

INDIAN STATISTICAL INSTITUTE

FORTYFIRST ANNUAL REPORT

April 1972—March 1973



203 BARRACKPORE TRUNK ROAD
CALCUTTA-35

INDIAN STATISTICAL INSTITUTE

FORTYFIRST ANNUAL REPORT

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INTRODUCTION

Genesis : Work on mathematical statistics started in the early twenties in the room of Professor P. C. Mahalanobis in the Presidency College, Calcutta, where Mahalanobis was professor of physics at the time. In the course of the next ten years, a small group of young men gathered round him in what came to be known as the Calcutta Statistical Laboratory. A public meeting, called over the signatures of Pramatha Nath Banerjee (Minto Professor of Economics), Nikhil Ranjan Sen (Khaira Professor of Applied Mathematics) and P. C. Mahalanobis, was held on 17 December 1931, with the late Sir R. N. Mookorjee in the chair. This meeting adopted a resolution which led to the establishment of the Indian Statistical Institute which was registered on 28 April 1932 as a non-profit distributing learned society under the Societies Registration Act XXI of 1860. A part-time computing clerk was the only worker the Institute had in the first year of its existence, the total expenditure being below Rs. 250.

The Indian Statistical Institute Act of 1959 recognised the Institute as an institution of national importance and empowered it to confer degrees in Statistics, thus giving the Institute the status of a university. From 1 July 1960 the Institute, through its Research and Training School, has been conducting courses leading to the degrees of Bachelor of Statistics (B.Stat.), and Master of Statistics (M.Stat.), and a doctorate degree (Ph.D.) is also being awarded with provision for a higher doctorate (D.Sc.) degree. In 1961, the idea of the Institute having "Unity in Diversity" as its motto and the banyan tree as its crest, emerged as a result of discussions between the late Sir Ronald A. Fisher, and Professor P. C. Mahalanobis and was immediately supported by Shri C. D. Deshmukh, the President of the Institute from 1945 to 1964, who translated the English words into the Sanskrit version incorporated in the crest.

History of Activities : Since its inception, the Indian Statistical Institute has been trying to carry out an integrated programme of theoretical studies combined with practical applications of statistical methods through project work. Some of these projects raised theoretical problems whose solution led to original contributions to statistical theory. The Institute's work involved close collaboration with the Government, and it used to be done for a long time on business-like lines for both private enterprises and the Government, with contract grants for specified purposes. The Institute was built up in fact by the untiring efforts of Professor P. C. Mahalanobis and the sincere devotion of a handful of young trained scientific workers including H. C. Sinha, S. S. Bose, R. C. Bose, S. N. Roy and others. These young men helped to lay the foundation of the Institute. They worked for an ideal on a modest allowance which the Institute could pay from 'business earnings'. Individual training had started in 1932 under the inspiring guidance of the late S. S. Bose

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who joined the laboratory as senior assistant in 1931. Through him the Institute gained a wide circle of friends and sympathisers. The lack of trained statisticians and computers led to the establishment of training courses in 1930 and the award of certificates of competence from 1938. The Institute's educational activities expanded with passing time, and included cooperation with international agencies for training programmes in South East Asia. Dr. H. C. Sinha took a leading part in the foundation of the Indian Statistical Institute in 1931-32 and took up the work of the Institute with vigour as its Honorary Joint Secretary. He rendered invaluable services in making the work of the Institute known abroad. Sudhir Kumar Banerjee was associated with the Institute since its inception. He used to look after the business and financial management with ability until his death in 1952. The actual management of the Statistical Publishing Society was in his able hands.

Earlier publications by Professor P. C. Mahalanobis were on physical anthropology (1922) and two meteorological memoirs (1923) in which errors of observation were separated from physical deviation in correlational analysis. The work in meteorology led to large-scale project studies in the early days of the Statistical Laboratory which were mainly concerned with two problems. The first was the control of floods, in Bengal and Orissa, on which reports were submitted in 1927, 1931 and 1940. The results of this work were partly immediate, in the adoption of adequate measures for flood control in North Bengal and partly long-term, coming to fruition in such schemes as the Damodar Valley Corporation and the Hirakud Dam Project. In the second set of problems, Professor Mahalanobis published a paper on errors of agricultural field trials in 1925, which established contact with Ronald A. Fisher almost immediately and resulted in the introduction in India of the Fisherian "design of experiments," before these methods were adopted in any other country outside Britain. Professor P. C. Mahalanobis and the late S. S. Bose published a series of statistical notes for agricultural workers in the *Indian Journal of Agricultural Science* (1932-36). Theoretical work on the design of experiments was started in the nineteen thirties and received a great impetus with R. A. Fisher's first visit to the Institute in 1938 which led to the Institute workers making important contributions to this subject field; among them mention may be made of R. C. Bose now in the USA and Quazi Motahar Hosain (Pakistan). On the applied side, S. S. Bose helped in a significant way until his untimely death in 1938.

The earlier work on anthropometry had also provided the basis for contributions in multivariate analysis with the formulation of the D^2 Statistics ("Mahalanobis generalised distance") in the mid- and late nineteen twenties. R. C. Bose who joined the Institute in 1933 obtained the exact distribution of the generalised distance (D^2 Statistics) and developed the general problems on classification and discrimination with S. N. Roy who joined the staff in 1935. Important work in multivariate analysis was done by the late S. N. Roy in the Institute. Work on these problems still continue in the Institute, having been followed up by Professor P. C. Mahalanobis's formulation of Practical Graphical Analysis in 1958.

Another development is worth recording. On the basis of a note submitted by Professor P. C. Mahalanobis, the University of Calcutta with the active support of the late Dr. Syama Prasad Mookerjee, then President, Council of Post-Graduate Teaching in Arts and Science, decided to establish a post-graduate Department of Statistics, the first

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of its kind in India, from July 1941, with Professor P. C. Mahalanobis as Honorary Head of the Statistics Department. During this period, the University department was located in the Institute which provided some members of the teaching staff, accommodation and other facilities. It is of interest to mention that seven students including C. R. Rao and H. K. Nandi joined the course for the master degree in Statistics in July 1941. The whole of the Calcutta University Department of Statistics was evacuated with the Institute to Giridih in early 1942 during the second world war.

In 1936, theoretical and field studies were started, at the desire of the Government of India, to develop sample surveys for the improvement of estimates of production of agricultural crops. These studies led to continuing annual crop surveys in Bengal from 1941, and also to important theoretical developments in the design of sample surveys which secured for the Institute a leading position in the world in this subject.

During the second world war, the Institute became involved in the study of demographic problems. A detailed tabulation of the 1941 population census was abandoned by the Government owing to exigencies of war. Professor Mahalanobis, however, succeeded in persuading the Government to retain a small sample of the original census slips. On the basis of this sample, the Institute prepared the detailed tables of demographic statistics for the 1941 census. Since then, studies in demography have been continuing in the Institute.

Research on estimation and distribution theories continued during the war and gradually led to the Institute becoming an internationally-known centre for research in mathematical and theoretical statistics.

During the nineteen fifties, the Institute developed important types of project work. The National Sample Survey initiated by the Government of India in 1950, with the help of the Institute, is a continuing and the most comprehensive socio-economic survey in the world today. Statistical Quality Control was started in 1953 and gradually developed into a training and consultancy service to industry on an India-wide basis, and is fulfilling a basic need in promoting the industrial progress of the country. D. B. Lahiri has made important contributions to the design of sample surveys and J. M. Sengupta to experimental studies.

The most important development of the Institute's work during the nineteen fifties was its significant contribution to economic planning. The studies on planning were inaugurated at the Institute in Calcutta in November 1964 by the late Prime Minister Jawaharlal Nehru, and the Draft Plan Frame for the Second Five Year Plan was prepared on the basis of these studies, and submitted to the Prime Minister in March 1955. The Institute's Planning Unit has since then worked in close collaboration with the Perspective Planning Division of the Planning Commission, and the National Sample Survey data have been found to be of great help in this work.

Educational Programmes: All over the world, during the last thirty years or so, statistical methods are being increasingly used in new fields of work. This is clearly seen in the number of books which have been published during this period, surveying the applications of statistics in many separate individual fields of natural science, such as geology, which would once have been thought quite remote from the statistical field.

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The Institute was given powers to award degrees by an Act of Parliament, sponsored by the late Prime Minister Nehru, and passed in 1959. This, together with the recognition of statistics as a key technology, has resulted in a new approach to the teaching of statistics in the Institute, which is also expressed in its research programme.

In universities, it was for a long time the practice to provide courses at the post-graduate level in a single subject like mathematics, physics, biology, economics, etc. During the latter part of the nineteenth century, it became necessary to develop new educational programmes in two important fields, namely, medicine and engineering, because it was essential for the professional students to have some knowledge of and skills in a number of scientific disciplines.

Sir Ronald Fisher summed up the position of statistics as "the key technology of the present century" in 1962, pointing out that a technologist must talk the language of both theoreticians and practitioners. The education of a technologist must, therefore, have a broad base. A technologist has to see both sides of the fence, and is the channel through which alone the knowledge and skills of others can be made effective. Fisher said, "It is, I believe, in recognizing statistics as the key technology of our century, that we can appreciate the special features of the Indian Statistical Institute.... What the scientists have to do with statistics lies in the part they must play in the education of any competent statistician."

Statistics, as a new technology, is concerned with the use of the most economic and efficient methods of observations, measurement, survey and experimentation, and of the processing of data for the drawing of valid inferences. The scope of statistics thus extends over the whole range of both the natural and the social sciences.

C. R. Rao who had joined the Institute as a student in January 1941 and who became Director, Research and Training School, in 1964, has been pursuing the policy of developing statistics as a key technology and extending applications of statistical methods in many new fields. His interest has thus been focussed not only on theoretical-mathematical studies but also on practical applications including Statistical Quality Control in recent years.

The courses leading to the B.Stat. or M.Stat. degrees have been formulated to cover a wide range of subjects, somewhat analogous to courses in medicine and engineering. Pure mathematics and theory of probability are of basic importance. Theoretical and different branches of applied statistics, naturally, form a large part of the teaching programme. Because of the special needs of India, a great deal of attention is given to the economics of planning. In these three groups of subjects, mathematics, statistics and economics of planning, the course includes a good deal of knowledge of basic results and facts, besides theory and methodology.

In addition, facilities are provided for the students to become familiar with the methods of observation, measurement, survey and experimentation in a number of scientific subjects. Here the emphasis is not so much on the content of knowledge of facts, or of theories, but on methods, and the stress is, therefore, on practical courses and statistical analysis and the interpretation of data.

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Research Policy : Rorald Fisher had pointed out "that the science with which the student is to become acquainted must be genuine research in its own right, not what is eloquently called a 'mock-up' for the use of students only." It is, therefore, the policy of the Institute to establish small, high level, research units in both natural and social sciences, to offer facilities for research and training in the use of statistical methods in practice.

The Government of India approved this policy in a communication from the Cabinet Secretariat dated 15 June 1962 in the following terms :

"Government accept the view that statistics being a new technology, it should be open to the Indian Statistical Institute to establish and maintain research and study units in subjects other than theoretical and applied statistics to offer facilities for research and application of statistical methods and for the provision of training in such methods. The number of such units would depend on the availability of really able research scientists and also on the funds available to the Institute. Similarly, in furtherance of the purposes as set out in Section 5 of the Indian Statistical Institute Act, the Institute may establish and maintain units for the study of different languages (including translation units, library science, documentation, etc.) and for auxiliary studies and teaching in different subjects including humanities."

In this plan, each research unit would be concerned with a particular theme. Where there are more than one professional scientists in the same unit, they may either work jointly on the same topic or on different topics which would, however, be related to a central problem. Each research paper may be independent, but the result would be capable of being added together to supply a more comprehensive picture of different aspects of the central theme.

This thematic programme of research is particularly useful in developing countries. In a large department or the faculty of a University, scientists often work on unrelated topics with practically no possibility of communication, or the exchange of views and criticisms among them. Scientists in a small research unit working on related groups of subjects can easily communicate with one another, a miniature scientific community can thus be established with the possibility of a free exchange of views and criticisms. Such scientific cells can then gradually build up a scientific community in the country as a whole.

The concept of a thematic programme for each research unit is also useful in preventing the growth of large units with a big staff dealing with a multitude of subjects. The Institute's policy is to have small units of pioneering research arranged in a horizontal or parallel pattern of organisation. The Institute's policy is also to encourage joint projects of research units within the Institute and also with other universities, institutions and organisations.

The Institute's small research units are thus intended to play a quadruple role.

- (i) Each unit will contribute to the teaching of degree course in statistics, familiarising students with types of problems, and methods of observations, measurement and experiment, in its own field of natural science.
- (ii) Each unit will actively engage in a programme of pioneering research, which will throw up problems of a statistical nature from time to time, some of which may well stimulate the evaluation of new statistical methods.

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(iii) It is also hoped that the research units will be able to act as a liaison between workers in similar fields of science in universities and Government organisations, on the one hand, and the research statisticians of the Institute on the other, to promote the spread of knowledge of statistical methods in scientific research in India.

(iv) Some of these research units have also been functioning in a very encouraging way as the meeting place for active collaboration between the scientists in India and guest scientists from abroad. Such collaboration is an important role of the Institute.

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PART I : A GENERAL REVIEW OF THE WORK DURING THE YEAR

1. GENERAL ADMINISTRATION

1.1. *Membership* : During the year 1972-73, 84 ordinary members were enrolled, 4 ordinary members became Life members, 11 ordinary members resigned and according to information available in the Institute, 1 Honorary Life member, 2 Life members and 2 Ordinary members died. The membership as on 31 March 1973 was : 264 Ordinary members, 97 Life members (including 4 Honorary Life) and 9 Institutional members.

The membership of 25 persons was terminated with the permission of the Council meeting (dated 28 August 1972) in terms of Rule 3.1 of the Rules of the Institute. After necessary revision had been carried out in the light of these decisions, the membership position as on 31 March 1973 was worked out as stated above.

During the year 1972-73, 119 sessional members and 179 student members were enrolled. Sessional and student members were enrolled for one year a time.

1.2. *General Meetings* :

1.2.1. *Adjourned Annual General Meeting : 25 May 1972* : In this meeting discussions were held about accounts and budgetary control and the restructuring of the Institute.

1.2.2. *Annual General Meeting : 31 October 1972* : This meeting (a) mourned the sad demise of Professor P. C. Mahalanobis who passed away on 28 June 1972 in Calcutta; (b) mourned the sad demise of Dr. S. R. Ranganathan who passed away on 27 September 1972; (c) considered the Annual Report for 1971-72; (d) the rough statement of accounts for 1971-72; (e) elected office bearers and members of the Council for one year (Election this time was of significance as the necessity of vote by ballot arose for some officers); (f) appointed auditors for 1972-73; (g) considered the question of test audit; (h) felicitated Shri S. C. Roy, outgoing Chairman; and (i) elected Shri S. C. Roy as Honorary Vice President.

1.2.3. *Adjourned Annual General Meeting : (1) 31 January 1973* : The meeting (a) mourned the death of Shri D. Das, Joint Secretary and Administrative Officer who passed away on 2 December 1972; (b) deliberated on the accounts of the Institute for 1971-72; and (c) considered the Annual Report for 1971-72.

(2) *27 March 1973* : The meeting (a) mourned the death of Shri Pitambar Pant who passed away on 26 February 1973 in Delhi; (b) considered and adopted the Annual Report of the Institute for 1971-72; and (c) considered the Statement of Accounts for 1971-72.

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The list of names of President, Vice Presidents and office-bearers and members of the Council are given in *Annexure 1*.

1.3. *Meetings of the Council* : The Council of the Institute met 11 times during the year on (1) 22 April 1972, (2) 30 May 1972, (3) *2 July 1972, (4) **27 August 1972, (5) 28 August 1972, (6) 19 September 1972, (7) 7 October 1972, (8) 30 October 1972, (9) 26 November 1972, (10) 3 February 1973, and (11) 26 March 1973. All the meetings except those on 22 April 1972 and 3 February 1973 were held jointly with the Governing Body.

1.4. *Meetings of the Governing Body* : The Governing Body of the Research and Training School met 10 times during the year on (1) 21 April 1972, (2) 30 May 1972, (3) 2 July 1972, (4) 27 August 1972, (5) 28 August 1972, (6) 19 September 1972, (7) 7 October 1972, (7) 30 October 1972, (9) 25 November 1972, and (10) 26 March 1973. All the meetings except the meeting on 21 April 1972 were held jointly with the Council.

1.5. *Meetings of the Finance Committees* : The Finance Committee of the Council and the Finance Committee of the Governing Body jointly met five times during the year on (1) 21 April 1972, (2) 29 May 1972, (3) 19 September 1972, (4) 30 October 1972 and (5) 26 March 1973.

1.6. *Membership of the Governing Body and Finance Committees* : The names of the Governing Body of the RTS and of the Finance Committees are given in *Annexure 1*.

1.7. *Institute Staff* : Professor P. C. Mahalanobis, Honorary Secretary and Honorary Director of the Institute, passed away on 28 June 1972.

Dr. C. R. Rao was appointed as Secretary and Director of the Institute by the Council on 2 July 1972 and he was elected Secretary in the Annual General Meeting on 31 October 1972. He continued as Director of the Research and Training School up to 4 November 1972. Dr. Rao left for the USSR on 1 October 1972, appointing an Administrative Committee with Professor D. B. Lahiri as Chairman to look after the work of the Institute during his absence.

Later Professor D. B. Lahiri was appointed Director, Research and Training School, from 5 November 1972 in which post he continued upto 16 February 1973. He went on leave preparatory to retirement from 17 February 1973 and retired from 16 June 1973.

