bhattacharya who left for Patna in December 1943. C. Radha Krishna Rao and Harikinkar Nandi (who stood first and second respectively in the first class in the M.A., and M.Sc. examinations in August 1943) are acting as part-time Assistant Lecturers. Mrs. Chameli Bose and Nirmal Kumar Chakravarti (who also had passed the M.Sc. examination in the first class) are working as Honorary Lecturers.

The examination of the Calcutta University for the M.A. and M.Sc. in Statistics was held for the first time in August 1943, and five students passed it after completing a two-year whole time course. It may also be mentioned that the students of the post graduate statistics department together with the teaching staff actively participated for about a fortnight in November 1943 in the field survey especially the crop-cutting work on Aman paddy at two of the camps of the Bengal Crop Survey at Baniban (Howrah) and Singur (Hooghly).

Loan Services : We place on record our grateful appreciation of the courtesy shown by the Indian Central Jute Committee by lending us the services of Mr. Dharendra Mohan Ganguli, and by the authorities of the Vira-Bharati by lending us the services of Mr. Santipriya Bose for the greater part of the year for supervision work in the field branch of the Bengal Crop Survey Scheme.

Photo record apparatus : We offer our thanks to the Royal Asiatic Society of Bengal for having kindly agreed to keep in our custody their photo-record camera with which it would be possible to take photographs of papers and documents on cinema film. We have undertaken to give 1000 exposures free of charge of valuable documents belonging to the Asiatic Society and also to prepare photographs of valuable non-commercial documents belonging to other societies or persons so far as practicable on payment of cost of materials.

ANNUAL REPORT FOR 1943-44

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INDIAN STATISTICAL INSTITUTE

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INDIAN STATISTICAL INSTITUTE

Indian Statistical Institute Earmarked & Special Enquiries Fund. Account for the year ending 31st March.

RECEIPTS		PAYMENTS		
	Rs. & P.	Rs. & P.	Rs. & P.	Rs. & P.
To Block Grant for 1942-44	3,800 0 0			
To Advance for 1944-45	30,000 0 0			
To Opening balance (1942-43)	5,317 4 0			
To Block Grant for 1944-45	10,000 0 0	4,10,000 0 0	1,49,438 0 0	
				2,33,232 5 2
				23,081 5 9
				4,16,000 0 0
		8,708 0 0		
		5,317 4 0		16,217 4 0
To Opening balance	3,002 10 0			
To Block Grant	5,000 0 0			
To Advance from Maritime	4,212 6 0			
To Opening balance			
				17,175 0 0
				17,175 0 0
				17,175 0 0
				176 0 0
				5,808 5 2
		5,219 0 0		
				36,208 8 0
				9,652 0 5
				11,057 10 9
				66,319 6 0
Opening balance in Special Enquiries Fund	14,008 6 0			
Block Grant	22,071 14 0			
General Fund			
		48,808 9 9		
		35,290 5 1		84,158 14 10

Examined and Found Correct
 P. O. Nayak & Co., Auditors,
 1, Annasalai, Coimbatore.

Director's Contributions Fund

Donations in cash (A list of Director's miscellaneous honorary services)

	Rs. & P.	Total
1932-33	180 0 0	180 0 0
1933-34	500 0 0	680 0 0
1935-36	3,482 11 9	4,162 11 9
1940-41	2,000 0 0	6,162 11 9
1940-41	1,200 0 0	7,362 11 9
1940-41	727 6 0	8,089 7 9
1942-43	30,000 11 0	38,089 7 9
Total	34,208 11 0	72,297 8 9

6, Halfpenny Street, Calcutta,
 7th 26th April, 1944.

APPENDIX I. LIST OF PAPERS PUBLISHED AND REPORTS
SUBMITTED IN 1943-44

1. BHATTACHARYA, A. On Some Sets of Sufficient Conditions leading to the Normal Bivariate Distribution. (*Sankhyā*, 6(4) 1944).
2. ——— A Note on the Diminution of Sum of x^2 's (*Sankhyā*, 6(4) 1944).
3. BOSE, CRAWFORD. Note on the Sampling Error in the Method of Double Sampling. (*Sankhyā*, 6(3) 1943).
4. BOSE, PURNENDU. On Continued Hypergeometric Series. (*Sankhyā*, 6(4) 1944).
5. BOSE, PURNENDU AND RAO, S. R. On the limiting forms of statistical distributions. (*Science and Culture* 9(9) 1944).
6. BOSE, R. C. The problem of balancing in symmetrical factorial design. (*Ind. Sc. Congress* 1944).
7. ——— Fundamental theorems of linear estimation. (*Ind. Sc. Congress* 1944).
8. GHOSH, BIRENDRANATH. On some artificial fields and their correlation Function. (*Science and Culture* 8(10) 1943).
9. ——— On random distances between two rectangles (*Science and Culture* 8(11) 1943).
10. ——— On two types of correlation function (*Science and Culture* 9(1) 1943).
11. ——— On sampling in unknown fields (*Science and Culture* 9(3) 1943).
12. ——— On the construction of some natural fields (*Science and Culture* 9(3) 1943).
13. ——— Some studies in Mahalanobis' Correlation Function (*Ind. Sc. Congress* 1944).
14. MAHALANOBIS, P. C. An Enquiry into the Prevalence of Drinking Tea among Middle class Indian Families in Calcutta (*Sankhyā* 6(3) 1943).
15. ——— Multi-Stage Sampling (*Ind. Sc. Congress* 1944).
16. ——— Report on the Regional Survey of Borer Pests of Sugarcane. Parts 1-9 (Submitted to Imperial Council of Agricultural Research).
17. ——— Final Report on the Sample Census of the Area under Jute and Aus Paddy in Bengal 1943. (Submitted to the Government of Bengal).
18. ——— Preliminary Report on the Sample Census of the Area under Aman Paddy in Bengal, 1943. (Submitted to the Government of Bengal).
19. MAHALANOBIS, P. C. AND GHOSH, BIRENDRANATH. Statistical analysis of data relating to incidence of pests and diseases on different varieties of Sugarcane (*Indian Statistical Conference*, 1943).
20. MATHEW, N. T. Lines on the Human Palm. (*Sankhyā*, 6(3) 1943).
21. NAIR, K. R. Certain Inequality Relationships among the Combinatorial Parameters of Incomplete Block Designs (*Sankhyā* 6(3) 1943).
22. ——— A Note on the problem of K-Samples (*Current Science* 12 1943).
23. ——— The Recovery of Inter-block Information in Incomplete Block Designs (*Sankhyā* 6(4) 1944).
24. NAIR, K. R. AND BANERJEE, K. S. A note on the fitting of straight lines when both Variables are subject to error. (*Sankhyā* 6(3) 1943).
25. NANDI, H. K. Note on the Enumeration of Non-isomorphic Solutions of Balanced Incomplete Block Designs (*Ind. Sc. Congress*, 1944).
26. RAO, C. R. Certain experimental arrangements in quasi-Latin Squares (*Current Science* 12(12) 1943).
27. ——— Generalized Variance of Populations (*Ind. Sc. Congress* 1944).
28. ROY, S. N. Multivariate analysis of variance when the number of populations is less than or equal to the number of characters. (*Ind. Sc. Congress* 1944).
29. ROY, S. N. AND BOSE, PURNENDU. Poincaré's theorem and its analogue deduced from Tukey's theorem (*Ind. Sc. Congress* 1944).
30. SEN GUPTA, J. M. A note on adjustments for first and second moments in a grouped frequency distribution split up into sub-sections (*Sankhyā* 6(4) 1944).

APPENDIX 2. OFFICERS ON DEPUTATION FOR TRAINING AND SCIENTIFIC CONSULTATION : 1943-44

1. S. M. BANERJEE, Ph. D. (*Lecturer in Botany, Calcutta University*) February, 1943.
2. S. P. BOSE, B.Sc. (Wales). (*Institute of Rural Reconstruction, Sri Lanka, Birbham*) April, 1943.
3. MD. ABDUS RAHMAN, M.Sc. (*River Research Institute, Bengal*) May, 1943; Feb. and March, 1944.
4. I. B. CHATTERJEE, M.Sc. (Ag.), L. Ag. (*Physiological Chemist, Government of Bengal, Dacca*) May, 1943.
5. P. R. RAY, M.Sc. (*Statistician, Department of Agriculture, Bengal*) May, 1943 and March 1944.
6. K. P. PILLAI, M.Sc. (*Physiological Assistant, Ravenshaw College, Cuttack*) June 1943; Jan. Feb., March 1944.
7. A. K. CHAKRAVARTY, M.Sc. (*Rice Research Officer, Bankura*) June 1943.
8. S. HEDAYATULLAH, Ph.D. (Cantab) (*Economic Botanist, Department of Agriculture, Bengal*) June 1943.
9. P. B. BHATTACHARJEE, M.Sc. (*St. Stephen's College, Delhi*) 21 June to 10 July 1943.
10. J. B. MAYHEW, Dip. Hort. (London, Wye) (*Horticulturist, OutRan*) 2 July to 2 October, 1943.
11. SUBRATA SEN, M.Sc. (*Department of Agriculture, Bengal*) 14 July to 4 August and 1 to 8 October 1943.
12. S. C. CHAKRAVARTY (*Rice Research Officer, Chinsura*) 24 July 1943 and 18 August 1943 and 14 February 1944.
13. P. G. CROWDERY, M.B., D.P.H., (Supdt. of Vital Statistics, Public Health Dept. Bengal) July 1943.
14. J. R. PAL, B.A. (*Assistant Rice Research Officer, Bankura*) 29 July to 6 August 1943 and 11 September to 18 September 1943 and 18 March 1944.
15. M. C. CHAKRAVARTY, M.Sc. (*Lecturer in Statistics, Dacca University*) 28 September to 27 October 1943.
16. SUBBOKASH SEN, M.Sc. (*Imperial Veterinary Research Institute, Mukteswar, U. P.*) October, 1943.
17. BALAKRISHNA NAYAK, M.Sc. (*Assistant Marketing Officer, Government of India*) Dooanar 1943.
18. M. C. TEWARI (*Imperial Veterinary Research Institute, Mukteswar, U. P.*) 12 October, 1943 to 12 February, 1944.
19. SATTARATA SEN, B.Sc. (Edin.) (*Statistician, Indian Tea Market Expansion Board*) February, and April 1944.
20. N. C. SEN GUPTA, D.Sc. (*Burma Oil Company (India) Ltd.*) Working from March, 1944