Dr. S. R. Sengupta was appointed as Secretary by the Council and assumed charge from 10 January 1972 during the absence of Dr. C. R. Rao but he resigned with effect from 18 January 1973.

Dr. J. C. Ray was appointed as Secretary by the Council at an emergent meeting held on 3 February 1973 with immediate effect until Dr. C. R. Rao resumed as Secretary.

Professor Moni Mukherjee was appointed to officiate as Director, Research and Training School, from 17 February 1973.

* 2 July 1972 : The meeting held at 10 a.m. mourned the sad demise of Professor P. C. Mahalanobis and it was adjourned to 11 a.m.

** 27 August 1972 : The meeting deliberated exclusively on the proposals for restructuring of the Institute.

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Shri S. M. Sundara Raju and Professor N. C. Ghosh were elected Joint Secretaries in the Annual General Meeting on 31 October 1972 and remained in those posts for the rest of the year.

Dr. Jagjit Singh continued in the office of the Joint Secretary for work relating to Delhi.

Shri D. Das, Administrative Officer, was appointed Assistant Secretary from 28 April 1972 and continued in these posts till his death on 2 December 1972. He was elected as Joint Secretary in the last Annual General Meeting on 31 October 1972.

Shri Biman Bose, Executive Officer, was appointed as Assistant Secretary on 28 April 1972 and remained in this position throughout the year. He was appointed by the Council on 25 November 1972 to officiate as Administrative Officer, and was entrusted with the work of Administrative Officer from 29 November 1972 and continued as such for the remaining period.

1.8. *New Appointments* : The staff of the Institute was strengthened during the year by the addition of the following persons. The date of joining is shown against each name :

1. Dr. S. Natarajan, M.Sc., Ph.D. (ISI) (RTS) : 11 September 1972; 2. Dr. S. K. Bhat, M.Sc., Ph.D. (RTS) : 13 September 1972; 3. Dr. T. P. Tripathi, M.Sc., Ph.D. (RTS) : 16 September 1972; 4. Dr. V. N. Singh, B.Sc. (Hons.), Ph.D. (Calif.) (RTS) : 19 September 1972; 5. Dr. G. M. Saha, M.Sc., Ph.D. (RTS) : 3 October 1972; 6. Dr. R. R. Bahadur, M.A. (Math.), Ph.D. (Math. Stat.) (RTS) : 1 November 1972.

1.9. *Resignations and Retirements* : The following workers left the Institute on the dates mentioned :

1. Dr. Peter Philip, B.A. (Cantab.), Ph.D. (Stanford) (RTS) : 12 May 1972; 2. Dr. V. V. Menon, B.Sc. (Hons.), M.Stat., D.Phil. (Oxon) (RTS) : 1 July 1972; 3. Dr. M. N. Murthy, M.A., Ph.D. (ISI) (RTS) : 11 July 1972; 4. Shri A. C. Ray, M.Sc. (Administration, Delhi) : 31 January 1973; 5. Shri S. R. Mukherjee, I.A.A.S. (Administration) : 15 February 1973.

The following persons retired from the Institute on the dates mentioned :

1. Shri J. M. Sengupta (NSS) : 29 April 1972; 2. Dr. Tarapada Choudhury, M.A. (Math. Stat. Econ.), B.T., Ph.D. (Lond.) (RTS) : 1 July 1972; 3. Shri S. Naqvi, M.A. (Econ.) (RTS) : 8 September 1972; 4. Professor N. C. Ghosh, M.A. (Econ.) (NSS) : 30 November 1972.

1.10. *Obituary* :

(i) *Professor P. C. Mahalanobis* : The Annual General Meeting held on 31 October 1972 deeply mourned the sad demise of Professor P. C. Mahalanobis who passed away on 28 June 1972 in Calcutta, following an operation on 7 June 1972. The following resolution was adopted :

"The Annual General Meeting of the Indian Statistical Institute hereby places on record its deep sense of loss and grief at the sad demise of Professor P. C. Mahalanobis, F.R.S., the Founder, life-long devoted friend, philosopher and guide of the Institute. The meeting, while paying its respected homage to the sacred memory of Professor Mahalanobis, places on record its profound appreciation of the long and valuable service

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rendered by Professor Mahalanobis not only for the Institute but also in the whole scientific world, particularly in the field of statistics. An originator of new thoughts and new visions in the domain of science, society and philosophical thinking and in particular statistical technology, the name of Professor Mahalanobis will always be remembered throughout the world by all peoples.

"This meeting offers its sincere condolence to Shrimati Nirmal Kumari Mahalanobis who had always been his life-long associate and companion."

(ii) *Dr. S. R. Ranganathan* : The Annual General Meeting held on 31 October 1972 mourned the sad demise of National Professor Dr. S. R. Ranganathan who died on 27 September 1972 at Bangalore. He was closely associated with late Professor Mahalanobis since a very long time and took the initiative in organising the Documentation Research and Training Centre (DRTC) of the Institute at Bangalore. He was the Head of the Centre for several years and was later associated as its Honorary Professor. Dr. Ranganathan was also one of the Vice-Presidents of the Institute since 1963-64.

(iii) *Shri Pitambar Pant* : The death of Shri Pitambar Pant who died on 26 February 1973 in Delhi was mourned by the Adjourned Annual General Meeting on 27 March 1973. Shri Pant was closely associated with Professor Mahalanobis during the formative years of the Institute since 1946. He had been a Honorary Joint Secretary and Vice-President of the Institute.

(iv) *Shri D. Das* : The death of Shri D. Das, W.B.C.S., Joint Secretary and Administrative Officer, on 2 December 1972 in Calcutta was mourned by the Adjourned Annual General Meeting on 31 January 1973.

1.11. *Review Committee : NSS take-over and reorganisation* : After tripartite negotiations with representatives of the Government of India, ISI Workers Organisation and the Administration held on different dates, as reported in the last Annual Report, the NSS work together with workers of the NSS and associated staff were taken over by the Government on 1 June 1972.

The adjourned Annual General Meeting held on 25 May 1972 deliberated on the restructuring of the Institute. The Council of the Institute met jointly with the Governing Body on 27 August 1972 and took certain decisions about restructuring of the Institute after considering various proposals in this regard. The matter was further discussed in the joint meeting of the Governing Body and Council on 26 March 1973 and also in the adjourned Annual General Meeting held on 27 March 1973.

Further developments regarding restructuring of the Institute will be reported in due course.

1.12. *Land and Construction* : There was no major construction during the year. Some important steps in this direction were, however, taken in Calcutta and Delhi.

1.12.1. *Calcutta (Baranagar)* : On the basis of sketch plans and revised estimates prepared by the Institute, the Government of India sanctioned an increased amount of Rs. 55 lakhs for construction during the Fourth Plan period. Municipal approval of the local municipality in respect of the plans was also obtained. Tenders were duly called for and these were opened on 15 February 1973. The Government of India in their letter of 13 February 1973 indicated a drastic cut in respect of plan expenditure on construction. The efforts of the Institute administration for obtaining permits for building materials like steel etc. yielded some results.

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Maintenance, renovation etc.: The maintenance, renovation, addition, alteration etc. work of the building known as the Community Centre Building and the old one-storied building at 205 B.T. Road was started during the year. During the period under review, the Institute was greatly handicapped by the non-availability of necessary fund and strict economy had to be exercised in all fields.

1.12.2. *Delhi*: The Statutory Committee for 1970-71, which considered the proposals for construction work of the campus in Delhi, recommended a grant of Rs. 32 lakhs and Government communicated its acceptance of the proposal on 13 April 1972. Messrs. Kanvinde and Rai were appointed architects in July 1970 and an agreement was signed with them in August 1972. The Works Committee appointed by the Council approved the plans prepared by the architects. The Council of the Indian Statistical Institute at its meeting on 22 January 1972 approved the decisions of the Delhi Works Committee regarding (i) fencing of the land and installation of motor pump; (ii) terms of appointment of Messrs. Kanvinde and Rai as architects, and payment of initial fees; and (iii) the sketch and layout plans of buildings covering an area of about 70,000 square feet. These sketch plans were approved by the Government on 15 April 1972.

Open tenders which had been advertised on 17 February 1973 were opened on 15 March 1973. The lowest tender of Rs. 10.27 lakhs submitted by Messrs. Associated Builders was accepted. Land was allotted to the Institute by the Delhi Development Authority in two stages, initially an eleven-acre plot forming the front portion of the present plot and later about four acres at the back. As some discrepancies were later discovered in the physical dimensions of the allotted land, the Delhi Development Authority was requested to take back possession of individual plots and to give possession of a single consolidated plot with firm measurements. After going through the due processes, the Institute obtained (i) possession of land with address at plot No. 7, special industrial-cum-special institutional area south of I.I.T. measuring 14.76 acres, and (ii) a fresh no objection certificate permitting construction on the land. Building plans were submitted to the Delhi Development Authority on 17 February 1973 for approval.

The Cement Controller authorised the purchase of 500 metric tonnes of cement from Messrs. Cement Corporation of India and the price was paid during the year. The major expenditure incurred during the year was on the following three items: (i) deposit towards price of 500 metric tonnes of cement made with the Cement Corporation of India (Rs. 1,16,000), (ii) part payment of architect's fees (Rs. 50,000), (iii) payment made to Delhi Development Authority for examination of the building plans (Rs. 3,600). Total Rs. 1,78,600.

2. RESEARCH AND TRAINING SCHOOL.

The Research and Training School carried out its training and research activities under the guidance of the Director, Dr. C. R. Rao. During his period of leave Professor D. B. Lahiri officiated as the Director from November 1972 to the middle of February 1973. Since Professor Lahiri's retirement, Professor M. Mukherjee has been officiating as Director.

The statisticians at Calcutta carried out research, conducted teaching programmes and provided consultation service to other scientists.

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2.1. *Training Programmes :*

2.1.1. *Admission to Courses :* No new courses were started during the year. A full list of courses is given in the Prospectus of Degrees, Diplomas and Certificates, 1972-73.

The following is a list of the number of candidates admitted to the degree and training courses during 1972-73 :

	<i>Number of admissions</i>
1. <i>Courses leading to Degrees in Statistics</i>	
1.1 Bachelor of Statistics with Honours (B.Stat.) (Hons.)	
1st year	17
2nd year	22
3rd year	25
4th year	24
1.2 Master of Statistics (M.Stat.)	
1st year	20
2nd year	20
1.3 Advanced Studies leading to Diploma or Ph.D. (Research Course preparatory to Ph.D.)	13
1.4 Research Fellows, Scholars, Project Assistants, Apprentices	47
2. <i>Specialised Courses in Applied Statistics leading to Diplomas :</i>	
2.1 Statistical Quality Control and Operations Research	14
3. <i>Courses in Statistics for Persons in Employment :</i>	
3.1 Statistical Officers' Training Course (jointly with the Central Statistical Organisation)	11
3.2 Specialisation Courses for Statistical Officers (jointly with the Central Statistical Organisation)	0
4. <i>Evening Courses :</i>	
4.1 Statistical Methods and Applications :	
(i) Calcutta	32
(ii) Delhi (in collaboration with the Central Statistical Organisation)	26
4.2 Diploma in Statistical Quality Control and Operations Research (Bombay and Madras) :	
4.2.1 Bombay—1st year	33
Bombay—2nd year	21
4.2.2 Madras—1st year	35
Madras—2nd year	19
5. <i>Electronic Computer Courses :</i>	
5.1 Diploma in Computer Science	6
5.2 Intensive Course on Programming and Applications	16
5.3 Course on Operation of Punch Card Machine	13
6. <i>Courses at the International Statistical Education Centre, Calcutta :</i>	
6.1 Regular Courses in Statistics	20
7. <i>Documentation Training Course at Bangalore</i>	10
8. <i>Indian Statistical Service Officers' Course :</i>	
(i) Probationers	9

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2.2. Research Activities :

The units for applied research and science laboratories attached to the Research and Training School, together with the names of the heads of units, are as follows :

Sudhir Ranjan Das (*Anthropometry and Human Genetics*), Prabhat Ranjan Pal (*Biometrics*), Bhupendra Chandra Das (*Biometry*), Subodh Kumar Roy (*Botany*), Jogabrata Roy (*Computer Science*), Trupapur Antony Davis (*Crop Science*), Manapadom Venkateswarior Raman (*Demography*), Deb Kumar Bose (*Economic Research*), Samarendra Kumar Mitra (*Electronics*), Ratan Lal Brahmachary (*Embryology*), Sohan Lal Jain (*Oecology*), S. Maitai (*Leaf Protein*), Alokannanda Mitter (*Linguistic Research*), Monimohan Mukherjee (*National Income Research*), Dugesprosd Bhattacharyya (*Pre-Census Population Studies*), Sibabrata Chatterjee (*Psychometric Research and Service*), Ramkrihna Mukherjee (*Sociology*), and T. N. Srinivasan (*Planning and Regional Survey, Delhi*).

Jogabrata Roy was the Dean of Studies upto May 1972. T. V. Hanurav, who became the Dean of Studies from June 1972, is also in charge of the evening courses at Calcutta and the branches of the Institute. Asoko Maitra was in charge of the training at the International Statistical Education Centre (ISEC), Calcutta, and during the period of his leave T. J. Rao took over charge of the training at the ISEC from July 1972.

2.2.1. *Important Topics of Research* : The research work of the Institute during April 1972-March 1973 is embodied in research papers sent for publication besides mimeographed technical reports. The fields of research covers, besides statistics and mathematics, various subjects for which the Institute has specialised research units—anthropometry and human genetics, biochemistry, biometry, botany, chemistry, computer science, crop science, demography, documentation and library science, embryology, economics and econometrics, geology, leaf protein, linguistics, psychometry, sociology, theoretical physics and electronics. A selected list of topics on which research was carried out during the year is given below.

A. STATISTICS AND MATHEMATICS

Theoretical Statistics

Some of the fields in which significant research activity and progress was made are, (i) Mathematical logic and descriptive theory of sets, (ii) Measure theory and topology, (iii) Graph theory, (iv) Game theory, (v) Probabilistic number theory, (vi) Statistical inference, (vii) Sample Survey, (viii) Non-parametric methods, (ix) Harmonic Analysis, (x) Functional Analysis, (xi) Linear algebra, (xii) Stochastic process, (xiii) Large sample theory, and (xiv) Design of experiments.

(i) *Mathematical logic and descriptive theory of sets* : H. Sarbadhikari showed that every countably generated sub σ -algebra of a Borel σ -algebra of a Polish space has a complement. Special cases were earlier solved by B. V. Rao and K. P. S. B. Rao. Her work on projective non-analytic Blackwell spaces will appear in the *Bulletin of the Polish Academy of Sciences*. She has also solved some problems raised by A. Maitra in descriptive set theory. A. Maitra completed an advanced two-year course on mathematical logic covering very recent development in the foundations of mathematics. A new series of lectures on logic has been started by N. D. Prabhakar. M. G. Nadkarni, D. Ramachandran and K. P. S. B. Rao wrote a paper on sequences of σ -algebras. K. P. S. B. Rao and M. B. Rao

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gave a series of lectures on Category and Measure and subsequently on Category Analogue of Hewitt-Savage zero-one law.

(ii) *Measure theory and topology* : K. P. S. B. Rao submitted his thesis on contributions to Boolean Algebras and Measure Theory solving some interesting problems and giving new and simpler proof of many results. D. Ramachandran gave a series of lectures on Rohlin's paper on "Fundamental Idens of Measure Theory" and followed it up by solving problems about mixtures of perfect measures. This work is expected to appear in the *Annals of Probability*. He also answered a question raised by A. Maitra by deriving Hopf's theorem on invariant measures from a result of Tarski. A. B. Baha's further work on maximal and minimal topologies is expected to appear in the *Australian Journal of Mathematics*. He also started a seminar on Category Theory. A series of seminars on Manifolds was started by S. Bagchi.

(iii) *Graph Theory* : A. R. Rao presented a paper on "Existence of locally restricted undirected graph" at the Annual Conference, Indian Mathematical Society, Madurai, 3-5 June, 1972. He also presented a joint paper with K. P. S. B. Rao on "Modularity in combinatorial geometries" at the Symposium on Combinatorial Mathematics and its Applications, Delhi, 22-27 December 1972. His joint paper with S. B. Rao "On factorial degree sequences" appeared in the *Journal of Combinatorial Theory* 1972, pp. 185-191.

(iv) *Game Theory* : N. D. Prabhakar submitted a thesis on "A study of dynamic programming and gambling system" which unifies various aspects of the game theory and initiates the study of continuous time gambling systems. T. Parthasarathy's monograph on selection theorems and differential games was published in Springer-Verby lecture notes series.

(v) *Probabilistic Number Theory* : E. M. Paul has been working on generalised magnification method towards solving a stronger version of Eros's Conjecture. Jogesh Babu has published a series of paper on "Some results on the distribution of additive arithmetical functions" I, II, III, which have been accepted for publication in *Acta Arithmetica* and other journals. He has also published papers and obtained results on distribution of additive arithmetical functions of integral polynomials as well as of set of pairs of positive integers. One of his neat results which generalizes a result of Erdos is : Distribution of an additive arithmetical function cannot be absolutely continuous with respect to Lebesgue measure and at the same time be confined to a finite interval. He has recently submitted a thesis on this subject.

(vi) *Statistical Inference* : A joint paper of J. K. Ghosh and K. K. Roy on "Families of densities with non-constant carriers which have finite dimensional sufficient statistics" appeared in the *Sankhyā*, Series A (1972), pp. 205-226. K. K. Roy has written a paper on "Exponential families of densities on a analytic group and sufficient statistics" which gives necessary and sufficient conditions under which a family of densities $(p_{\theta}(x, y), \theta(-x, y) - \theta)$ on connected analytic group forms an exponential family. Here S is an arbitrary set. Only other work known in this direction is that of Marinov who considers exponential families on compact groups. K. K. Roy is at present working on the problem of characterizing exponential densities on a manifold through the existence of finite dimensional sufficient statistics.