APPENDIX 3. STUDENTS IN THE TRAINING SECTION AND TECHNICAL APPRENTICES : 1943-44

1. MISS ANITA CROUDERY, M.A. (Dacca) April 1943—June 1943.
2. MD. FASHIDDIN, M.A. (Aligarh) July 1943—(Still working).
3. S. JAMUNDAJ POTT, M.A. (Benares) July 1943—January, 1944. (*Institute staff*)
4. T. V. RENGARAJAN, B.A. (Madras) July, 1943—August 1943.
5. K. VENKATA KRISHNAN, B.A. (Hona.) (Madras) August 1943—November 1943.
6. SALE KUMAR RAY CROWDERY, M.A. (Calcutta) September 1943—October 1943.
7. SURESH KUMAR BANERJEE, M.A. (Calcutta) February 1943—January, 1944.
8. B. HANURAYAN. M.Sc. (Calcutta) March 1943—October 1943.
9. N. R. RAMANUBRAMANIAN, B.Sc. (Madras) March 1943—December 1943.
10. V. RAMAANDRA RAO, M.A. (Andhra) March 1943—January 1944.
11. MANDIRIA NATH GHOSH, M.A. (Calcutta) April 1943—November 1943.
12. NIRMAL KUMAR CHAKRAVARTY, M.A. (Calcutta) September 1943—
13. HANDEKAR NANDY, M.Sc. (Calcutta) September 1943—
14. K. C. CHETAN, M.A., M.Sc. (Madras) September 1943—
15. R. P. BHARADVAJ, M.Sc. (Allahabad), M.Sc. (Calcutta) November 1943—
16. C. BHADRANESHA RAO, M.A. (Andhra), M. A. (Calcutta) November 1943—
17. RAM KRISHNA MOOKERJEE, M.Sc. (Calcutta) January, 1944—
18. OMERI BANERJEE CHATTERJEE, M.A. (Calcutta) February, 1944—
19. AMIT KUMAR GAYEN, M.A. (Calcutta) February, 1944.—
20. MOUNT MOHON MUKHERJEE, M.A. (Calcutta) February, 1943—

INDIAN STATISTICAL INSTITUTE
PROCEEDINGS OF THE COUNCIL OF THE INDIAN STATISTICAL
INSTITUTE DATED 29th APRIL, 1944.

A meeting of the Council of the Indian Statistical Institute was held at 3 P. M. on Saturday the 29th April 1944 in the Statistical Laboratory, Presidency College, Calcutta.

The Hon. Secretary stated that a telephone message was received from the house of Mr. N. R. Sarker, President, stating that Mr. Sarker had become suddenly indisposed and regretted his inability to attend the meeting.

Present : Mr. B. B. Deb Gupta was voted to the Chair (in the absence of the President). Prof. K. B. Madhava, Mrs. Chameli Bose, Messrs. Raj Chandra Bose, Samarandranath Roy, Prof. Khagendra Nath Chakravarti, Dr. Hariish Chandra Sinha, Prof. S. N. Bose, Prof. P. C. Mahalanobis (Hon. Secretary) and Mr. Haricharan Ghosh.

1. Proceedings of the meeting of the Council dated 30th September, 1943; 4th January, 9th February, and the 21st February 1944 were read and confirmed.

2. Election of Members : The following gentlemen were elected ordinary members of the Indian Statistical Institute for the year 1944-45.

Mr. Sydney John William Wells, "Nev-Del", 29, Kensington Street, Haberfield, N. S. W., Australia ; Mr. Debidas Mukherjee, Calcutta ; Kumar Bimal Chandra Sinha, Calcutta ; Krishnadas Man Singh Lalia, Digboi, Assam.

3. Bengal Crop Survey Scheme 1944-45 : Considered item No. I(iii) of the Finance Committee dated 27th April 1944. It was reported that the scheme for a sample survey of crops in Bengal covering both the summer-monsoon and the winter seasons in 1944-45 at an estimated cost of Rs. 4,30,000/- (inclusive of dearness allowance at 1943 rates which however would be modified in case any changes were made in the scale) had been approved by the Government of Bengal. The Hon. Secretary mentioned that the Government of Bengal had agreed in No. 2071 D.C.S. dated Calcutta the 17th March 1944 to place the part-time services of Mr. N. C. Chakravarti, B.C.S., at the disposal of the Institute as part-time Superintendent of Statistical Surveys especially for the Field Branch and had permitted him to receive a fee of Rs. 100/- per month out of Institute funds. The Hon. Secretary also stated that certain changes in the number and pay of the field staff had been considered necessary by the Superintendent of Statistical Surveys and certain modifications were proposed to be made within the limits of the grant.

Resolved that the Hon. Secretary be requested to place the revised budget before the Finance Committee in due course, but in the meantime be authorized to make all necessary arrangements for the Bengal Crop Survey Scheme.

4. Bihar Crop Survey Scheme : Considered item No. I(ii) of the Finance Committee dated 27th April 1944. In continuation of earlier reports the Hon. Secretary stated that the preparatory work for the Bihar Crop Survey was completed early in February. He sent 72 of the Bengal field staff on loan to Bihar and 108 men were recruited locally by the Government of Bihar. The field survey started on the 12th February 1944, and was closed on the 13th April. The Hon. Secretary went to Patna on the 22nd March, and had a long interview with H. E. Mr. Mudie, Governor of Bihar, on the 24th and other officials. He then went to inspect the field work on the 21th and 23th at Bikramganj in Shahabad district where conferences with statistical and field workers were arranged. The exploratory survey was carried out with such great success that in consultation with Wai Bahadur S. P. Sinha, Superintendent of Statistical Surveys, it was decided to organize a full scale provincial survey in the next monsoon thus stepping up the original programme by 18 months. A debit scheme at an estimated cost of six lakhs of rupees (including Rs. 2,48,000 for statistical work to be given as a block grant to the Institute) had been submitted to the Government of Bihar. An application for acquisition of land in Orissa had been submitted and was

INDIAN STATISTICAL INSTITUTE

last necessary action was being taken on it by Government. Because of the stopping up of the building more workers would have to be accommodated at Giridih; pending acquisition of land it is necessary to put up additional rooms in houses owned by the Institute.

Resolved that the recommendation of the Finance Committee be accepted and the Hon. Secretary be authorized to take all necessary action in the Bihar Work Survey Scheme and that the proposal to increase accommodation in rented buildings on the lines suggested by the Hon. Secretary be approved in principle and he be requested to submit a detailed scheme to the Finance Committee before actual construction work is started.

5. *Journal Committee* : Resolved that the Journal Committee be reconstituted as follows for one year with powers to co-opt :—

Prof. S. N. Bose, Prof. K. B. Madhava, Dr. H. Sinha, The Hon'ble Mr. Justice T. J. Y. S. Forburgh, Dr. P. V. Sukhatme, Mr. R. C. Bose (Secretary) and Prof. P. C. Mahalanobis (Editor).

6. *Finance Committee* : Resolved that the Finance Committee be reconstituted as follows for one year with powers to co-opt :—

The President, Treasurer, & Secretary, Prof. K. B. Madhava and Prof. K. N. Chakravarti (Joint Secretaries), Prof. H. C. Ghosh, Mr. B. B. Das Gupta, Mr. N. C. Chakravarti, Mr. Baidyendranath Ray, Mr. Sambudranath Roy. (Three to form quorum).

7. *Increase in Membership fee and Subscriptions for Sankhya* : Considered the question of increasing the subscription for Sankhya and the subscription of members (who are supplied Sankhya free) on account of the abnormal rise in the price of paper, stationery and printing.

Resolved that an increase in the subscription for Sankhya from Rs. 20/- to Rs. 30/- per volume of 4 parts and Rs. 8/- per single part be approved, and also resolved that the Council recommend to the General Meeting of the Institute that the subscription for members be increased from Rs. 15/- to Rs. 20/- per year and the life-membership fee from Rs. 150/- to Rs. 250/-.

8. *Provident Fund* : Considered item No. 71(3) of the Finance Committee dated 27th April 1944. Considered the changes in the Provident Fund Rules and other recommendations made by Prof. K. B. Madhava which had been approved generally by the Finance Committee.

Resolved that the following changes in the Rules of the Provident Fund be approved and be submitted to the General Meeting of the Council for confirmation. Also resolved that the Finance Committee be requested to make necessary arrangements for the maintenance of the ledger and supervise the general working of the Provident Fund.

CHANGES IN THE RULES OF THE PROVIDENT FUND

Rule No.	As now Existing	Proposed Modification	Brief statement of reason for change.
7(ii)	"Before the 10th day of every month"	"At the end of Financial year"	To avoid unnecessary adjustment on account of members who withdraw in the course of the year, and also to render the work more practical.
8	"on the same or next working day"	"From time to time"	It is not practicable to do so now required in the Rules and is not in practice being done.
9(i)	"Board of Trustees"	"Council of the Institute"	Associations such as Calcutta University Provident Fund, Indian Association for the Cultivation of Science, Asiatic Society of Bengal, retain the final authority and vesting of property in their respective Councils of Management and not in Trustees. There are in those bodies no Trustees.
	"All decisions of the Board of Trustees"	"their decisions"	
(ii)	"Trustees at their discretion"	"Council of the Institute at their discretion on the advice of the Trustees"	

PROCEEDINGS OF THE COUNCIL

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| 10. | At the beginning of the Rule | Add the words "with the approval of the Council of the Institute." | |
| 11. | At the end of the Rule | Add the words "which shall be effective after the approval of the Council of the Institute is given" before | |
| 12. | At the end of the first sentence | Add the sentence "Any surplus remaining in the Provident Fund of the Employer's contributions (credited to the Fund shall vest in the Fund, and the Council of the Institute shall from time to time determine and dispose of such surplus" | This was an omission in the existing Rules. |
| 14(f) | Under item Period of service: (1), (2) & (3) | Substitute the word "Three years or less. . . . Nil" and renumber (4) to (8) as (2) to (6), | The change will not affect present members. It will only affect future entrants and the modification is intended to induce them to serve sufficiently long. |

9. *Population Data Committee* : Considered item No.1(v) of the Finance Committee dated 27th April 1944. At the request of the Government of India the Hon. Secretary had gone to Delhi at the end of March for a joint discussion with Mr. S. H. Chakravarti, Joint Secretary, Department of Education, Health and Lands, Lt. Col. E. Cottler, I.M.S. (Public Health Commissioner), and Mr. M. W. M. Yastta, I.C.S. who had acted as Census Commissioner in 1941. As a result of this discussion the Government of India, was to appoint a Population Data Committee with a view to examine and advise Government on data relating to the growth of population in India. The Hon. Secretary had suggested that the statistical work in the present connexion be done in the Institute for which a suitable block grant would be sanctioned by the Government of India, and had also made certain suggestions about associating Prof. Madhava with the work.