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C. Srinivasan has been working on admissibility problems. He has been trying to prove a long-standing conjecture of Samuel Karlin regarding admissibility of linear estimators of means in exponential families of distributions with respect to quadratic loss and has achieved partial success in this respect. He is also interested in empirical Bayes and compound decision problems.

B. K. Sinha has published a number of papers on Bayesian inference, while others await publication. He has also prepared some papers on different estimation problems, one of which relating to the determination of best linear unbiased estimates awaits publication in the *Calcutta Statistical Association Bulletin*.

Malay Ghosh has delivered a series of lectures on different methods of obtaining admissible estimators. He has been trying in collaboration with B. K. Sinha to investigate how far Cramer-Rao inequality is useful in finding admissible estimators of different parameters with respect to quadratic loss.

Nitish Mukhopadhyay has been working on sequential estimation. He has solved a number of point and interval estimation problems which cannot be solved with a fixed sample size and require purely a sequential sampling scheme.

H. Morimoto, Osaka University, visited the Institute during 1972-73 and delivered a series of lectures on sufficiency in the undominated case.

(vii) *Sample Surveys* : T. V. Hanurav delivered a course of 7 lectures on "Unified sampling theory" at the invitation of the M. S. University of Baroda, 12-15 March 1973. On 16 March 1973, he gave a lecture at the Vallabh Vidya-pith, Anand, and from 20 to 30 March he gave a course of three lectures at the invitation of the Marathwada University, Aurangabad.

T. J. Rao has continued research work on utilization of auxiliary information and obtained expressions for the variances of the ratio estimators. Problems regarding relative efficiencies of Horvitz-Thompson and Des Raj strategies for the estimation of population total have been solved. The problem of a location of sample size in stratified sampling is studied further. This work is expected to appear in the *Australian Journal of Statistics*, 15(3) (1973) and in the *Journal of Royal Statistical Society, Series B*.

T. P. Tripathi has been working on inverse probability sampling, consistency sufficiency and admissibility in finite population, use of multiple information in constructing set of inclusion probabilities and on problem of estimating sub-population parameters using auxiliary information.

K. Geetha has been working on sampling theory. She did joint work with T. J. Rao on the allocation of sample size relative efficiencies of stratified and unstratified. PS sampling schemes will appear in the *Journal of Royal Statistical Society, Series B*. She has also shown that in multistage designs, unordering of Des-Raj's estimator results in a better estimator than the ordered Des Raj estimator.

(viii) *Non-parametric Methods* : Malay Ghosh has obtained non-parametric tests for grouped data in multiple linear regression models. Two of his papers have appeared in the *Annals of the Institute of Statistical Mathematics*, Tokyo. It is shown in those papers that rank order tests for grouped data share asymptotically the optimal properties of likelihood ratio tests. He has also obtained a number of results on asymptotic properties of linear functions of order statistics; one such paper has appeared in *Sankhyā*, Series A (1972),

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while the other is expected to appear in the CSA Bulletin. He has also proved in collaboration with Professor P. K. Sen, University of North Carolina, iterated logarithm laws and functional control limit theorem for different linear and bilinear rank statistics.

(ix) *Harmonic Analysis*: S. Bagchi submitted his thesis on "Invariant subspaces of vector valued function spaces on Bohr group" in which he generalised to vector valued situation certain portions of the theory of Harmonic Analysis on compact groups with Archemedian ordered dual. This work has been continued by Joseph Mathew and Nadkarni who considered systems of imprimitivity associated with properly ergodic action of one group into another.

(x) *Functional Analysis*: V. N. Singh has been working on "Invariant subspace problem" and has obtained partial results in this direction. This is a very difficult problem and has been open since several decades of this century. A series of seminars were held by new research scholars on linear topological spaces.

S. K. Bhatt has been working on linear programming which includes the necessary and sufficient optimality criteria, numerical solutions for non-linear programme duality theory, integer programming etc. Some of his recent work are "On sequential unconstrained minimization techniques for a non-convex programme" which will appear in *Cahiers du Centre d'Etudes de Recherche Operationnelle, Belgium* (1973), and on "An existence theorem for a fractional control problem" which will appear in *Journal of Optimization Theory and Applications* (1973).

(xi) *Linear Algebra*: K. P. S. B. Rao and P. S. S. N. V. P. Rao wrote a joint paper on generalised inverse of matrices whose entries come from a Boolean algebra. Work was initiated by C. R. Rao at the Symposium on Combinatorial Mathematics and its Applications held in Delhi. P. S. S. N. V. P. Rao has done work on g -inverses of merely positive definite matrices.

(xii) *Stochastic Processes*: R. Subramanian's work on Martingales has been accepted for publication in the *Pacific Journal of Mathematics* and *Journal of Mathematics and Its Applications*. M. G. Nadkarni's paper on "Notes on problems relating to vector valued weakly stationary stochastic processes" has appeared in *Theory of Probability and Its Applications*, pp. 545-549 (1972).

Not covered in this report is the recent work of K. P. S. B. Rao and R. Subramanian on metric on the space of σ -algebras of a given probability space and on generalisation of non-atomicity of a measure. Their result that the product of two measures is generalised non-atomic if and only if one of the marginals is non-atomic, is highly non-trivial although the result is relatively easy for R^k with usual notions of non-atomicity. Not covered in this report is also the work of K. Sikdar on the characterisation of a certain type of topological machines. This work is connected with systems of imprimitivity associated with properly ergodic action still in progress.

(xiii) *Large Sample Theory*: Malay Ghosh has been working on large and moderate deviations problems. He has obtained in this direction some results for dependent random variables, and further research is contemplated in this area. B. K. Sinha has obtained some large sample properties of maximum likelihood estimators.

(xiv) *Design of Experiments*: G. M. Saha has been actively interested in this area. He has prepared several papers on the construction of balanced and partially balanced

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incomplete block designs. He has been trying to evolve suitable methods of construction of the latter based on a newly introduced *m*-class association scheme. Some other results in PBLB designs and partially balanced arrays are also contemplated.

B. NATURAL SCIENCES

(i) *Anthropometry and Human Genetics*

(a) Genetic variations in respect of placental enzymes, erythrocyte enzymes, serum proteins, haemoglobins, blood groups of seven systems, etc. among a number of castes and tribal groups in West Bengal, Bihar, and Maharashtra.

(b) Bio-social problems of sex-ratio, polygyny, fertility and abortion and their inter-relations against the background of social and economic conditions, with particular attention to India.

(c) Social, anthropometric and genetic study of the twenty sub-groups of the semi-nomadic Dhanger community of Maharashtra in collaboration with the Deccan College, Poona.

(d) Historical demography of the Armenians of India elucidating their genetic and biological differentiation from the parent population.

(e) Fundamental problems in dermatoglyphics and cleft chin genetics have been investigated respectively in the rural Haiti population and in some Maharashtra peoples.

(f) Four types of genetic variants of Lactate dehydrogenase have been discovered in Indian populations, and the caste variation of alkaline phosphatase in placenta has been investigated and established.

(ii) *Biochemistry*

(a) Investigations on the level, extraction and purification of soluble A. T. Pase from green leaves.

(b) Investigations on the beta carotene content of edible green leaves.

(iii) *Botany*

(a) Intraspecific and interspecific interactions in crop plants.

(b) Mechanisms of intersections.

(c) Ecology and behaviour of field rodents.

(iv) *Crop Science*

(a) Study on the asymmetry in different plant species.

(b) Extensive explorative work on the family Palmaceae (Arecaceae).

(c) Field trials on some genera of Malvaceae to study the association between the foliar spirality of a plant, the activation of its flowers and the yield of fruits.

(d) Trials on tissue culture on monocotyledonous plants were made with the aim of effecting clonal propagation in economically important single-stemmed plants.

(e) The problem of reconstructing the sunflower head was solved.

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(v) Embryology

(a) Synthesis and characterization of Heavy DNA (much higher than 28S) and its rhythmic synthesis during different development stages of *Limnaea*.

(b) Transcription of different size classes of RNA (including heavy RNA) during oogenesis and just after fertilization in *Limnaea*.

(c) Differential inhibition of DNA synthesis by Phytohaemagglutinin in the same species.

(d) Biochemistry and metabolism of sulphur bound compounds during morphogenesis in *Limnaea* were investigated with the help of radioactive S^{35} .

(vi) Geology

A. The integrated programme of geological research in the Pranrita-Godavari Valley continued under the following heads:

(a) Sedimentology and tectonics of the Precambrian;

(b) Sedimentology of the Gondwanas;

(c) Paleontology and stratigraphy of the Gondwanas.

B. A study of recent fluvial sediments was also undertaken to obtain an insight into the precise conditions of formations of the ancient fluvial deposits.

C. Over 30 geologists from the Geological Survey of India and the Oil and Natural Gas Commission and several universities attended a ten-day course of lectures on the quantitative aspects of geology organised in the Institute during May-June 1972.

(vii) Immunochemistry

(a) Survey of Immunoglobulins, IgG, IgA and IgM in normal population.

(b) Immunochemical aspect of blood coagulation factors.

(c) Blood genetic profiles.

(d) Immunochemical quantitation of transferrin in serum in normal population.

(e) Immunochemical quantitation of total protein, albumin and globulin in Fibrinogen in blood.

(viii) Leaf Protein

(a) Screening of local vegetation with special interest in aquatic plants and water weeds.

(b) Optimum levels of fertilizer dose and seed level along with age of the plant at harvest were observed in eight crops.

(c) Technique of leaf protein production on a small scale with the help of a pilot plant.

(d) Preliminary work on B-carotene content in leaf protein concentrates (L.P.C.).

(e) Nutritional evaluation of L.P.C.s in collaboration with the All-India Institute of Public Health and Hygiene, Calcutta.

(f) Work on possible use of fibre, a by-product of leaf protein production, in collaboration with the National Dairy Farm, Haringhata, West Bengal.

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C. COMPUTER SCIENCE

- (a) Model sampling experiments on "Fractile Graphical Analysis."
- (b) Programme package for handling of structured files.
- (c) Further development of computer programmes for some problems in Multivariate Analysis.

D. DEMOGRAPHY

- (a) Calcutta Fertility Survey.
- (b) Further examination of Hajnal's method of calculating mean age at marriage.
- (c) Broad analysis of fertility data from the Calcutta Fertility Survey 1970.
- (d) Classification of districts in West Bengal according to health status.
- (e) Evolving an alternate method to estimate birth and growth rates.
- (f) Attitude of currently pregnant women to family planning in Calcutta.
- (g) Relationship between expectation of life at birth and life table mortality under age 5.
- (h) Progress of education in India.
- (i) Age composition of the Indian population, 1881-1951.
- (j) Relation between fertility and economic development.

E. LINGUISTIC RESEARCH

- (a) Study of the phonetic structure of Indian languages, and application of results (Hindi, Telegu, Bengali and Sanskrit).
- (b) Problems relating to the structure of meaning (psycho-phonetic experiments, behaviour and stability of speech sounds).
- (c) Statistical approach to linguistic and psycholinguistic problems (Bengali, Hindi, Telegu and Serbo-Croatian).

F. PSYCHOMETRY

- (a) Validity of the "Group Task" as a method of objective assessment of personality traits.
- (b) Determination of the construct validity of the "Non-Language Test of Verbal Intelligence."
- (c) Factorial composition of the "Chatterji's Non-Language Preference Record."
- (d) Investigation of the inter-relationships among neuroticism, intelligence, environmental conditions and delinquency.
- (e) An experimental test battery was developed for L.I.C. salesman to isolate, on the basis of experimental data, dimensions which are important for success in that field.

The Psychometric Research and Service Unit rendered technical service to public sector organisations like the Life Insurance Corporation of India, Hindustan Steel, Hindustan Aeronautics, Indian Airlines, Port Commissioners and also to some nationalised banks and private sector organisations.

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G. SOCIOLOGY

(a) A Data Centre on Social Sciences has started functioning on the materials of 'data inventory on social sciences—India'.

(b) A study on "Gooroodas Banerjee—a study of his life and times."

(c) Field research on the growth of urban locations in India.

(d) A pre-pilot field survey on induced social change in some villages within the command area of the Mayurakshi river project (Birbhum, West Bengal).

(e) Method on content analysis to assess social change and development in India through bibliographical and documentary research.

(f) The study of variation in family structures in India is in the machine analysis stage.

(g) Exploratory studies on the problems of (i) socio-economic polarization, and (ii) social communication and development in several selected backward/non-backward regions of India.

(h) Preparation of report on the study of Pilgrim Centres—(i) Puri (Orissa); and (ii) Tarakeswar (West Bengal). The study of other pilgrim centres (Rishikesh and Hardwar) has been undertaken.

(i) Educational problems of scheduled castes in West Bengal.

(j) Data collected from several towns of West Bengal on the impact of conurbation areas upon the fringe-society have been analysed with a view to follow up the project from a better perspective.

(k) Field investigations were completed on the socio-economic structure of Darjeeling town.

(l) Transcription was completed of the primary socio-economic data of 1878 villages consisting of 85,613 households surrounding Giridih town, Bihar. The machine punching of the material has been started.

(m) Researches were completed to prepare designs and programmes on : (i) secondary analysis of family structures; (ii) nuclearization of joint family structures; (iii) social research on contemporary India; and (iv) levels of social integration in rural areas.

H. PLANNING AND REGIONAL SURVEY

The research activities of the Planning and Regional Survey Unit, New Delhi, covered a wide field, from research oriented economic policy issues to theoretical research on optimising models.

(i) *Studies in the structure of Indian economy* : Work on a capital coefficients matrix to correspond to the 144-sector input-output matrix for 1964-65 was continued. This project involves careful compilation, collation and comparison of data on capital structure from diverse sources

Following on the study of production and investment relations in the jute textile industry completed earlier in collaboration with Dr. K. L. Krishan, Delhi School of Economics, a similar study on the engineering group of industries was undertaken. The analysis using variance-component techniques is expected to be completed in 1973.

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An attempt was made to derive a generalised production function from a set of relations between average output of each factor and their prices. The method was applied to construct a production function for the cotton textile industry in India with satisfactory results.

A linear programming model in which the Indian economy is decomposed into 45 sectors and covering a ten-year horizon corresponding to the Fifth and Sixth Plans is being developed to study the implications of self-reliance.

A study is in progress to (a) indicate the resource and raw material requirement and environmental consequences of development of India. The study aims to identify options for minimizing resource bottlenecks and environmental adversities.

A study in the Aggregate Savings Behaviour of the Indian economy is continuing.

A project on the effects of various fiscal policy measures on the industrial output and factor proportions is in progress.

(ii) *Studies on Indian agriculture* : Work on the project on fertilizer requirements of different States is continuing. 'Simple Fertilizer Trials' data for three years have been analysed for varieties of crops in the districts. Dominant varieties in terms of per hectare yields at different levels of fertilizer applications, have been identified for each agro-climatic zones. A non-linear programming model is developed to project zone-wise and crop-wise fertilizer requirements.

(iii) *Research on International trade theory and problems relating to foreign trade of India* : The work on the effects of exchange control liberalization since the devaluation of the rupee got under way during the second half of 1971-72. The project is likely to be completed in 1973.

The work on a book on Pure Theory of International Trade under the authorship of Bhagwati and Srinivasan is continuing.

(iv) *Economics of consumer demand* : A study on "Empirical evaluation of the system of addi-log Engel curves" examines how the system of indirect addi-log Engel curves is placed in comparison with commonly used different forms of Engel relationship in respect of their agreement to the household consumption expenditure pattern as depicted by the NSS household consumption expenditure data.

In another study on 'Estimation of an econometric model of consumer behaviour containing random parameter', a model of non-linear system of additive demand curves containing random parameters is considered and its estimation procedure along with its limitation is outlined.

The work on the study of consumer expenditure for the period 1960-51 to 1970-71 is in progress.

(v) *Econometric methodology* : Following the work done earlier on identification problem in econometric theory, further work was continued on the direction of identification (a) with temporarily dependent disturbances, and (b) with restriction on covariance matrix of disturbance.

Research papers were prepared on 'A discrete time refutation of the Catenary Turnpike Theorem' and 'Generalized consistency in a one-sector model of optimum growth'.

The work on 'Revision of plans in heterogeneous capital goods models' is continuing.

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A study on "Obtaining necessary and sufficient conditions for optimum control problems with infinite horizon" is continuing.

(vi) *Educational planning* : The work on Educational Planning Model was continued. Solutions for accounting labour force dynamics including training and education were prepared.

(vii) *Sector planning* : Work was continued on mathematical models and computational algorithms for solving them and for formulating the national fuel policy.

(viii) *Urban planning* : Work in the empirical testing of a model to predict population concentration in different parts of a city was continued.

The work to develop a model to predict migration in the urban areas was continued.

(ix) *Studies in regional survey and planning* : The work related to regional planning continued to give emphasis on fundamental and applied studies. The fundamental studies involved the testing of concepts and hypotheses in regional planning (i.e., Central Place and Growth-Point concepts, concept of integrated area development).

In applied studies, the Unit has undertaken a project on Central Place Hierarchy in Karnal Area in which the regional structure contributing to the development of a settlement hierarchy is being analysed with a view to suggest alternative patterns of settlement hierarchy. The first phase of the study in ranking settlements (2,000 population) has been completed.

Regional planning at the State level : The studies in area development at the district level would need integration at the sub-regional level within the States. For this purpose, the regional framework of the States was analysed with special reference to the available data and inventories.