Resolved that the recommendation of the Finance Committee be accepted and the action taken by the Hon. Secretary in regard to the Population Data Committee be approved, and he be authorized to make all necessary arrangements in this connexion in anticipation of sanction by the Council.

10. *Superintending Statistician* : Considered item No.1(v) of the Finance Committee dated 27th April 1944.

Resolved that the proposal of the Hon. Secretary be approved and that the senior workers in charge of Giridih, Calcutta and Baranagore Branches of the Laboratory be called Superintending Statisticians, and that Rs. 300/- per month be sanctioned for special allowance of these posts.

11. *Bursars* : Considered item No.1(vi) of the Finance Committee dated 27th April 1944. For more than two years Prof. Hariharan Oboah had ungrudgingly undertaken the heavy and onerous task of scrutinizing and passing all bills for payment. The volume of work was however increasing appreciably and the Hon. Secretary suggested that arrangements should be made to have the work done by one or two part-time Bursars for which a part-time allowance might be sanctioned.

Resolved that the recommendation of the Finance Committee be accepted and Rs. 500/- per month be sanctioned for payment of part-time allowance for the scrutiny and payment of bills.

The Council places on record its deep appreciation of the services rendered by Prof. Hariharan Oboah for more than two years in scrutinizing and passing all bills in a purely honorary capacity.

Resolved that Prof. Hariharan Oboah and Prof. Khagendranath Chakravarti be requested to act as Bursars of the Institute for 1944-46 and they be offered a part-time honorarium of Rs. 100/- per month for this work and the Secretary be requested to take necessary action in this matter.

12. *Visiting Professors* : Considered item No.1(vii) of the Finance Committee dated 27th April, 1944. Prof. R. A. Fisher had been invited to come to India as Visiting Professor in 1937-38 and Prof. H. Hottel in 1939-40, but the programme was kept in abeyance under war conditions. As a result of informal discussions with Prof. A. V. Hill, F.R.S., Secretary of the Royal Society, London, and Government of India officials the Hon. Secretary thought that it would be desirable to revive the practice.

Resolved that the proposal be approved and Hon. Secretary be authorized to take necessary action.

INDIAN STATISTICAL INSTITUTE

13. On the recommendation of the Finance Committee dated 27th April 1944 resolved that a ~~write-contract~~ with the Imperial Bank of India, Calcutta, be opened with securities such as Defence Loans or the purpose of taking overdraft from the current account 'B' of the Indian Statistical Institute with them to the extent of Rs. 25,000; (Rupees twenty-five thousand only). The Security Account will also be operated by the Hon. Secretary, Prof. P. C. Mahalanobis. He shall have also the power to withdraw, transfer or negotiate such securities as are being deposited in the above mentioned account from time to time.

14. *Rules for the Acceptance of Block Grants* : Considered item No. 2(viii) of the Finance Committee dated the 27th April 1944.

Resolved that the attached rule for the acceptance of block grants to the Institute be approved and be brought into immediate effect and that all authorities proposing to make project grant for the year 1944-46 be informed accordingly.

RULES FOR ACCEPTANCE OF BLOCK GRANTS

(1) Block Grants for projects or specific enquiries would be accepted by the Indian Statistical Institute on the clear understanding that the actual work would be done on a unitary basis by the staff of the Institute.

(2) The accounts of the Institute would be audited by a firm of Chartered Accountants and a statement of accounts certified by the auditors and endorsed by the Hon. Secretary would be submitted to such authority making a block grant and should be acceptable as fulfilling the conditions of the grant in regard to accounts.

(3) Separate accounts and vouchers would be maintained for exclusive charges relating to particular projects as far as practicable but all charges for which such exclusive accounts and vouchers cannot be kept will be allocated to different heads by appropriate authorities of the Institute in consultation with the auditors of the Institute and the decision of the Council of the Indian Statistical Institute in this regard shall be final.

(4) Since all projects and specific enquiries are undertaken as an integral part of the work of the Institute all stock purchased such as maps, stationery, furniture etc. would remain the general stock of the Institute and charges on this account would be allocated to different projects or grants as provided in rule(3).

(5) Travelling expenses and other incidental charges would be supported by exclusive vouchers wherever practicable but where journeys are undertaken for the benefit of more than one project suitable allocation of the charge would be made by the appropriate Institute authorities at their discretion.

(6) As the work of the Institute is carried out on a unitary basis all employees are engaged as Institute staff without specific allocation to particular projects; and as the staff have to be maintained and have granted leave after the conclusion of particular projects on which they might be working from time to time a consolidated charge of 10 per cent of the amounts paid out as salaries to staff be deducted on account of leave and provident fund contribution and credited to the Reserve Funds of the Institute.

(7) In undertaking any project work certain services and facilities in the way of furniture, machines library and stocks have to be placed at the disposal of each project work as necessary, but detailed allocation of expenditure for such overhead items being not possible a calculated sum to cover depreciation and use of machinery, use of library, furniture and value of stock used should be recovered from the grants by recovering pro rata according to the amounts of the block grants.