Cartographic techniques in regional analysis and synthesis : This research is of a continuing nature and forms the basis of the studies of spatial analysis.

A study on the 'Special configuration of functional linkages', establishing the linkage pattern among some 800 urban centres in South India, was finalised and a draft report prepared.

(x) *Miscellaneous research projects* : The work on a book on 'Indian Official Statistical Systems' was completed. The book aims to survey the different kinds of statistics, the concepts and definitions behind these, and the existing procedures and agencies involved for collection, compilation, and publication. The book was published by the Statistical Publishing Society and the Indian Econometric Society in December 1972.

The work was continued on translating selected materials from Russian, French and other European languages dealing with planning techniques, institutions, and practices.

A study on "Reservations and Passenger Servicing on the Indian Railways" is in progress.

(xi) *Teaching activities* : The Planning and Regional Survey Unit initiated a research course in economics, econometrics and planning in 1969. After two years of course work, the students are expected to write a dissertation leading to the award of Ph.D. degrees. The course was continued.

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The Unit gives basic professional training in Statistical Methods to persons already employed in government departments and private business, through the One-Year Evening Course in Statistics. The course was continued.

I. ECONOMIC RESEARCH

The Economic Research Unit (ERU) is chiefly concerned with various problems of theoretical and applied economics and econometrics. The Unit also undertook, in collaboration with the National Income Research Unit, the teaching of economics and econometrics in the courses conducted by the ISI at Calcutta and organised a research course in advanced theory in economics and econometrics leading to the Ph.D. degree of the ISI.

A number of seminars and lectures by the staff members as also by outside scholars were arranged during the year. The members of the Unit participated actively in almost all the important economic and econometric meetings and conferences.

The following provides a short description of the important research work done in the ERU during 1972-73.

(i) *Level of living and disparities in level of living* : A paper on poverty in India examines the earlier studies on the segment of India's population living below the poverty level. The paper focuses attention on the rural-urban as well as the inter-State disparities in respect of the averages of level of living and the incidence of "poverty." It also considers the implications of some of the anti-poverty measures being contemplated at present. A report of a sample survey on the distribution of public education and health services in West Bengal was finalised. This survey revealed that, on the whole, the distribution of benefits from these public services was favouring the poorer sections of the population in rural and urban areas of West Bengal.

(ii) *Regional disparities in level of living* : A considerable amount of work was done on inter-regional (rural-urban, inter-State) disparities in the level of living as measured by average per capita household consumption expenditure (PCE) obtained from the National Sample Survey. The eighteenth round (February 1963-January 1964) budget data of the NSS were analysed to carry out such comparisons in real terms. For this purpose, indices of inter-regional variation in consumer prices were constructed on the basis of prices implicit in the budget data. Comparisons were also carried out among the States of rural India, deflating the State-wise average PCE's by indices of inter-State consumer price variation. In another paper, such price indices were computed separately for broad areas of the budget and these indices were utilised for inter-State comparisons of the level of consumption for each of the different areas of the budget.

(iii) *Studies on consumer behaviour* : One paper re-examined the conclusion reached by Forsyth (JRSS, A. 1960) regarding the analytical impossibility of separating the over-all and the specific effects of a change in household composition on the pattern of household consumption. The solution of the problem proposed earlier by Barten was shown to be defective, but a satisfactory solution could be reached assuming that the specific coefficients are invariant under changes in income. The average elasticity of a variable elasticity Engel curve was defined in another paper expressing the marked elasticity as the weighted average of individual elasticities. Expressions for the average elasticity were obtained from some

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common Engel curve forms. The consumption patterns of middle class and working class households were compared in a study separately for four centres in India, using the data from the Family Living Surveys of 1958-60. The analysis of covariance tests revealed significant inter-class differences in Engel functions for various items (and also intra-class, inter-centre differences). An attempt was made to estimate the stock of some selected items of consumer durables, using NSS 12th round data, separately for rural and urban India, and by fractile groups of the population.

(iv) *Problems of West Bengal and Bangladesh* : One paper examined the factors leading to the decline in industrial production in West Bengal and discussed the factors impeding the process of revival. Another study considered the effects of the continuing deterioration of the Bhagirathi-Hooghly rivers system on the economic activities related to this system and discussed the possibilities of a revival of these activities through the implementation of the Farakka project. A third paper examined the prospects for Haldia as a growth centre meant to relieve pressure on the Calcutta area and concluded that this would require creation of a large number of jobs at Haldia through more labour-intensive industries. Another study examined the problems of modernising agriculture in West Bengal. Using NSS data on land holdings, it was argued that small and big farms could not simultaneously develop so long as entrepreneurial decision-making rested with individuals. Finally, the pattern of foreign trade as well as interwing trade of Bangladesh (East Pakistan) since 1947 was examined in a paper. It also studied the short and long-term prospects of the foreign trade of Bangladesh, especially of trade between India and Bangladesh.

(v) *Industrial labour and productivity* : A report containing detailed tables was prepared on the characteristics of 548 jute industry workers found in the total sample of 1,891 workers in a sample survey of industrial workers residing in the Greater Calcutta area carried out during 1969-70. The main objectives of the enquiry was to examine to what extent the workers have given up their traditional floating character and have settled down to their lives in Greater Calcutta. A study based on the same data tried to correlate the attitudes of jute industry workers to trade unions with other characteristics like age, sex, native place, but these correlations were generally quite small. Another study analyzed the trends in productivity in selected manufacturing industries of India during the period from 1946 to 1965, constructing indices based on CMI or ASI data.

(vi) *Mathematical economics* : One study attempted a mathematical analysis of the Staffs system involving only circulating capital and no joint production.

The historical connection between economic development and the degree of decentralisation was examined in another paper. A developing economy, it was argued, may find it necessary to centralise its resources in the early stage of growth for optimal utilization of the resources. With the accumulation of sufficient surpluses, it may become possible for the State to decentralise the decision procedure for balanced growth of the economy.

(vii) *Miscellaneous studies* : One study made a fresh examination of disaggregated farm management data for Punjab and UP separately for each sample village and applied rigorous statistical tests for the within village correlations between farm size (A) and gross value of output (V) per acre of farm size. Among other things the study showed that the within village correlation between A and V/A was significantly negative in UP but generally non-significant in Punjab.

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A study on the load distribution in electricity generation indicated that the empirical load distribution may be roughly log normal and also revealed increasing returns to scale in electricity generation at the plant level.

The series of monthly figures of money supply and wholesale prices for food and for commodity in India were analysed with a view to evolving suitable forecasting procedures.

J. NATIONAL INCOME RESEARCH

The National Income Research Unit is concerned with analytical studies on national income and its several distributions. The studies entail, among other things, obtaining estimates that are not available in official statistics, working out interrelations among relevant variable and furnishing thereby explanations of the growth of the Indian economy and arriving at frameworks of national accounts suitable for India.

(i) *Trends and structure of national income* : A paper dealing with the data base of the Indian economy in relation to national income statistics gives the statistical basis of the Indian estimates of net domestic product and its principal break-downs at current and constant prices and major components of expenditure like consumption expenditure and capital formation. In another paper, a series of the distributive share of agricultural labour in national income originating in the agriculture sector has been presented for the post-independence period. A preliminary attempt has been made in a paper to estimate the tangible wealth in India since the beginning of the present century. In the Indian national income statistics, the prices used have relatively inadequate coverage and are probably less accurate while the corresponding quantities or volumes are not infrequently based on a reasonably complete coverage of the universe and are likely to be more accurate. A study of all available distributions of national income also indicate relative weakness of the price base. These questions are posed in a paper on price information associated with principal distributions of national income in India. An attempt is made in another paper to compare the estimates of aggregate private consumption expenditure based on the National Sample Survey and the official national income statistics.

(ii) *Regional disparity* : A considerable amount of research work has been undertaken on urban-rural disparities in the level of per capita household consumption expenditure and size distribution of consumption expenditure thrown up by the eighteenth round of the National Sample Survey (February 1963-January 1964) household budget data. The work has extended to the States in rural India and between States variation in consumer prices and per capita household consumption has been examined. In another paper on regional disparities in the level of living in India, disparities in the level of living have been measured by per capita household consumer expenditure (PCE). Indices have been worked out showing price levels in rural areas of States as percentages of the all-India rural price level for broad areas of the budget, namely cereals and cereal substitutes, other food, total food, non-food and all items. The indices are then utilized for comparing the level of real consumption in States by areas of budget.

(iii) *Site distribution of public services* : A report of the enquiry on the distribution of public education and health services in West Bengal was finalized. The survey was based on a sample survey carried out in West Bengal during July 1964-June 1965 to assess in a rough way the distribution of benefits from public health and education services among the expenditure groups of the population.

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(iv) *Historical series on capital formation* : A study on a historical series of capital formation in India from 1900-1901 to 1951-1952 was completed. Aggregates were estimated both at current and constant prices.

(v) *Education and economic growth* : A study was undertaken to examine whether there is any influence, either direct or indirect of education on agricultural activities in the world in general and in India in particular.

(vi) *Miscellaneous* : Some studies have currently been undertaken on economics of West Bengal and in this connection, a paper on the concentration of income in West Bengal sketches a procedure for arriving at a measure of concentration of real personal income in the State, obtains the measure and compares its magnitude with those relating to the other States calculated using the same procedure.

In the Planning Commission's recent paper on the Approach to the Fifth Plan, the poor have been taken as those living below a basic minimum level of consumption, more exactly below per capita consumer expenditure of Rs. 20 per 30 days at 1960-61 prices. A paper on poverty in India examines the work done by Minhas and others in this field, focussing attention on disparities between rural and urban areas and between the States of India in respect of level of living and the proportion of the poor. The paper finally considers the policy implications of some of the anti-poverty measures being contemplated at present.

One paper presents the relative performance of different countries in the Musiih Olympics, the variables chosen being their medal tallies per million persons and per hundred crores of dollars of GNP.

(vii) The National Income Research Unit participated in the teaching programme of the Research and Training School and the International Statistical Education Centre; among the subjects taught were economic development, economic statistics, econometrics and national income. Arrangements were also made for the specialization of ISEC students, for guidance of research work leading to dissertation for workers already qualified for M.Stat. and studies leading to certain term papers for Ph.D. students. Research supervision continued to be an activity of the Unit.

K. PRE-CENSUS POPULATION STUDIES

The research projects of the Pre-Census Population Studies Unit are :

(i) *Pre-Census Population Studies* : The purpose of pre-census population studies conducted in collaboration with the Registrar-General, India, is to compile material on population of any regions of India up to 1872, when the first census was planned. There are plans to publish eight volumes in all, one relating to the period upto 1800, one volume for each decade from 1801 to 1871. The first volume entitled, *Report on the Population Estimates of India*, was published by the Registrar-General, India, in 1965.

The second volume, covering the period 1811-1820 (with additional material for 1821-1830), contains 200 population estimates. The first part entitled, *Report on the Population Estimates of India*, Vol. 3, 1811-20 (with additional material for 1821-1830), Part I, Eastern region, was submitted to the Registrar-General, India. The report contains 1,302 pages including 408 statistical tables. A Technical Report entitled, "*A Guide to the Population Estimates of Eastern India, 1811-1830*," was issued.

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Pre-Census Atlas : During the year, map-drawing was concentrated on the eastern region of India. Some socio-economic maps of the districts surveyed by Francis Buchanan was drawn. A rough sketch of Calcutta was prepared showing changes in the jurisdiction of Calcutta City proper from 1750 to 1972. A list of maps of Calcutta for the same period was under preparation from the Survey of India records and other sources.

(ii) *Economic Studies* : Studies on historical trends in national economy continued during the year.

A Socio-economic Bibliography of India : During the year, about a thousand references were added. Attempts were made to collect a complete list of pre-1800 Parliamentary Papers on India.

Prices and Wages in West Bengal, 1750-1970 : During the year, data on prices were collected for some tracts of West Bengal for the late nineteenth and early twentieth century.

Statistical Survey of Oorakhpur, 1814 : This is one of the six districts surveyed by Dr. Francis Buchanan during 1807-1814. Information on the tract available in settlement reports and other papers for the subsequent period was searched and scrutinised.

L. COMPUTING MACHINES AND ELECTRONICS

The work of the Computing Machines and Electronics Laboratory during the year may be broadly classified under the following heads : (1) Theoretical Research, (2) Experimental Research and (3) Training.

1. Theoretical Research

(i) Applied Probability and Numerical Analysis, (ii) Network Theory, (iii) Theoretical Physics, (iv) Flame Stabilization in Rectangular Cavity and Turbulent Flame Front, (v) Flow Model in a Hydrocyclone, (vi) Tidal Flow in river Hooghly, (vii) Flow Analysis in Electrochemical Machining.

2. Experimental Research

(i) *Computer Memory Techniques* : Research in memory technology is a continuing type of work in this laboratory on which more than 25 research papers have been published in India and abroad. Work on some new fields of memory technology such as solid state and their film memories, associative and distributive type of memories have also been undertaken in this scheme.

(ii) *Pattern Recognition, Learning Machines and Statistical Methods* : The application of statistical methods in pattern recognition problems and learning machines is a modern field of research activity. Theoretical and experimental investigation in this field have been conducted in this laboratory, and more than 10 papers have been published. Automatic recognition of handwritten characters and human speech by machines is the aim of this research programme which encompasses work in communication science, psycholinguistics, neurophysiology and computers. The spectrographic analysis has been made of Indian languages as a speech for acoustic cues.

(iii) *Digital Communication Technique* : This scheme, started in 1972 to assist the main scheme of pattern recognition in speech research problems, comprises (a) theoretical work on coding theory, switching theory and digital filtering theory, and (b) experimental work on digital filtering, speech synthesis and analysis. A digital communication laboratory is planned to be established during the Fifth Plan period.

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(iv) *Mini Computer* : Some preliminary work has been done on the design of mini-computers suitable for research institutions. Special emphasis has been laid on cost/performance ratio. The work is in progress.

(v) *Computer Peripherals* : A digital high-speed paper tape reader has been developed in the laboratory with mostly indigenous materials. The work was reported in the Annual General Meeting of the Computer Society of India and received appreciation.

The prototype was taken to the Electronics Corporation of India, Ltd. (ECIL), Hyderabad for demonstration. The ECIL and the Electronics Commission showed interest in such activities.

3. Training

Four M.Tech. students from the Calcutta University underwent three months' training on advanced electronic circuitry. Two students from the B.E. College also completed four months' training.

2.3. Statistical Quality Control Division (S.Q.C.)

The Statistical Quality Control Division started functioning in 1952 with three specialists to undertake training, service, promotion, research and development in quality control in the country. With barely six factories and an yearly receipt of Rs. 5,000 at its inception, the Division has grown over the years to service now 62 factories including a few giant complexes in the public sector. It has been training at the rate of about 1,800 persons per annum in short-term and specialised courses for managers, engineers and workers in industry. The Division now earns about 90 per cent of its expenditure with a staff complement of about 60 specialists.

In the last two decades, the Division has trained over 12,000 executives, engineers, and technologists in various courses, produced over 250 specialists, serviced over 1,050 factories, brought out over 600 pamphlets, booklets, articles and other popular literature, and conducted about 225 seminars, symposia, and discussion meetings.

Training : During the year, over 1,900 executives, engineers, supervisors and workers were trained in general and specialised courses in quality control.

About 131 persons were undergoing professional training at post-graduate diploma level for specialisation in quality control at the three schools in Calcutta, Bombay and Madras. A specialist development programme was also launched during the year in order to offer career development, and nine candidates were admitted into the first and second year of the programme.

Thirty-four training manuals were developed to suit the needs of various industries, in particular the pharmaceuticals, textiles, steel and electronics industries.

A significant feature of training during the current year is a special programme of one year offered to the Hindustan Steel Ltd. The programme aims at developing a group of 29 metallurgists, engineers, and other technical personnel into specialists to meet the future needs of Hindustan Steel not only in enlarging and intensifying quality-cost studies, but also in undertaking training programmes for the operating personnel in the constituent steel plants.

Service : The three key projects (i) service to the steel plants of Hindustan Steel at Durgapur, Bhilai and Rourkela, (ii) the special studies undertaken for the Railways, and

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(iii) the one-year special course for 20 metallurgists, engineers, and other technical personnel from Hindustan Steel, and the service at Indian Drugs and Pharmaceuticals (IDPL), together, occupied the attention of almost 50 per cent of the specialists and accounted for a considerable part of the workload in the Division.

A number of interesting and useful applications have been undertaken in the three steel plants. Yield increases, quality improvements and waste reduction have been reported from all the three, Alloy, Bhilai and Rourkela steel plants. Apart from the executive seminars and supervisory training, zonal meetings were conducted from time to time in order to secure knowledgeable involvement and participation of the managers in the studies that the teams undertook in the Departments.

Apart from these projects, the SQC units handled service assignments in 58 factories with about 22 specialists. A number of useful studies were undertaken in the area of quality systems design and operation, and cost reduction studies, which have reportedly resulted in productivity and quality improvement, as well as the lowering of costs.

The Railways offered a challenging assignment to the Division. The two principal studies related to the movement and handling of wagons for coal and projection of demands of wagons during the Fifth Five Year Plan. Preliminary studies have already indicated promising scope for improving the operation efficiency of wagon allotment, movement and handling.

The Institute concluded service and training tie-ups with the Department of Administrative Reforms, Cabinet Secretariat, Government of India. Some of the studies, on which joint effort was already expended, were in respect of improving operational efficiency in the Willingdon Hospital and Super Bazars in New Delhi, and Rajabagan Dockyard of the Inland Water Development Corporation, Calcutta. A number of basic and advanced training courses in Quality Control and Operational Research was conducted by the Institute for the benefit of the officers in the Department of Administrative Reforms.

In-plant training was intensified in some of the project establishments, particularly Hindustan Steel and Indian Drugs and Pharmaceuticals (IDPL). A notable feature was the training of operatives in one of the steel plants and in IDPL and as a part of the follow-up, the operatives particularly in IDPL undertook a number of interesting applications, employing the simple concepts of quality control. The headway they made is quite interesting.

The development of quality manuals, hand-outs and technical literature for systems which had been established and proved satisfactory was one of the tasks successfully undertaken in some of the member establishments. Forty-two such manuals etc. were written up and released as reference documents and follow up in the plants.

Promotion and Publication : Promotion activity was moderately carried out with a small staff complement in each unit. Pilot studies were completed in 25 establishments. Introductory visits were paid to 87 factories.

The specialists of the Division participated in 16 seminars, conferences and gave 107 talks and lectures on quality control.

Five papers were published on the application of quality control in industries. Forty reports were prepared and proposals offered for commencement of service and training assignments in plants.

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Research : Five papers, dealing with methodological and other breakthrough, were published in technical and scientific journals and seven papers were submitted for publication.

Visiting Experts : Mr. Ikuo Babo, Head, Baba Consulting Engineers' Group, Japan, came as a visiting expert to the Statistical Quality Division, for about five months.

Mr. D. J. Desmond, UNIDO expert on Quality Control from the United Kingdom, came on a short assignment for about six weeks. He offered a number of useful suggestions regarding service work.

2.4. Library and Information Services

The Central Library at Baranagar had a collection of 1,31,707 books and bound journals; 33,226 reprints, monographs, specialised technical reports, besides a large collection of maps, microfilms and photoprints. The services of the branch libraries at Bombay, Bangalore, Baroda, Cochin, Coimbatore, Delhi, Giridih, Madras and Trivandrum were coordinated with those of the Central Library to serve the researchers, students and staff of the Institute.

Membership : The total membership of the library increased to 2,399 (1,875 research and other staff members of the Institute, students attached to the Research and Training School, 295 outside student members, 183 seasonal members and 46 ordinary members). One hundred ninety-five persons were given special permission to use the Library during the period.

Acquisition : The Library purchased 769 books and received 284 books on an exchange basis and 440 books as gifts and also added 712 official reports and data books to its collection. The Library received scientific and technical publications in Russian and Japanese languages on an exchange basis against publications of equal value from the Lenin State Library; Fundamental Library of Social Sciences, USSR; Library of the USSR Academy of Sciences; M. E. Saltykov Schedrin State Public Library, USSR; and the Institute of Developing Economies, Tokyo. Fortytine new periodicals were added to the Library, of which 28 were on subscription, 8 on exchange basis and 13 as gifts. During the year, the Library received 2,685 current periodicals—840 through subscription, 1,033 on exchange and 712 as gifts. The Library also acquired the back-runs of the periodical *Indian Journal of Industrial Relations*, v. 1 (1965-66) to v. 8 (1972-73) to make the collection comprehensive. It continued its exchange arrangements with 164 foreign and 65 Indian institutions and received periodicals, and other serials in exchange of *Sankhya*, *The Indian Journal of Statistics*, from those institutions.

Accession : During the period, 2,601 books and other documents were accessioned, of which 712 were official reports and data books.

Technical processing : The Library classified 1,020 books and 79 official reports and catalogued 1,561 books and 79 official reports. The revision of book classification and of catalogue cards numbered 23 and 104 respectively. During the period, 105 reprints were catalogued and added to the reprints collection, 7,956 cards were filed and 366 additional copies of books added to the collection. The Central Records processed and indexed 1,367 old files, 1,287 newspapers and 3,645 maps.

Circulation : Eighteen thousand five hundred and seven books and 20,131 journals (parts of volumes) were issued for reference and 12,300 books on loan. Besides, 2,738 official

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reports, 87 maps, 16 newspapers and 32 old files were issued for reference. The Library sent 106 books and journals to the branch libraries of the Institute. There were inter-library loan transactions with 16 local and outstation libraries during this period.

Reference and bibliographic services: The Library compiled and prepared the following bibliographies and select reading lists on different subjects on request 1. *Bibliographies:* (a) Planning techniques (micro-sectural, project, regional, perspective, State level, with special reference to Mysore), (b) Public utilities (pricing and investment policies in transport), (c) Statistics for medical research, (d) Environmental health, (e) Demand for major industrial goods (demand, supply and methodology of calculations). 2. *Reading lists:* (a) Automobile Industry—accessories, (b) Foreign assistance to India, (c) Scholarships and foreign education, (d) Data Banks, (e) Central and State finances, and (f) Wage differentials (inter-and intra-industry, inter-and intra-regional).

A classified bibliography of currently published Bengali books was compiled and published in a Bengali journal.

The short reference questions answered numbered about 1,200.

Central and scientific photography: During the period, 628 photographs were taken, and 4287 bromide enlargements, 647 reproductions, 374 slides and 78 photostat copies were made and the processing of 39 x-ray and roll films was carried out.

Reprographic service: During the period, 7,165 pages of scientific treatises and other reading materials were microfilmed and 5,884 pages of photoprint prepared. The number of pages (or original documents) xeroxed was 1,484 and the total number of pages printed, 4,017. Microfiche negatives of 19 documents (2,281 pages in all) were prepared. The Library also extended reprographic service to the Indian National Scientific Documentation Centre (INSDOC) and several other scientific institutions.

Publications: The Library continued to bring out regularly the *Monthly Bulletin*—List of books released for circulation; and List of Selected Periodicals. The *Index to Statistical Literature* was maintained on cards for internal reference.

Circulating Library: The Workers Circulating Library had a collection of 25,774 books and the total number of members was 1,798. During the period, the Circulating Library added to its collection 442 books, of which 30 books were in English, 363 in Bengali and 49 in Oriya. It issued 47,246 books to the members.

2.5. Documentation Research and Training Centre (D.R.T.C.), Bangalore

The seven candidates, admitted to the Documentation Course for 1971-72, completed their formal training. They are now working on the Trend Report to qualify for the Associateship in Documentation and Information Science.

Nine candidates were admitted to the Documentation Course (1972-73) which commenced on 15 April 1972.

Research: The main subjects of research were: 1. Universe of Subjects, 2. Use of Information in Research, 3. Documentation in Social Sciences, 4. Discovery and Duplication of Discovery, 5. Classification, 6. Technology Diffusion and Information for Industry, and 7. Computer-based Document Finding System.

Seminars: The following seminars were organised by the Documentation Research and Training Centre, Bangalore: 1. Seminar on Public Library System,

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28-30 April 1972; 2. Seminar on Chemical Notation Systems and Computer, organised jointly with the Indian Institute of Science, 17 June 1972; 3. DRTC Mid-Year Refresher Seminar, 10-15 July 1972; 4. DRTC Annual Seminar, 12-16 February 1973. Over 75 delegates from Universities and other Institutions participated in the DRTC Annual Seminar and held discussions on some 15 draft propositions framed on the basis of 33 papers.

Publications : The DRTC continued to collaborate with the Sarada Ranganathan Endowment for Library Science in publishing the quarterly, "*Library Science with a slant to Documentation*." The following were the other DRTC publications : 1. DRTC Annual Seminar (10) (1972), volume of papers, pp. 610. The following books were published :

1. Documentation Genesis and Development by S. R. Ranganathan.
2. Library Classification : Evolution of a Dynamic Theory by R. S. Parkhi (Edited by S. R. Ranganathan).
3. *Public Library System* : India, Sri Lanka, UK, USA : Comparative Library Legislation. Edited by S. R. Ranganathan and A. Neelameghan.

Paper contributed : During the period, the staff of the DRTC contributed 50 papers to seminars and conferences and for publication in library science periodicals.

Consultancy service : The DRTC provided consultancy service and guidance to several public sector industries, research institutions, government departments, universities, etc. for setting up and organising their library and documentation services through the preparation of technical reports, and selection of librarians. Among them may be mentioned the Department of Industries and Commerce, Madras; Oil and Natural Gas Commission, Dehra Dun; Indian Council of Social Science Research, New Delhi; University of Delhi; Council of Scientific and Industrial Research, Delhi; Central Food Technological Research Institute, Mysore; Jawaharlal Nehru University, Delhi; and National Aeronautical Laboratory, Bangalore.

Lectures : Sixteen visiting scientists and specialists gave lectures. Talks on 18 subjects were given by the DRTC staff under the auspices of outside organisations. Twelve colloquia were also organised by the D.R.T.C.

Library : During the period, the library received 218 books, 47 reports/reprints and 3 periodicals.

Other Activities :

(i) *International Federation for Documentation (F.I.D.)* : The FID/CR Secretariat is now functioning in the DRTC with Professor A. Neelameghan as Chairman and Shri G. Bhattacharyya as Secretary. The Secretariat, assigned to India for four years, has brought out the quarterly, *Newsletter*, as a part of its programme of work.

(ii) *National Information Transfer Centre (NITC)* : At the suggestion of the Indian National Commission for cooperation with the UNESCO, Ministry of Education and Social Welfare, the Documentation Research and Training Centre has been selected to function as the National Information Transfer Centre for India. Its objective is to collect information on research and development work done in India in library science, documentation and allied fields and make it available to the UNESCO.

(iii) *Bangalore University, Ph.D.* : The DRTC has been recognised as an institution for conducting research in library science/documentation leading to the Ph.D. degree of the Bangalore University.

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3. INTERNATIONAL STATISTICAL EDUCATION CENTRE (ISEC), CALCUTTA

The International Statistical Education Centre (ISEC), Calcutta, is operated jointly by the International Statistical Institute and the Indian Statistical Institute, under the auspices of the UNESCO and the Government of India. The Centre functioned under a Board of Directors of which Professor P. C. Mahalanobis was the Chairman since the Centre was opened in 1950.

After the death of Professor P. C. Mahalanobis, the Board of Directors was reconstituted as follows :

Chairman : C. R. Rao, *Members* : P. J. Bjerve, G. Goudswaard, E.L unenberg (ex-officio members, representing the International Statistical Institute), B. D. Pandey (Cabinet Secretary, representing the Government of India), D. B. Lahiri, T. J. Rao, *Member-Secretary* (representing the Indian Statistical Institute).

Twenty trainees from nine countries in South and South-East Asia, the Far East and also from the Commonwealth countries of Africa attended the regular courses.

The Government of India awarded 12 fellowships for the foreign trainees in the Twenty-sixth Term, under the Technical Co-operation Scheme of the Colombo Plan (B), and the Special Commonwealth African Assistance Plan (SCAAP) (3). One fellowship was awarded outside the Colombo Plan or SCAAP to a trainee from the Fiji Islands. There were 8 other trainees outside the Colombo Plan and SCAAP for the regular course (Fiji Islands—1, Hong Kong—2 India—5).

The Twenty-sixth Term opened on 1 June 1972. English is the medium of instruction at the Centre. The training imparted included lectures, laboratory work, project training, assisted reading and field work. The first four months at Calcutta were devoted to General Statistical Methods including Auxiliary Mathematics, Computational Techniques, Probability Theory, Numerical Mathematics, Sampling Techniques, Economics, Economic Statistics, Statistical Organisation and Procedures. As in previous terms, a six-week training in governmental statistics was given at the Central Statistical Organisation, New Delhi, during October-November 1972. During the next three months, general lectures were also given on Probability Theory, Vital Statistics and Demography, Sampling Theory, Statistical Distribution, Inference, Advance Statistical Methods, Analysis of Variance and Elements of the Theory of Design of Experiments, Economic Statistics and Economic Planning. During February-March 1973, specialization courses on an individual basis were given in the following fields : Large Scale Sample Surveys, Economic Planning, Data Processing and Mathematical Statistics.

In the final examination, all the 19 successful trainees (one trainee admitted to the course discontinued due to personal reasons) were awarded the Certificate of Merit.

Professor Haruki Morimoto, Department of Mathematics, Osaka City University, Japan, joined the Centre as the Visiting Professor on 15 November 1972 and stayed until the beginning of April 1973. He delivered a series of lectures on Statistical Inference to the general body of students. He conducted a specialisation course on Mathematical Statistics for a selected group of students. Professor Morimoto participated in the research activities of the Indian Statistical Institute and delivered a few lectures to the staff and students of the Research and Training School on "Sufficiency in some undominated statistical structures."

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4. SURVEY RESEARCH CENTRE (S.R.C.)

Data based research forms a major activity of the Survey Research Centre (S.R.C.). The National Sample Survey Organisation (NSSO) of the Government of India agreed to make over to the ISI the NSS schedules up to the nineteenth round. It was possible to arrange for some analysis of the eighteenth round consumer expenditure data. A preliminary analysis has been made of various sources of error from which data on quantity and value items suffer. Some investigations on prices paid for various items have also been initiated. Comparison with the twenty-third round material is under contemplation.

A beginning has been made in following other types of work : 1. Computerised frame for large-scale sample surveys (J. Roy, S. Roy); 2. Computerised scrutiny and editing of primary data obtained from large-scale sample surveys (J. Roy, A. K. Haldar, K. J. Iyengar, A. Das); 3. Estimation of proportions in domains using inverse equal probability sampling (T. P. Tripathi); 4. Optimum properties of ratio, product, regression, and difference types estimators involving empirical investigations using the computer (N. S. Sastry); and 5. Optimum utilisation of multiple auxiliary information, optimality of μ P sampling and Bayesian analysis (T. V. Hanurav, T. J. Rao and K. Geetha).

The detailed tabulation of the eighteenth round NSS consumer expenditure data may be published as a report and the tables are being copied. Some stages of work of the Survey of Industrial Labour in Greater Calcutta have been financed from SRC funds.

Preliminary arrangements by way of purchase of some cameras were made, to enable microfilming work to be taken up without undue delay. This work can be started systematically after the installation of the microfilming unit. The accommodation of the Indian Statistical Institute, now under occupation of the National Sample Survey Organisation, would be required for the purpose.

5. PROFESSIONAL EXAMINATIONS

All the four open professional examinations were held during 1972: (i) Statistician's Diploma, (ii) Computer's Certificate, (iii) Statistical Field Survey, and (iv) Punched Card Machine. The Statistician's Diploma and the Computer's Certificate examinations were as usual held twice in May and November. The Punched Card Machine examinations were held once in May and the Statistical Field Survey examination only once in November.

Six of the examination centres—Bombay, Calcutta, Delhi, Giridih, Lucknow and Madras—have always some candidates to offer, and they were all utilised for the examinations in May 1972 and November 1972. The largest number of candidates appeared from the centres in Calcutta and Delhi.

The details of candidates who registered and appeared for the examinations during 1972 are given below :

i) *Statistician's Diploma Examination* : During 1972, 172 candidates (83 in May, 89 in November) registered for the examination but 30 candidates (14 in May, 16 in November) failed to appear in any of the papers. Of those who finally appeared in 1972, 79 candidates (34 in May, 45 in November) passed in one or more papers.

ii) *Computer's Certificate Examination* : In 1972, 42 candidates (13 in May, 29 in November) registered for the examinations. Only three candidates (2 in May, 1 in November)

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ber) failed to appear in any of the papers. Of those who finally appeared, 24 candidates (6 in May; 18 in November) passed in one or more papers.

iii) *Statistical Field Survey Examination* : In November 1972, only one candidate who had registered for the Field Survey Diploma examination passed in all the papers.

In November 1972, no candidates registered for the Field Survey (Senior) Certificate examination.

In November 1972, the only candidate who registered for three papers in the Field Survey Junior Certificate Examination, failed in the two theoretical papers, and he could not sit for the practical paper.

iv) *Punched Card Machine Examination* : In May 1972, no candidate registered for any of the papers of the Punched Card Data Processing Diploma examination.

In May 1972, only one candidate who registered for two papers of the Punched Card Machine Operator's Certificate examination, appeared and passed in both the papers.

Number of successful candidates qualifying for the award of Diplomas and Certificates in Open Professional Examinations : The number of candidates who had successfully completed the entire professional examinations and qualified themselves for the award of Diplomas and Certificates during the year 1972 are given below :

Statistician's Diploma : 7 candidates in all (4 in May; 3 in November).

Computer's Certificate : 7 candidates (2 in May; 5 in November).

Statistical Field Survey examinations :

i) *Diploma* : One candidate.

6. VISITING SCIENTISTS

A number of distinguished foreign scientists participated in the research, training and other scientific activities of the Institute during the year. Some of them came to the Institute on invitation and spent fairly long periods at the Institute to assist in regular work, while others came for short periods and gave lectures and seminars. Most of them were available for consultations by research workers and teachers of the Institute.

I. The following scientists visited the Institute on invitation and worked for fairly long periods during the year 1972-73. The duration of the visit is mentioned within brackets against each name :

PROFESSOR RUDOLF ALTEVOIT, Department of Zoology, University of Munster, Munster, Federal Republic of Germany (15 February 1973-31 March 1973) came on his second visit and actively participated with the Crop Science Unit in the joint expedition to the Andaman Islands to study the biology and behaviour of *Birgus Latro* (the coconut robler crab). A scientific film on the expedition is being published at the Film Institute, Göttingen, as a contribution to *Encyclopaedia Cinematographica*.