(8) A budget estimate prepared on the above basis shall be furnished to the authority proposing to make any project grant at the time of acceptance of the work but the Finance Committee and the Council of the Institute shall have full power to make necessary reappropriations within the total grant. As the Institute is not a profit-making association the balance, if any, of any particular grant shall be returned after the accounts of the same are finally adjusted and passed by the Council of the Institute.

(9) In view of the fact that Prof. P. C. Mahalanobis, Secretary of the Institute, has expressed a desire of leaving after projects work in a purely honorary capacity for the present, certain authorities making project grants such as the Government of Bengal and the Government of Bihar have from time to time sanctioned contributions to the Institute in lieu of the services of Prof. Mahalanobis. The Council of the

PROCEEDINGS OF THE COUNCIL

Institute have decided that all such contributions would be credited to a fund to be called the "Director's Contribution Fund" which would for the present be kept invested in Government securities. This fund would be utilised in consultation with Prof. P. C. Mahalanobis for such purposes as the Council may think proper.

16. *Director's Contribution Fund* : Considered item No.VII(i) of the Finance Committee dated 27th April 1944. In accordance with resolution No.3(c) of the Council dated 21st February 1943 considered the following statement relating to the donations from Prof and Mrs. P. C. Mahalanobis and contributions received in cash from different authorities in lieu of the services rendered by Prof. P. C. Mahalanobis in connexion with different projects.

	Donations in cash		In lieu of Prof. Mahalanobis's honorary services	
	Rs.	A. P.	Rs.	A. P.
				Total
1932-33	189	0 0		189 0 0
1933-34	800	0 0		800 0 0
1934-35	600	0 0		600 0 0
1936-37	2,482	11 9		2,482 11 9
1938-40			2,000	0 0
1940-41			1,200	0 0
1942-43	727	5 0	11,000	0 0
1943-44			20,186	11 0
Total	5,599	0 9	34,386	11 0
				39,985 11 9

Resolved that the above statements be published as an appendix to the accounts. On the recommendation of the Finance Committee also resolved that (a) the whole of the above amount be invested in Government securities for the present; (b) a separate account to be called the "Director's Contribution Fund" be maintained for the above fund; and (c) in accordance with the resolution of the Council dated 21st February 1944 expenditure out of this fund be incurred in consultation with Prof. P. C. Mahalanobis.

16. *Capital Fund* : Considered item No.VII(2) of the Finance Committee dated 27th April 1944.

Resolved that the recommendation of the Finance Committee be accepted and (a) receipts of account of donations, membership fee, leave and provident fund contributions and sundry receipts of the nature of capital grants (other than additions to the Director's contribution Fund) be treated as a capital fund; (b) a separate account be maintained for the same in such form as may be considered suitable by the Auditors of the Institute; and (c) that advances made to the General Fund of the Institute out of the above receipts be restored at the earliest opportunity and the total amount be invested in Government securities as early as possible.

17. *Budget Estimate for 1944-45* : Considered the draft budget estimate for the year 1944-45 as prepared by the Finance Committee.

Resolved that the attached budget estimate for the year 1944-45 as modified by discussions in the Council be passed.

18. The Hon. Secretary placed before the meeting the draft Annual Report.

Resolved that the draft Annual Report be forwarded to the Annual General Meeting.

19. The Hon. Secretary placed before the Council the Audited Accounts for 1943-44 which had been considered by the Finance Committee on the 27th April 1944 and also statements relating to project and other funds.

Resolved that the Audited Accounts and statements relating to funds be forwarded to the Annual General Meeting.

20. *Institute Examinations* # (i) To suit the convenience of the candidates and the Board of Examiners, resolved that the Institute Examinations be postponed till July 1944 and the Hon. Secretary be authorised to fix the dates.

INDIAN STATISTICAL INSTITUTE

(1) Considered a letter dated 1st March 1944 from Mr. P. Satagopan, Labour Department, Simla, suggesting that since there is a Branch of the Institute at Delhi arrangements be made for holding Institute Examinations in Statistics at Delhi.

Resolved that the proposal to hold Institute examinations in Delhi and certain centres be approved in principle provided necessary facilities are available and that the Hon. Secretary be authorized to make such arrangements in this matter as may be found possible.

21. *Indian Science Congress Association* : Read a letter dated 17th March 1944 from the General Secretary, Indian Science Congress Association requesting that delegates be appointed to represent the Institute at the next session of the Indian Science Congress to be held at Nagpur in January 1945.

Resolved that the Hon. Secretary be requested to select the delegates in consultation with the Presidents at the proper time.

22. *Contribution* : The Hon. Secretary placed before the meeting G.O. No.1820R dated 16th April 1944 from the Government of Bihar sanctioning a contribution of Rs. 15,000 - annually to the Indian Statistical Institute with effect from 15th November 1943 until further orders in lieu of the services of Prof. P. C. Mahalanobis in connexion with the Bihar Crop Survey.

Recorded

23. *Resignation of Asst. Secretary* : Resolved that the resignation of Dr. Atindranath Bose from the post of Assistant Secretary be accepted with effect from the date of expiry of his leave.

24. *Appointment of Asst. Secretary* : On the recommendation of the Finance Committee resolved that the appointment of Mr. M. K. Dutta (a Burma Government servant on surplus leave on half pay) as Assistant Secretary be extended for a further period of one year on the present terms with effect from 1st April 1944.