MR. IKOO BABA, Head, Baba Consulting Engineers' Group, Japan, and Visiting Expert, Statistical Quality Control Division (15 November 1972-14 April 1973) came under a Colombo Plan scheme to render technical assistance. During his stay, Mr. Baba gave a number of seminars on the latest developments in quality control and the current practice and procedures in Japan. He was on special systems development work in the Rourkela Steel Plant (Hindustan Steel) for two weeks and in the Hindustan Photo Film for about

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three weeks. During the remaining period, he visited a number of factories in various regions and offered useful suggestions for the application and development of quality control

Dr. M. L. BARTLETT, former lecturer, North East London Polytechnic, U.K. (7 October 1971-8 June 1972) came as a visiting scientist in the Psychometry Research and Service Unit and participated in research on psychometry, specially on the problems of delinquency. *Lectures*: (i) Causes of delinquency; (ii) How to detect the delinquents; (iii) Scaling of offences for research in delinquency; and (iv) Asymptotic expansion of hypergeometric functions.

PROFESSOR R. C. BOSS, Department of Statistics, Colorado State University, Fort Collins, USA (7 December 1972-4 January 1973) was accompanied by Mrs. Bos. *Lectures*: (i) Linear representation of projective planes, (ii) Designs and graphs (six lectures), (iii) Combinatorial Mathematics (six lectures). He participated in the Symposium on Combinatorial Mathematics, New Delhi, 22-27 December 1972, held under the joint auspices of the Indian Statistical Institute, Indian National Science Academy and the Department of Atomic Energy.

Dr. LEOPOLD M. BELOUSOV, Scientific Editor, 'Nauka' Publishing House, Moscow; Visiting expert from the USSR Academy of Sciences, came to assist the Indian Statistical Institute in the publication and distribution of Soviet literature on science and technology (arrived on 24 April 1972); accompanied by Mrs. S. N. Belousov.

Dr. V. A. КОСНЕСКИН, Department of Medicine (Tuberculosis), Lomumba Friendship University, Moscow (30 March 1972-28 June 1972) came under the Indo-Soviet Cultural Exchange Programme to work in the Crop Science Unit. He also visited Hyderabad, Madras, Bangalore, Mangalore, Bombay, Poona and Delhi in connexion with his work.

PROFESSOR DJORDJE KOSTIC, Director, Institute for Experimental Phonetics and Speech Pathology, Belgrade, Yugoslavia (29 November 1972-3 February 1973) came on his fifth visit to the Institute in connexion with the programme of fundamental linguistic research being carried out in collaboration between the Indian Statistical Institute and the Institute of Experimental Phonetics and Speech Pathology.

Professor Kostic had discussions with eminent linguists and other scientists in Agra, Calcutta and Delhi. He wrote two books in collaboration with Indian scientists: (i) Bengali Speech Sounds for Hard-of-Hearing Children (in press), (ii) A Short Outline of Hindi Phonetics (in preparation for press).

He conducted a seminar on problems connected with the education of hard-of-hearing children and the modern approach to these problems (Seminar on the Use of Kostic Methodology and Instrumentation in Speech Rehabilitation, Agartala, 10-23 December 1973).

Lectures: (i) Language and problems relating to language teaching (Agra), (ii) Phonetics and speech pathology (Delhi), (iii) Modern approach to teaching foreign languages (Delhi).

Mr. BRUCE L. KUTNIK, Research Scholar, Massachusetts Institute of Technology, USA (15 September 1972-3 December 1972) worked in the Planning and Regional Survey Unit, Delhi, on the project, "Research and development in the chemical industry of India."

Mr. KENZUO MATSUTANI, Senior Overseas Research Officer, Institute of Developing Economy, Tokyo, Japan (arrived on 16 March 1971) has been working at the Planning

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Unit, Delhi, on a study on "Social changes and impact of industrialisation in India, with special reference to Bihar, Punjab, and Mysore." He is expected to work in the Institute up to March 1973.

DR. J. A. MILBURN, Department of Botany, University of Glasgow, U.K. (30 October 1972-30 November 1972). *Lectures* : (i) Pipelines in plants (fascinating world of micro tube transport of liquids in plants), (ii) The fascination of phloem, (iii) Fun with fungal spores, (iv) Sap conduction in leaves. Dr. Milburn collaborated with the research of the Crop Science Unit and experimented extensively on the mechanism of sap conduction in coconut and other palms.

PROFESSOR HARUKI MORIMOTO, Department of Mathematics, Osaka City University, Japan (15 November 1972-5 April 1973), came as the Visiting Professor, Twenty-sixth Term, International Statistical Education Centre, Calcutta; accompanied by Mrs. Harue Morimoto. *Series of lectures* : (i) Statistical inference, (ii) Mathematical statistics, (iii) Sufficiency in some undominated statistical structures.

PROFESSOR I. M. PANTIN, Head of Department of Mining, Lumumba Friendship University, Moscow (4-26 May 1972) came for discussions regarding the Indo-Soviet Cultural Exchange Programme.

MR. NIKOLAI M. PAVLOV, mechanical engineer from the USSR Academy of Sciences came to assist the Statistical Publishing Society in maintaining and operating Soviet printing machines. (24 April 1972-10 August 1972).

DR. A. Y. RAKITIN, Agronomist, Department of Agriculture, Lumumba Friendship University, Moscow (30 March 1972-28 June 1972) came under the Indo-Soviet Cultural Exchange Programme to work in the Crop Science Unit. He also visited the following centres in connexion with his work : Bangalore, Bombay, Delhi, Hyderabad, Madras, Mangalore and Poona.

DR. BASANTA KUMAR SAHU, Department of Geology, Regional Engineering College, Rourkela, Orissa (11 June 1972-3 July 1972). He discussed various problems concerning quantitative aspects of geology. *Lectures* : (i) Treatment of geological data, (ii) Testing of geological hypothesis (Univariable-1), (iii) Testing of geological hypothesis (Multivariate I and II), (iv) Statistical methods in petrographic analysis, (v) Probabilistic solution to grain size analysis in their section.

PROFESSOR ARK SUNDBORG, Chairman, Department of Physical Geography, University of Uppsala, Sweden. (26 January 1973-16 February 1973). From 26 January to 2 February 1973, Professor Sundborg participated in a field trip in the Usri river Valley, Giridih, Bihar, along with Dr. Supriya Sengupta, to help in the Geological Studies Unit's project on the study of the recent sedimentation processes of the Usri river. Professor Sundborg also participated in a field trip to the Brahmaputra River Valley, organised by the Geological Survey of India. During his visit he had discussions with staff members of the Geological Studies Unit on their research programme on recent sediment studies. *Lectures* : (i) Quantitative aspects of geomorphological processes, (ii) Erosion, transportation and deposition in fluvial regimes.

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II. *The following are some of the scientists who paid short visits and gave lectures and/or seminars, and participated in conferences.*

SRI P. L. ARYA, Department of Economics, University of Delhi (15-31 May 1972). *Seminar*: (i) National accounting for developing countries: survey of available frameworks; (ii) The U.N. system of national accounts: an assessment of methodology.

PROFESSOR CLAUDE BERGE, Centre de Mathématique Sociale, Laboratoire Associé au C.N.R.S., Paris (21 December 1972-29 January 1973). *Lectures*: Graph theory and family of sets. He participated in the Symposium on Combinatorial Mathematics, New Delhi, 22-27 December 1972.

PROFESSOR U. N. BHAT, Southern Methodist University, Dallas, Texas (1 July 1972). *Lecture*: Finite queue with set-up time for each service (*Mysore State Branch*).

DR. GEORGE BORGSTROM, Professor of Food Science and Geography, Michigan State University, East Lansing, USA (18 December 1972). *Lecture*: Statistical fallacies in relation to world feeding.

PROFESSOR AJIT DASGUPTA, Institute of Economic Growth, Delhi (1-29 June 1972). *Lectures*: (i) Marginal cost in electricity industry; (ii) Economic benefits of flood control.

DR. S. W. DHARMADHIKARI, Department of Statistics, Faculty of Science, M. S. University of Baroda, Gujarat (24 May 1972). *Lecture*: Kernels of sets.

PROFESSOR NICOLAE DINCULEANU, Department of Mathematics, University of Florida, U.S.A., accompanied by Mrs. Nineta Dinculeanu (29 August 1972-2 September 1972). *Lecture*: On measure preserving transformations.

DR. P. C. GANESHSUNDARAM, Assistant Professor of Foreign Languages, Indian Institute of Science, Bangalore (6-22 November 1972). *Lectures*: Psycholinguistics (*DRTC, Bangalore*).

DR. S. P. GROSS, IBM Research Laboratory, San Jose, California, USA (24 October 1972). *Lecture*: Some properties of data independent access models.

PROFESSOR V. S. HUZURBAZAR, Department of Mathematics and Statistics, University of Poona (27-28 March 1973). *Lecture*: What is a mathematical proof?

DR. E. V. KRISHNAMURTHY, Department of Applied Mathematics, Indian Institute of Science, Bangalore (27 November-3 December 1972). *Lectures*: Information processing (*DRTC, Bangalore*).

PROFESSOR HARRY MAGDOFF, Co-editor, *Monthly Review, USA*; accompanied by Mrs. Magdoff. (3-9 April 1972). *Lecture*: Non-capitalist path of development.

DR. ASHOK MITRA, National Fellow, Indian Council of Social Science Research, Delhi. *Seminars*: (i) Price policy and income distribution (6, 13 & 20 September 1972); (ii) Advanced course in economics (20 January 1973).

DR. JACK MORAVA, Department of Mathematics, Institute of Advanced Studies, Princeton, New Jersey, USA (1-28 December 1972). *Lectures*: (i) Calculus of pseudo differential operators. (ii) Indexes and Fredholm of operators.

DR. ANDRAS NAGY, Institute for Economics and Market Research, Budapest, Hungary (29 January 1973-2 February 1973). *Seminar*: Optimisation of problems of foreign trade.

DR. R. NARASIMHAN, Tata Institute of Fundamental Research, Bombay (8 November 1972). *Lecture*: Relational network models in query system (*DRTC, Bangalore*).

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SRI V. V. PARTHASABATHY, Marketing Manager, Messrs. Vulcan Lavan Ltd., Bombay (31 July-5 August 1972). *Lectures*: Management information system (DRTC, Bangalore).

Dr. N. RAMASUBRAMANIAN, Computer Centre, Indian Institute of Technology, Kanpur (10 November 1972). *Lecture*: Speech and information retrieval (DRTC, Bangalore).

SRI M. V. RANGANATHAN, Hindusthan Machine Tools Ltd., Bangalore (13-17 March 1973). *Lecture*: Translation (DRTC, Bangalore).

Dr. B. V. RAGHAVENDRA RAO, Librarian, Delhi University (24 November 1972). *Lecture*: Library management (DRTC, Bangalore).

PROFESSOR T. I. ROGOVA, Department of Plant Protection, Lumumba Friendship University, Moscow (4-25 May 1972). came under the Indo-Soviet Cultural Exchange Programme to work in the Crop Science Unit.

Dr. ASHOK ROY, Department of Mathematics, Tata Institute of Fundamental Research, Bombay (22-28 October 1972). *Lectures*: (i) Bombay integrals; (ii) Application of Choquet's theorem to representation of invariant measures; (iii) Dilation theorem; (iv) On a new class of infinite dimensional compact convex sets.

PROFESSOR AMARTYA K. SEN, London School of Economics, U.K. (16-18 August 1972). *Lectures*: Economic inequality: concepts and measurements.

Dr. P. K. SEN, Department of Biostatistics, University of North Carolina, USA (8 May 1972-10 June 1972). *Lecture*: Weak convergence of certain non-linear statistics with applications to non-parametric inference.

Dr. B. L. SENDOV, Dean, Faculty of Mathematics, University of Sofia, Bulgaria (11 January 1973). *Lecture*: Approximations in Hausdorff distance (and generalisation of Levy's distance).

Dr. K. R. SHAH, Department of Statistics, Waterloo University, Canada (30 May 1972-3 June 1972). *Lecture*: Estimation of mean vector in analysis of variance.

PROFESSOR N. SIKOVSKI, Department of Mathematics, Warsaw University, Polish Academy of Sciences (15 January 1973). *Lecture*: Extension notion of determinants to infinite dimensional vector spaces.

Dr. U. B. TEWARI, Department of Mathematics, Indian Institute of Technology, Kanpur (10-14 July 1972). *Lecture*: Multipliers in H.P. spaces.

PROFESSOR Y. TURIN, Department of Mathematics and Mechanics, Moscow State University (6-10 January 1973) came under the Indo-Soviet Cultural Exchange Programme. *Lecture*: The geometrical view in some problems of non-parametric inference.

SRI S. VENKATARAMAN, Engineer, International Computers & Tabulators Ltd. (4-12 December 1972). *Lectures*: Cobol (DRTC, Bangalore).

III. *The following are some of the visitors who came to the Institute for short periods on different assignments.*

Dr. MAHBUB-UD-DIN AHMAD, Department of Statistics, Dacca University, Bangladesh (1 September 1972).

PROFESSOR MIROSLAV CERNY, Department of Economics, Czechoslovak Technical University, Prague (23 November 1972).

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Dr. D. J. DESMOND, UNIDO Expert on quality control from the United Kingdom (17 January 1973-April 1973).

PROFESSOR LESTER E. DUBINS, Department of Statistics, California University, Berkeley, USA (9-11 August 1972).

Mr. H. FITZ, West German Advisor to Central Staff Training and Research Institute, Ministry of Labour, Employment and Rehabilitation, Government of India (18 September 1972).

PROFESSOR ISTVAN FRISZ, Director, Institute of Economic Studies, Budapest; member, Hungarian Academy of Sciences (21 December 1972).

MRS. MARGARET GOONERATNE, Chief Librarian, United States Information Service, Ceylon (1 May 1972) (DRTC, Bangalore).

Dr. Y. N. GUZEVATYI, Senior Research Worker, Institute of World Economic and International Relations, USSR Academy of Sciences, Moscow (6-16 May 1972) came in connexion with research work on demographic trends, population problems and family planning, under the Indo-Soviet Cultural Exchange Programme.

SIR JOHN RICHARD HICKS, Nobel Laureate (Economics, 1972) (18 November 1972).

PROFESSOR HLOUSKŮ JIRI, Department of Electronics, Czechoslovak Technical University, Prague (23 November 1972).

Dr. MIHALIK JOZOF, Bratislava School of Economics, Czechoslovakia (28 March 1973).

PROFESSOR R. L. KIRK, John Curtin School of Medical Research, Australian National University, Canberra (1-5 October 1972) came for consultations in the Anthropometry and Human Genetics Unit regarding the collaborative project of biochemical polymorphisms.

Dr. K. KISHEN, Emeritus Scientist, Indian Council of Agricultural Research, New Delhi (2 September 1972).

Mr. YUKIHIKO KIYOWAKA, Economic Research Institute, Hitotsubashi University, Tokyo (5-12 February 1973).

PROFESSOR H. KNOP, Member, Research Council, German Democratic Republic; Pro-Vice-Chancellor, University of Economics, Berlin (20 March 1973).

Mr. BROCE L. KUTNIK, Ph.D. student from the Massachusetts Institute of Technology, U.S.A. (5 September 1973-3 December 1973) worked at the Planning Unit, Delhi, on "Research and Development in the Chemical Industry of India."

PROFESSOR MICHAEL J. LIBBE, Department of Geography, Syracuse University, New York (8-10 May 1972).

PROFESSOR VLADISLAV MARIAS, Department of Electronics, Czechoslovak Technical University, Prague (23 November 1972).

Mr. HIROSHI MATSUMOTO, Regional Planner, International Development Center for Japan Survey Team, Comprehensive Study on the Development of Bangladesh, Tokyo (24 January 1973).

PROFESSOR W. MOSCH, First Pro-Vice-Chancellor, Department of Electrical Engineering, Technical University, Dresden, German Democratic Republic (20 March 1973).

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PROFESSOR L. MOCZAR, Department of Zoology, University of Szeged, Hungary (2-4 October 1972).

DR. TAMAS NAGY, Professor of Political Economy, University of Economics, Budapest; Deputy Director, Institute of Economics, Hungarian Academy of Sciences (21 December 1972).

PROFESSOR MAKOTO NOBUKUNI, Department of Liberal Arts, Seitama University, Ohkubo, Urawa, Japan (15-19 November 1972).

DR. HENRICH V. NUSSBAUM, United Nations Research Institute for Social Development, Geneva (19 September 1972).

PROFESSOR KONOSUKE ODAKA, Institute of Economic Research, Hitotsubashi University, Tokyo (3-8 April 1972) came in connexion with his research in manpower recruitment and training, with special reference to industrial plants.

DR. G. PARTHASARATHI, Vice-Chancellor, Jawaharlal Nehru University, New Delhi (22 December 1972).

SHRI S. PARTHASARATHY, Scientist-in-charge, Indian National Scientific Documentation Centre, New Delhi (23-25 December 1972).

PROFESSOR E. ROWDE, First Pro-Rector, Humboldt University of Berlin; Member, City Assembly of Berlin, German Democratic Republic (20 March 1973).

DR. N. SAMA, John Curtin School of Medical Research, Australian National University, Canberra (1-5 October 1972).

MR. KATSUTAKA SHIMOMURA, Overseas Technical Co-operation Agency, Tokyo (16 November 1972).

PROFESSOR KALMAN H. SILBERT, Department of Politics and Director, Thoro-American Language and Area Center, New York University; Programme Adviser, Social Science Ford Foundation (26 February 1973).

PROFESSOR HENRY TEICHER, Department of Statistics, Rutgers University, USA; accompanied by Mrs. Teicher (9-11 August 1972).

DR. V. G. VOLODIN, Deputy Director, Institute of Genetics and Cytology, Minsk, USSR (29 April-4 May 1972).

MR. W. M. A. WARANASURYA, Chairman, Ceylon National Library Services Board, Ceylon (1 May 1972) (DRTC, Bangalore).

7. HONOURS, AWARDS AND SPECIAL ASSIGNMENTS

(i) Honours and Awards

DR. C. R. RAO was elected: (1) Fellow, American Statistical Association; (2) Vice-President, Indian National Science Academy for 1973; (3) President, Indian Econometric Society, for the third term; (4) Vice-President, International Biometric Society, for 1973-74 and President for 1974-75.

PROFESSOR R. MUKHERJEE (*Sociology*) was elected: (1) Chairman, First Planning Session, Eighth World Congress of Sociology, organised by the International Sociological Association, 1974; (2) Member, Executive Council, International Sociological Association,

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Milan, for 1972-73; (3) Co-Chairman, Standing Committee of Task Force on Archive Development, International Social Science Council, UNESCO, Paris, for 1972-73; (4) Scientific Adviser, Department of Sociology, Bielefeld University, Federal Republic of Germany, for 1972-73; (5) President, Indian Sociological Society, 1972-73; (6) Patron, Indian Social Science Association, 1972-73; (7) Member, Executive Council, National Institute of Community Development, Hyderabad, 1972-73; (8) Member, Academic Council, Jawaharlal Nehru University, New Delhi, 1972-73; (9) Member, Council for Social Development, India, 1972.

Professor T. A. Davis (*Crop Science*) was elected a Scientific Fellow, Zoological Society of London, and as an Associate Editor, *Fibonacci Quarterly*, U.S.A., in 1972. He was awarded the Ph.D. degree of the Indian Statistical Institute on the basis of a thesis composed mainly of his published work on applied statistics in the field of Botany.

(ii) Special Assignments

Shri Suraj Bandyopadhyay (*Sociology*) was elected a member, Committee on Data Archives, Indian Council of Social Science Research, New Delhi, 1972-73.

Dr. N. Bhattacharyya (*Economic Research*) was re-elected Joint Secretary, Indian Econometric Society. He prepared some chapters of a survey of econometric literature for the Indian Council of Social Science Research on behalf of the Indian Econometric Society.

Dr. D. K. Bose (*Economic Research*) was nominated a member, State Planning Board, Government of West Bengal.

Shri Kumaraswami Chattopadhyay (*Sociology*) was elected Project Director on the project, "Educational Problems of Scheduled Castes and Scheduled Tribes" of the Indian Council of Social Science Research, New Delhi, 1972-73.

Dr. S. Chatterjee (*Psychometric Research and Service*) acted as (i) Test Supervisor for the Educational Testing Service, Princeton, USA, and the Psychological Corporation, USA, (ii) Honorary Chief Administrator Testing for the National Institute of Bank Management for nationalised banks; (iii) Expert in Psychology for the Indian Council of Social Science Research, and (iv) Expert in the Committee on Personality of the National Council of Educational Research and Training.

Professor S. R. Das (*Anthropometry*) was nominated as Expert Member on the Selection Committee for recommending appointment of teachers in anthropology in the University of Delhi.

Professor R. Mukherjee (*Sociology*) became the Chairman of a "Working Group of Research Methodology in Sociology" formed by the Indian Council of Social Science Research to review existing syllabi of research methodology in sociology followed by universities in India at Master's levels and recommend a revised syllabus. Shri Suraj Bandyopadhyay (*Sociology*) was the convenor of the group.

Professor A. Neelamegham (*D.R.T.C.*) served as a Resource staff member of the Workshop on Economics Research Methodology, Andhra University, Waltair, 5-11 June 1972. He contributed a paper. Professor A. Neelamegham became a member of the UNISIST Advisory Group on the Comparability of Higher Education Studies and Degrees in Information Science, constituted recently by the U.N.E.S.C.O. As a member of the Planning Group of the National Council on Science and Technology for "Machine Tool Information, Codification, Documentation, Census, Surveys," Professor A. Neelamegham attended some of the

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Group's meetings. He also helped in the formation of a plan for the establishment of a National Information Centre for Machine Tool.

Dr. K. B. Pakraji (*Anthropometry*) was appointed ECAFE (Bangkok) correspondent for the India Statistical Institute.

Dr. Supriya Sengupta (*Geology*) was appointed national correspondent of the International Association of Sedimentologists.

R. CONFERENCES, SCIENTIFIC TOURS AND ASSIGNMENTS ABROAD

Professor T. A. Davis (*Crop Science*) left India on 15 August 1972 to participate in the 14th International Congress of Entomology, Canberra, Australia, 22-30 August 1972. He presented a paper. He gave seminars on Fibonacci Numbers at the Department of Mathematics, University of West Australia, Perth, Australia, and the Department of Botany, Monash University, Melbourne. He held seminars on left and right-handedness in plants at the Biology Department, Australian National University and on Fibonacci Numbers at the Department of Statistics, University of New South Wales, Sydney. A two-day stop-over in the Philippines helped Professor Davis to gather valuable data on Nipa palms and the methods of tapping the Nipa fruit bunches for collecting the sap. He returned to Calcutta on 7 October 1972.

Dr. Qusar Zafar Hussain (*Immunochemistry*) participated at the WHO/UNESCO International Research Cell Organisation Seminar on "Molecular Aspects of Antigenicity and Immunoglobulins," Weizmann Institute of Science, Rehovot, Israel, 8-20 October 1972. She was selected to represent South-East Asia in the seminar.

Shri R. K. Lahiri (*Economic Research*) participated in the Ninth International Summer Seminar on Problems of Planning in Developing and Socialist Countries, organised by the University of Economic Science, Berlin, G.D.R., 26 June-17 July 1972. He presented a paper. He also visited the Hungarian Institute of Foreign Trade, Budapest; Centre for Afro-Asian Studies, Hungarian Academy of Sciences, Budapest; and the Bulgarian Academy of Sciences, Sofia.

Shri C. R. Malakar (*Demography*) left on 10 July 1972 to participate in the Third Summer Seminar in Population sponsored by the East-West Population Institute, Honolulu, in collaboration with the Korean Institute for Family Planning, 10 July-12 August 1972. He returned to India on 15 August 1972.

Professor M. Mukharjee (*National Income Research*) attended the following :

(i) United Nations Expert Group on Statistics of Distribution of Income, Consumption and Accumulation, Geneva, 17-21 April 1972. He left on 16 April and returned to India on 23 April 1972.

(ii) World Bank Conference of experts on "A System of International Comparisons of Real Product and Purchasing Power," Washington, 25-26 January 1973. He left India on 22 January and returned on 31 January 1973.

Professor A. Neelanughan (*D.R.T.C.*) participated in the NATO Advanced Study Institute in Information Science, 20 August-1 September 1972, Pittsburgh, USA. He presented a paper.

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Dr. J. Roy (*Computer Science*) visited the Staklova Institute of Mathematics, Moscow and Leningrad, USSR, 22 June-31 August 1972. He visited the Department of Statistics, Universities of Rajshahi and Dacca, Bangladesh, by invitation and gave lectures on the use of electronic computers in training and research in statistics, 23-30 November 1972.

Shri G. Bhattacharyya (*DRTC*) left on 28 December 1972 to work at the School of Library and Information Science, University of Western Ontario, Canada, as a visiting professor for four months.

Dr. Ranjit Chakraborty (*RTS*) left on 16 December 1972 for one year to work as a Research Fellow in the Texas University, USA.

Dr. J. K. Ghosh (*RTS*) left on 1 September 1972 for one year to work as a visiting professor at the University of Illinois, USA.

Dr. Qunzar Zafar Hussain (*Immunochemistry*) was invited as a visiting professor at the Biochemistry Department, University of Nebraska Medical Centre, Omaha, U.S.A. She left for the USA on 27 October 1972 and returned at the end of February 1973.

Dr. Anoke Maitra (*RTS*) left on 1 September 1972 for one year to work as a visiting professor at the University of California, Berkeley, USA.

Shri Surendra Munshi (*Sociology*) who had gone to the Federal Republic of Germany in 1971, completed a field survey during the year on working class consciousness in collaboration with the Faculty of Sociology, University of Bielefeld.

Professor A. Neelameghan (*D.R.T.C.*) attended, as a member, a meeting of the Working Group of the International Federation for Documentalists (F.I.D./S.R.C.) at the F.I.D. Headquarters, Hague, 3-5 January 1973. The Group was formed recently to study the development of a subject-field reference code. Professor Neelameghan chaired the F.I.D./C.R. meeting held on 3-4 January 1973.

Dr. T. Parthasarathy (*RTS*) left on 1 September 1972 for one year to work as a visiting professor at the University of Illinois, USA.

Dr. Y. R. K. Sharma (*RTS*) left on 1 June 1972 for one year to work as a visiting professor at the University of Tulane, USA.

9. CONFERENCES AND SCIENTIFIC ASSIGNMENTS IN INDIA

Dr. C. R. Rao attended the following :

- i) Seminar on Data Base of Indian Economy, New Delhi, 19-21 May 1972.
- ii) The Indian Econometric Conference, Kanpur, 18-20 December 1972. He gave the presidential address on "Some recent results in linear estimation."
- iii) Special lectures and Symposium on Combinatorial Mathematics, Delhi, 22-27 December 1972. He gave a lecture on "Application of g -inverse to electric net works and graph theory."

Shri G. Jogesh Babu (*RTS*) attended the 37th Annual Conference, Indian Mathematical Society, Madras, 3-6 June 1972, and presented a paper.

Shri Suraj Bandyopadhyay (*Sociology*) attended the National Seminar on Social Change, Bangalore, November 1972. He contributed a paper.

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Dr. P. K. Bardhan (*Planning and Regional Survey*) participated in the Seminar on Rural Development of the Weaker Sections, Ahmedabad, October 1972. He gave a seminar at the University of Kerala in November 1972. He participated in the Indo-Hungarian Colloquium on Decentralised Planning, Delhi, 11-16 December 1972.

Dr. Amitabha Basu (*Anthropometry & Human Genetics*) acted as a rapporteur in a Seminar on Social Function Science, Calcutta, 9 September 1972. He participated in the Workshop on All-India Bio-anthropological Survey, Calcutta, 12 July 1972.

Shri T. K. Basu (*Embryology*) attended the Annual Convention of Chemists, Allahabad, 8-12 October 1972. He presented a paper.

Shri S. K. Biswas, Shri P. Chakravarti and Shri K. Chattopadhyay (*Sociology*), attended the Seminar on Indian Anthropology Today, Calcutta, February 1972.

Dr. L. S. Bhat (*Planning and Regional Survey*) participated, as a member, in a meeting of the Working Group of the Task Force on Multilevel Planning, Hyderabad, 22-23 May 1972. He presented a paper.

Dr. L. S. Bhat participated in the following seminars :

i) A seminar organised by the Registrar-General of India to discuss the priority areas of research and the utilisation of 1971 Census Data as a part of the programme for the preparation of special monographs based on 1971 Census data, Delhi, 18-19 July 1972.

ii) Approach to Employment and Decentralized Development, Delhi, 25-27 August 1972.

iii) Sixth Regional Science Seminar of the Regional Science Association of India, Delhi, 8 September 1972. He contributed two papers.

Dr. L. S. Bhat was a delegate to the Indo-British Seminar on Rural Urban Interaction, Delhi, 6-9 December 1972. He contributed a paper.

Dr. L. S. Bhat, Shri B. N. Das, Shri A. N. Sharma, and Shri D. R. Bhat participated in the first Indian Geographical Congress, Delhi, 28 December 1972-1 January 1973. Four papers were contributed for discussion. Dr. Bhat prepared a summary paper for introducing the theme, 'Geography and Planning'.

Dr. D. K. Bose (*Economic Research*) participated in the following :

i) Fifth Regional Science Seminar, Calcutta, 14-15 April 1972.

ii) All India Conference on Industrial Development, Calcutta, 30 June-2 July 1972. He presented a paper.

iii) Seminar on Operations Research in National Planning, Calcutta, 6-8 October 1972. He presented a paper.

iv) Mid-year session of the Business Economists' Group, Calcutta, 8-9 December 1972. He read a paper.

v) Indo-Hungarian Colloquium on Decentralised Planning, Delhi, 11-16 December 1972. He presented a paper.

Sarvaswree B. Chakraborty, C. R. Malakar and B. N. Sarkar (*Demography*) attended the Indian Census Centenary Seminar, New Delhi, 23-29 October 1972. They presented papers.

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Shri A. K. Chatterjee (*Economic Research*) participated in the Seminar on Growth of Labour Statistics, Intelligence, and Research : Problems and Prospects, Simla, 30-31 October, 1972. He presented a paper.

Dr. S. Chatterjee (*Psychometric Research and Service*) participated in the Conference of Psychometricians, Bombay, 19-20 July 1972.

Shri A. Das and Shri A. Kumar (*Electronics*) attended the Eighth Annual Conference, Computer Society of India, Delhi, 26 February-1 March 1973. They presented two papers.

Shri B. Dey (*National Income Research*) attended the Workshop on Cost-Benefit Analysis of Education, Delhi, 26-29 March, 1973. He presented a paper and acted as rapporteur in the first technical session.

1 Shri A. R. Desai and Shri C. V. Subba Rao (*Library*) attended the following :

i) Conference on Development of Library Facilities and Services in Polytechnics, Calcutta, 22-24 November 1972.

ii) Seminar on the Role of the Librarian in formulating Public Opinion, Calcutta, 10 May 1972.

iii) Ninth IASLIC Conference on Indian Reference Materials and Scientific and Technical Information Users' Needs and Services, Calcutta, 23-26 May 1972.

iv) International Book Year (1972) Seminar on Public Library System of India and Libraries and Book Market, Calcutta, 9-10 December 1972.

Professor D. Dutta Majumder (*Electronics*) delivered a series of lectures at the Research Seminar on Speech and Hearing, Aligarh, 27 December 1972-10 January 1973.

Shri M. A. Gopinath and Shri S. Seetharama (*DRTC*) participated in the Symposium on Technology Transfer, Madras, 31 January and 1-2 February 1973. They presented three papers.

Shri A. K. Haldar (*Computer Science*) visited Poona on 25 July 1972 to attend the first meeting of the Planning Group on Information Management and Data Collection organised by the Meteorological Office.

Dr. S. L. Jain (*Geology*) participated in the Diamond Jubilee Session, Indian Science Congress, Chandigarh, 3-9 January 1973. He presented a paper and also gave a popular lecture.

Professor D. B. Lahiri (*Survey Research Centre*) presided over the session on Sources of Population Data at the Indian Census Centenary Seminar, New Delhi, 23 October 1972.

Shri Tares Maitra (*Economic Research*) participated in the Workshop on Nutritious Food for Everybody, Calcutta, 20-21 November 1972.

Dr. K. C. Malhotra (*Anthropometry & Human Genetics*) participated in the (i) All-India Summer Institute in Anthropology, Delhi, 5-13 May 1972, and gave a seminar on Early Man in India : prospects and retrospects, (ii) Twenty-eighth Joint Conference, Physicists of India (Haematology), Udaipur, 28 January-2 February 1973.

Shrimati Alokamanda Mitter (*Linguistic Research*) participated in a seminar on the use of the Kottic Methodology and Instrumentation in Speech Rehabilitation, Agartala (Tripura), 19-23 December 1972.

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Shri B. N. Mukherjee (*Anthropometry & Human Genetics*) attended the Diamond Jubilee Session, Indian Science Congress, Chandigarh, 3-9 January 1973, and presented a paper.

Professor M. Mukherjee (*National Income Research*) attended the following :

i) Seminar on Data Base of the Indian Economy, Delhi, 19-21 May 1972. He presented a paper.

ii) All-India Seminar on Operations Research, Calcutta, 6-8 October 1972. He acted as chairman in one of the sessions and presented a paper.

iii) Twelfth Indian Econometric Conference, Kanpur, 18-20 December 1972. He presided over a session.

iv) Seminar on National and States Accounts, Mahabaleshwar, 12-15 January 1973. He presided over the seminar.

Professor Mukherjee also attended :

i) The meetings of the Committee on Regional Accounts on 10 June 1972 and 27 October 1972. He presided.

ii) Meeting of a Committee on Data Base for National Income, 10 June 1972.

iii) Meetings of the Advisory Committees on Collection of Data for National Income and on Compilation and Analysis of National Accounts, Delhi, 17-18 August 1972.

iv) Meeting of the Working Group on State Income, Delhi, 19 August 1972.

v) Meeting of the Executive Committee, Indian Association for Research in National Income and Wealth, 28 October 1972.

Professor R. Mukherjee (*Sociology*) attended the following :

i) National Seminar on Social Change, Bangalore, November 1972. He contributed a paper.

ii) National Seminar on Family Planning, New Delhi, April 1972. He contributed a paper.

iii) Seminar on Indian Anthropology Today, Calcutta, February 1972.

Dr. M. G. Nadkarani (*RTS*) attended the 37th Annual Conference, Indian Mathematical Society, 3-6 June 1972.

Professor A. Neelamegham (*DRTC*) participated in the following :

i) Seminar on Information for Industry, Hyderabad, 3-4 August 1972. He presided over one session.

ii) Andhra Pradesh Public Libraries Conference, Hyderabad, 12-13 August 1972. He chaired two sessions.

iii) Seminar on Development of Library Facilities and Services in Polytechnics, Madras, 27 November-1 December 1972.

iv) Seminar on Public Libraries, Madras, 12 December 1972. He contributed a paper.

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v) Conference of the Econometric Society, Kanpur, 18-20 December 1972. He chaired one session.

vi) International Book Year (1972) celebrations organized by the Mysore University Library and the Department of Library Science, 22 December 1972. He gave a talk.

Dr. K. B. Pakrasi (*Anthropometry & Human Genetics*) participated in the Census Monograph Writer's Conference, New Delhi, 18-19 July 1972.