25. *Leave* : Considered the application dated 25th March 1944 from Mr. K. Raghavan Nair for extension of leave till 30th June 1944.

Resolved in modification of Council Resolution No. 7 dated 9th February 1944 that Mr. K. Raghavan Nair be granted leave without pay till 30th June 1944.

Indian Statistical Institute : Budget Estimate for the 1944-45

RECEIPTS			EXPENDITURE	
Opening Balance	49,036	13 10	Salary of Statistical & Research Staff	2,83,000 0 0
Grant from the Government of India	51,000	0 0	Director's Contributions Fund (as per contract)	30,000 0 0
Grant from the Government of India for Sankhya	2,000	0 0	Establishment & Travelling	30,000 0 0
Membership Subser pions	1,000	0 0	Books & Journals	12,000 0 0
Miscellaneous Receipts	1,253	2 2	Laboratory Equipments	7,500 0 0
Government of Bengal :				
Bengal Crop Survey	4,07,500	0 0	Bengal Crop Survey (Field Branch)	2,58,000 0 0
B. H. H. Fishing Schemes	10,000	0 0	Stationery & Stores	23,000 0 0
			Postage, Printing & Contingen.	15,000 0 0
Government of Bihar :				
Bihar Crop Survey	2,48,200	0 0	Other Expenses	30,000 0 0
Contributions in lieu of Prof. P. C. Mahalanobis' Service			Indian Statistical Conference	1,000 0 0
Bengal Crop Survey	18,500		Evacuation & Emergency Arrangements	4000 0 0
			Grants for special activities at Guridib Office	5,000 0 0
B.H.H. Crop Cutting	2,600		Supernumerary Post etc.	3,000 0 0
Bihar Crop Survey	16,000	30,000 0 0	Grant for Sankhya	2,000 0 0
			Contributions to Sankhya	1,500 0 0
			Guridib Housing Scheme	30,000 0 0
			Closing Balance in Bank and Cash	45,000 0 0
			Closing Balance in Government Securities	30,000 0 0
			8,00,000	0 0

B. DAS GUPTA
Chairman.

P. C. MAHALANOBIS
Exec. Secretary.

INDIAN STATISTICAL INSTITUTE
PROCEEDINGS OF THE ANNUAL GENERAL MEETING
DATED 29th APRIL, 1944.

The Annual General Meeting of the Indian Statistical Institute was held at 4 p.m. on Saturday, the 19th April, 1944 in the Statistical Laboratory, Presidency College, Calcutta.

The Hon. Secretary reported that a message had been received from the house of Mr. H. R. Barker, President, stating that Mr. Barker had become suddenly indisposed and regretted his inability to attend the Meeting.

In the absence of the President, Prof. S. N. Bose, (Dacca University), was voted to the chair.

The following members were present :—

Mr. K. Bhattacharji	Statistical section, D.O.M.F.'s office, Dept. of Supply, Calcutta.
Mrs. G. Bose, B.Sc.	Statistical Laboratory, Calcutta.
Mr. R. C. Bose, M.A.	Lecturer, Calcutta University
Prof. K. N. Chakravarti, M.Sc.	Presidency College, Calcutta.
Mr. N. C. Chakravarti, M.A., B.C.S.	Special Officer, Revenue Department, Bengal.
Mr. B. D. Das Gupta, M.A., B.C.S.	Special Officer, Finance Department, Bengal
Prof. H. C. Ghosh, M.A., P.R.S.	Calcutta University.
Prof. K. B. Madhava, M.A., A.I.A.	Mysore University.
Mr. S. N. Ray, I.C.S.	Financial Adviser, Department of Civil Supplies, Bengal.
Mr. S. N. Roy, M.Sc.	Lecturer, Calcutta University.
Mr. Sadasiv Sen Gupta, M.Sc., B.Sc. (Lond.)	Statistical Officer, E. I. Ry.
Dr. H. C. Sinha, M.Sc., Ph.D.	Calcutta University.
Prof. P. C. Mahalanobis	Honorary Secretary.

1. *Annual Report and Audited Accounts* : The Honorary Secretary placed before the meeting the Annual Report and Audited Accounts for 1943-44 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 1943-44 be adopted.

Proposed by Mr. B. B. Das Gupta

Seconded by Mr. Haricharan Ghosh

(Carried unanimously).

2. *Election of Office-bearers and Members of the Council* : The Honorary Secretary reported the in accordance with Bye-law 3 for election of office-bearers and members of the Council, nominations for 1944-45 approved by the Council of the Institute had been circulated together with the notice of the Annual General Meeting on the 6th April, 1944. As the number of nominations was in no case in excess of the number of vacancies, 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 thus announced from the chair.

	President
Mr. H. R. Barker,	Calcutta.
	Vice-Presidents
Dr. P. N. Banerjee, M.A., D.Sc., M.L.A. (Central),	Calcutta
Mr. E. T. Corwell,	Messrs. Bird & Co., Calcutta.
Sir C. D. Dashmukh, C.I.E.,	Governor, Reserve Bank of India.
Sir A. H. Ghannawi, Kt., M.L.A. (Central),	Messrs. A. H. Ghannawi & Co., Calcutta.
Dr. J. B. Grant, M.D., Dr. P. H.,	Director, All-India Institute of Hygiene and Public Health, Calcutta.
Dr. S. P. Mookerjee, M.A., B.L., M.L.A., D.Litt.,	Calcutta.
Bar-at-law,	
Mr. Chand Mulli Rajgharia	Mico Merchants, Orisich.
Sir Shri Ram, Kt.,	Dalhi Cloth and General Mills, Delhi.
Sir C. V. Raman, D.Sc., F.R.S., I.C.S.,	Indian Institute of Science, Bangalore.
The Hon'ble Mr. Justice T. T. Hazarbar B.A.,	
Bar-at-law, C.I.R., I.C.S.,	Judge, Calcutta High Court.
The Hon'ble Mr. H. S. Suhre warty,	Minister in charge of Civil Supplies, Government of Bengal.

INDIAN STATISTICAL INSTITUTE

<i>Trustees</i>	
Dr. Satya Churn Law, M.A., B.L., Ph.D., F.R.S., M.B.O.U.,	Calcutta.
<i>Secretary</i>	
Prof. P. C. Mahalanobis,	Statistical Laboratory Calcutta.
<i>Joint Secretaries</i>	
Mr. Raj Chandra Bose, M.A.,	Lecturer, Calcutta University.
Prof. K. N. Chakravarti, M.Sc.,	Presidency College, Calcutta.
<i>Members of the Council for 1944-45</i>	
Mr. B. P. Adarkar, M.A.,	University of Allahabad.
Mrs. C. Bose, B.Sc. (London),	Statistical Laboratory, Calcutta.
Dr. G. S. Bose, M.D., D.Sc.,	Head of Department of Psychology, Calcutta University.
Prof. S. N. Bose, M.Sc.,	University of Dacca.
Mr. F. H. Carpenter, O.B.E., F.I.C., F.C.S.,	Director, Indian Tax Association, Tocklai, Assam.
Mr. Nihar Chandra Chakravarti, M.A.,	Special Officer, Revenue Department, Bengal.
Mr. B. B. Das Gupta, M.A.,	Special Officer, Finance Department, Bengal.
Prof. H. C. Ghosh, M.A., P.R.S.,	University of Calcutta.
Mr. J. V. Joshi, M.A., O.B.E.,	Senior Economist, Reserve Bank of India, Bombay.
Prof. F. W. Lavi, Dr. Phil. Nat.,	University of Calcutta.
Prof. John Macdonald,	Wilson College, Bombay.
Mr. A. C. Mukharji, M.A., Dip. de Statistician, F.R.S.	Director of Statistics, Baroda State, Baroda.
Mr. K. R. Nay, M.A., M.Sc.,	Food Department, Government of India.
Dr. K. C. K. E. Raja, L.R.C.P. & S, D.P.R.,	Deputy Public Health Commissioner with the D.T.M. & H.
Dr. V. K. R. V. Rao, M.A., Ph.D.,	University of Delhi.
Mr. S. N. Ray, B.A. (Caste), L.C.S.,	Financial Adviser, Department of Civil Supplies, Bengal.
Mr. B. Ranga Reddy,	Secunderabad.
Mr. Samarendra Nath Roy, M.Sc.,	Lecturer, Calcutta University.
Dr. H. C. Sinha, M.Sc., Ph.D.,	Lecturer, Calcutta University.
Mr. P. V. Sukhatme, Ph.D., D.Sc.,	Statistician, Imperial Council of Agricultural Research, Delhi.

3. *Recommendations from the Council* : Considered the recommendation of the Council that "in view of the abnormal rise in the price of paper and stationery and printing, the membership fee be raised to Rs. 20 per annum for ordinary members, Rs. 250 for life members, and the subscription for *Sankhya* to Rs. 30 per volume of four parts and Rs. 9 for each part with effect from April, 1944".

Resolved that the proposal be approved.

Proposed by Dr. Hari Chandra Sinha
Seconded by Mr. Samarendra Nath Roy (Carried unanimously).

4. *Provident Fund Rules* as recommended by the Council (printed on pp.17-18) be confirmed.

Proposed by : Prof. K. B. Madhava
Seconded by : Mr. B. B. Das Gupta (Carried unanimously).

5. *Appointment of Auditors* : Resolved that Messrs P. C. Nandi & Co., Chartered Accountants be appointed auditors for the year 1944-45 on an honorarium of Rs. 600. (3 to 4 quorum)

Proposed by Mr. N. C. Chakravarti
Seconded by Mr. S. Sen Gupta (Carried unanimously).

6. *Appointment of Committees* : Resolved that as recommended by the Council the following Committees be reconstituted as follows :

(i) *Journal Committee* (1 year): Prof. S. N. Bose, Prof. K. B. Madhava, Dr. H. Sinha, The Hon'ble Mr. Justice T. J. Y. Roxburgh, Dr. P. V. Sukhatme, Mr. R. C. Bose, (Secretary), and Prof. P. C. Mahalanobis, (Editor).

(ii) *Finance Committee* (1 year) : The President, Treasurer and Secretary, Prof. K. B. Madhava and Prof. K. N. Chakravarti (Joint Secretaries) Mr. B. B. Das Gupta, Mr. N. C. Chakravarti, Prof. H. C. Ghose, Mr. Satyendra Nath Ray and Mr. Samarendra Nath Roy.

Proposed by Mrs. Charnal Bose
Seconded by Mr. H. G. Bhattacharj (Carried unanimously).

S. N. BOSE
Chairman

P. C. MAHALANOBIS
Honorary Secretary.