Dr. P. R. Pal (*Biochemistry*) attended the following :

i) Symposium on Technique in Biology and Medicine, Calcutta, 1 July 1972.

ii) All-India Conference on Abatement of Environmental Pollution, Calcutta, 14-16 December 1972.

Dr. M. N. Pal (*Planning and Regional Survey*) attended the Symposium on Combinatorial Mathematics and its Applications, sponsored jointly by the Atomic Energy Commission, Indian National Science Academy and the Indian Statistical Institute, New Delhi, 22-27 December 1972.

Dr. M. N. Pal and Shri B. N. Das (*Planning and Regional Survey*) participated in the Fifth Regional Science Conference, Calcutta, 14-16 April 1972.

Dr. K. S. Parikh (*Planning and Regional Survey*) participated in the United Nations Panel Meeting on Satellite International Television System, New Delhi, 12-16 December 1972.

Shri D. Rameshchandra (*RTS*) attended the 37th Annual Conference, Indian Mathematical Society, Madras, 3-6 June 1972, and presented a paper.

Shri M. V. Raman (*Demography*) participated in the Seminar of Demographers, New Delhi, 15-17 February 1973.

Dr. A. R. Rao (*RTS*) attended the 37th Annual Conference, Indian Mathematical Society, Madras, 3-6 June 1972 and presented a paper. He attended the Symposium on Combinatorial Mathematics and its Applications, New Delhi, and presented a paper.

Shri K. P. S. Bhaskara Rao (*RTS*) attended the 37th Annual Conference, Indian Mathematical Society, Madras, 3-6 June 1972, and submitted three papers.

Shri D. S. Rao (*National Income Research*) attended the Seminar on National and State Accounts, Mahabaleswar, 12-16 January 1973.

Shri Subba Rao (*Library*) participated in the International Association of Metropolitan Libraries Conference, Calcutta, 26-27 February 1973.

Shrimati Bina Roy (*National Income Research*) as a delegate, in the Silver Jubilee Session of the Labour Bureau, Simla, 30-31 October 1972. She presented a paper.

Dr. J. Roy (*Computer Science*) participated in a Seminar on Survey Research Methodology, Baroda, 14-18 April 1972. He participated as a lecturer in the courses on social sciences research methodology conducted by the Council for Social Development, Delhi, 23-27 September 1972 and by the Utkal University, Bhubaneswar, 4-8 December 1972.

Professor S. K. Roy (*Botany*) participated in a Symposium on Animal Behaviour Studies in India, Diamond Jubilee Session, Indian Science Congress, Chandigarh, 3-9 January 1973. He gave a talk.

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Dr. G. M. Saha (RTS) attended the Symposium on Combinatorial Mathematics and its Applications, Delhi, 12-27 December 1972, and presented a paper. He attended the Diamond Jubilee Session, Indian Science Congress, Chandigarh, 3-9 January 1973.

Dr. Supriya Sengupta (Geology) attended a Seminar on Fluvial Processes and Geomorphology of the Brahmaputra Basin, Calcutta, 5-8 October 1972. He served as a Sectional Chairman and also presented a paper. Dr. Sengupta participated in a panel discussion on "Sampling, Ore Reserve Estimation and Grade Control in Mineral Exploration," Bangalore, 30-31 December 1972.

Dr. (Miss) A. Sengupta (Family Planning) attended the Demographers' Seminar, New Delhi, 15-17 February 1973.

Dr. B. K. Sinha (RTS) attended the Diamond Jubilee Session, Indian Science Congress, Chandigarh, 3-9 January 1973.

Dr. T. N. Srinivasan (Planning and Regional Survey) attended the Seminar on Farm Mechanisation, 27-28 April 1972, New Delhi. He presented a paper.

Shri R. Subramaniam (RTS) attended the 37th Annual Conference, Indian Mathematical Society, Madurai, 3-6 June 1972.

Eight members of the research staff of the Planning Unit, Delhi, and three Ph.D. students attended the Twelfth Indian Econometric Conference, Kanpur, 18-20 December 1972. They presented six papers.

The Twelfth Indian Econometric Conference, was attended by Dr. N. Bhattacharyya (as a delegate), Shri Sibmath Sen and Shri Dipankar Coondoo who presented papers. Dr. D. K. Bose also submitted a paper.

The Seminar on the Data Base of the Indian Economy, New Delhi, 19-21 May 1972, was attended by several research staff members of the Planning and Regional Survey Unit and Ph.D. students. Dr. T. N. Srinivasan (with Dr. A. Vaidyanathan) submitted two background papers. Shri S. M. Kansal acted as rapporteur for the panel discussions on National Income Statistics. The proceedings of the seminar, edited by Dr. C. R. Rao, F.R.S., have been published by the Statistical Publishing Society and Indian Econometric Society.

10. FAMILY PLANNING RESEARCH UNIT

The activities of the Family Planning Research Unit were related to the following new and continuing projects:

Projects I and II : Hooghly Fertility and KAP studies

The first fertility and Knowledge, Attitude and Practice (KAP) study in the Hooghly district was conducted in 1966. The second study for measuring changes was carried out in 1967-68. A total of 71 villages and 32 urban blocks in the Hooghly district were selected for the study. The couples interviewed numbered 2,735 in the rural sector and 1,093 in the urban sector. The samples were drawn on a probabilistic basis as in the first survey.

Main findings: (i) The number of children living per rural couple is 3.2 and per urban couple is 2.7.

(ii) The crude birth rate in the district had declined from 40.2 per mille in 1966 to 38.8 per mille in 1968.

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(iii) The rates of growth of population (1968) are 2.85 per cent in the rural sector, 2.35 per cent in the urban sector and 2.71 in the district as a whole.

Hooghly KAP Study-II : Being a part of the fertility study, the population covered, sampling design, etc. are the same as described above.

Findings : (i) About 21 per cent of urban couples and about 11 per cent of rural couples ever practised family limitation methods. The corresponding percentages observed in 1966 study were 18.1 and 8.7 respectively.

(ii) In both the sectors, sterilization operation occupied the topmost position among the adopted techniques.

(iii) The extent of birth registration appeared to be about 67 per cent in urban Hooghly and 46 per cent in rural Hooghly.

Project III : An experiment with oral pill

The objective of the study was to find out the acceptability, effectiveness and reaction of oral contraceptive pills. Some couples of the Calcutta City Project were selected for this study. 302 couples were the subjects of the experiment.

Findings : (i) Of the participants, 65.2 per cent came from the age group 20-29.

(ii) The average number of children was 3.

(iii) The nature of complaints, among others, were nausea, excessive menstrual flow, pain, giddiness and headache.

(iv) 73.4 per cent of the couples who were pill acceptors at the clinic at one time practised some other methods after the project was discontinued.

Project IV : A study on inter-spousal communication

The objectives were : (i) to find out the factors, if any, that created barriers against acceptance/non-acceptance of family planning methods for controlling fertility, (ii) to assist persons whose family life has been handicapped by the lack of understanding between the spouses.

The data were compiled from seven studies conducted by the unit.

Findings : (i) Women with higher age at marriage tended to desire more companionship from husbands than those married at a lower age.

(ii) The couples who discussed romance, family planning and sexual matters practised family planning methods in a larger proportion.

Project V : A post-Communication Action Research—KAP study in Calcutta

The objective was to evaluate the amount of service and satisfaction received by the couples of the project area during five years of intensive Communication Action Research programme. The analysis of data is nearly complete.

Project VI : A study of under-reporting of births in official register

The objective is to obtain the extent of under registration of births in the normal system of registration.

The study deals with births that occurred to a sample population in Hooghly district during 1966-67 and births that occurred to the couples of the Calcutta City Project during 1966-67. The report is being prepared.

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Project VII : A study of termination of pregnancies in a Calcutta city hospital

The objective is to ascertain—

- (i) the response towards liberalisation of termination of pregnancy laws, and
- (ii) the characteristics of the patients undergoing termination.

The termination cases in a Calcutta, hospital were selected for the study. The data have already been collected.

Project VIII : A study of surgical sterilisations in a Calcutta City Hospital

The objective is to study the socio-economic characteristics of sterilized persons and their reactions, if any. The data collection has been started.

11. PUBLICATIONS

The following journals and books were published during the year :

Sankhyā : The Indian Journal of Statistics, the official organ of the Indian Statistical Institute: *Series A*, Volume 34, Parts 2, 3 & 4; Volume 35, Part 1. *Series B*, Volume 34, Parts 2, 3 & 4; Volume 35, Part 1.

The following books were published by the Statistical Publishing Society, an associate organisation of the Indian Statistical Institute.

1. Data Base of Indian Economy, Vol. I, Edited by C. B. Rao, pp. 263.
2. Indian Official Statistical Systems—M. R. Saluja, pp. 276.
3. Regional Planning in India—L. S. Bhat, pp. 163.
4. Scheduling the operations of Bhakra System—B. S. Minhas and others, pp. 89.
5. Proto-Indices—Knorozov and others, pp. 43.
6. Aptitude Tests for Mathematics and Statistics—Chatterjee and Mukherjee (2nd edition), pp. 166. (Serials 1 & 2 were published in collaboration with the Indian Econometric Society).

The Research and Training School issued 133 technical reports during the period, of which 69 were in the Mathematics Statistics group and 64 were on other subjects.

The following mimeographed priced publication was brought out :

"A First Course on Holomorphic Functions of one Complex Variable."

12. SOCIETY TYPE ACTIVITIES : BRANCHES

12.1. Mysore State Branch : Executive Committee :

The office-bearers and members of the Executive Committee for the year 1972-73 were elected in August 1972.

Membership : There were 50 members at the end of the year (life members : 9; Institutional members : 5; and ordinary members : 36); compared to 44 members in the previous year.

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Examinations : The following examinations of the Indian Statistical Institute were held in Bangalore :

i) The selection tests for admission to the M.Stat., and B.Stat. degree courses. 17 September 1972.

ii) The professional examinations in statistics—Statistician's Diploma, etc. November 1972.

Surveys and Seminars :

i) *Survey on Living and Working Conditions of Students of Bangalore University :* The 1600-coded questionnaires relating to the survey involving 40,000 students of the University are being processed at the State Government Computer Centre for transferring the data on to cards, as a preliminary to analysis through a computer. The required tabulation plans had already been drawn up.

ii) *Survey on Electronic Industries in the Bangalore Metropolitan Area :* The data of production for the past few years with future plans, relating to the above survey, have been collected from about 53 electronic industries by means of a comprehensive questionnaire. Data relating to current and potential consumption of various types of electronic products—primary, components, assemblies etc., from small and large consumers have also been obtained. While tabulation and analysis are completed, a report of the trend of growth of the manufacture of electronic items in the area and the demand pattern is now under preparation.

iii) A two-day panel discussion on "Sampling, ore reserve estimation and grade control in mineral exploration" was organised in Bangalore on 30 and 31 December 1972 under the joint auspices of the Geological Society of India; Institution of Engineers (India) Mysore Centre; KGP Mining and Metallurgical Society and the Mysore State Branch. Dr. Supriya Sengupta, Geological Studies Unit, Indian Statistical Institute, Calcutta, attended the panel discussion and presented a paper on "Sampling problems in geology." Shri P. S. Narayana, Director, Engineering & Minerals Industrial Research Laboratory, Bangalore, and a member of the Branch, participated on behalf of the Branch.

Market Research and Information Wing : In view of the growing demand for information relating to market potential by prospective entrepreneurs desiring to respond to the State's policy of encouragement for industrial growth, particularly in the small sector, the Branch decided to organise a Market Research and Information Wing. The first survey relating to "The printing industry in Bangalore" has been taken up by a specially constituted panel.

12.2. *Bombay Branch : Membership :* The membership of the Bombay Branch from the Bombay-Poona area was as follows : Life members, 18; Ordinary members, 15; Total 33.

Council meetings : The meetings of the Council of the Bombay Branch were held on 11 July 1972, 27 September 1972, 13 October 1972, and 13 December 1972.

Annual General Meeting : A meeting of the General Body of the Bombay Branch was held on 13 October 1972. The election of office-bearers of the Branch for the year 1972-73 were confirmed. The Statement of Accounts, 1971-72, was placed before the members.

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The suggestions made at the various meetings included :

- i) A summer course for college teachers in mathematics and statistics to be organised in Bombay for the benefit of college teachers in Bombay.
- ii) Lectures on mathematical economics, statistics for economics and management courses to be organised.
- iii) A meeting of the Council, Indian Statistical Institute, Calcutta, to be held once a year in Bombay, in order to promote the activities of the Bombay Branch.

Obituary : A special meeting of the Council of the Bombay Branch, held on 11 July 1972, mourned the sad demise of Professor P. C. Mahalanobis on 24 June 1972.

A meeting of the Council of the Bombay Branch, held on 13 December 1972, mourned the untimely death of Shri D. Das, Administrative Officer, Indian Statistical Institute, Calcutta, on 2 December 1972.

PART II : ANNEXURES

Annexure I : List of President, Vice-Presidents, Office-bearers, Members of Council, Governing Body and Members of the Committees of the Council and Governing Body

President : Professor S. N. Bose, F.R.S., D.Sc., F.N.I., National Professor.

Honorary Vice-Presidents : 1. Dr. C. D. Deshmukh, B.A. (Cantab.), D.Sc. (Hony., Calcutta and ISI), Bar-at-Law (former President); 2. Shri K. P. S. Menon, I.C.S. (Retired); 3. Shri S. C. Roy, M.A., B.L., Director, NCCO of India Ltd.

Vice-Presidents : 1. Shri Pitambar Pant, M.Sc.; 2. Shri S. Dutt, I.O.S. (Retired), Indian Ambassador to Bangladesh; 3. Shri Viehnu Sahay, I.C.S. (Retired), Ex-Governor of Assam & N.E.F.A.

THE COUNCIL : 1972-73

Chairman : Dr. Atma Ran, D.Sc., F.N.A., F.S.G.T., former Director-General, Council of Scientific & Industrial Research, Government of India.

Vice-Chairmen : 1. Professor T. R. Seshadri, F.R.S., Emeritus Professor, Department of Chemistry, University of Delhi; 2. Professor K. N. Raj, University of Delhi & Centre for Development Studies, Trivandrum; 3. Dr. J. C. Roy, M.D., F.N.A.; 4. Shri S. C. Sen, M.A., LL.B.; 5. Professor H. C. Ghosh, M.A., LL.B., P.R.S., Retired Chief Director, National Sample Survey, Government of India; 6. Sm. Chameli Bose, B.Sc. (London), Director, State Statistical Bureau, Government of West Bengal; 7. Dr. Sushil Kumar Mukherjee, M.S. (Cal.), D.Sc. (Cal.), F.N.A., Member, National Commission on Agriculture.

Treasurer : Dr. P. K. Bose, M.Sc., D.Phil., Pro-Vice Chancellor, Calcutta University.

Secretary : Dr. C. R. Rao, M.A., M.Sc., Ph.D., So.D. (Cantab), F.N.I., F.R.S. (Dr. J. C. Roy, M.D., F.N.A., acting in the absence of Dr. C. R. Rao).

Joint Secretaries : 1. Professor N. C. Ghosh; 2. Dr. Jagjit Singh, Chairman and Managing Director, Indian Drugs & Pharmaceuticals Ltd., New Delhi; 3. Shri S. M. Sundara Raju.

Members of Council : 1. Dr. Atma Ram, D.Sc., F.N.A., F.S.G.T., former Director-General, Council of Scientific and Industrial Research, Government of India; 2. Dr. R. R. Bahadur; 3. Dr. P. K. Bose, M.Sc., D.Phil., Pro-Vice Chancellor, Calcutta University; 4. Professor S. K. Bose, B.Sc. (Engg.), Fellow, Institute of Engineers (India), D.Sc. (Moscow), Director, I.I.T., Kharagpur; 5. Dr. R. N. Chakraborty, Director, Indian Institute of Experimental Medicine, Calcutta; 6. Dr. M. N. Dastur, Ph.D., Consulting Engineer; 7. Professor T. A. Davis; 8. Dr. S. W. Dharmadhikari, M.Sc., Ph.D. (California), Department of Statistics, M.S. University of Baroda; 9. Professor Ravi J. Mathai, Professor, Indian Institute of Management, Ahmedabad; 10. Dr. Ashok Mitra, Ph.D., National Fellow, Indian Council of Social Science Research; 11. Shrimati Nirmalkumari Mahalanobis; 12. Dr. B. S. Minhas,

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M.A., Ph.D., Member, Planning Commission, Government of India; 13. Professor Pratul Chandra Mukherjee, D.Sc., Principal, Presidency College, Calcutta; 14. Dr. K. S. Parikh, Ph.D.; 15. Shri S. M. Sundara Raju, M.Sc. 16. Dr. Ashok Rudra, Ph.D., Department of Economics, Visva-Bharati, Santikinetan; 17. Dr. Triguna Sen, Dipl. of Engineering, Ph.D. (Berlin), Member of Parliament; 18. Dr. B. R. Seshachar, D.Sc., F.N.A., President, Indian National Science Academy; 19. Professor S. S. Srikhande, Ph.D., Head of the Department of Mathematics, University of Bombay.

Government nominees on the Council (Rule 8.1(b)(1)) : 1. Cabinet Secretary (Shri B. D. Pandey) or his representative; 2. Additional Secretary, Ministry of Finance, Department of Expenditure, Government of India (Shri S. K. Ghose); 3. Director, Central Statistical Organisation and ex-officio Joint Secretary, Department of Statistics (Dr. N. T. Mathew).

Ex-officio Members (Rule 8.1(b) Secretary of each local branch : 1. *Bombay Branch* : Professor P. N. Phutane (1972-73); 2. *Kerala Branch* : Dr. (Miss) A. George (1969-70); *Mysore State Branch* : Professor Srinagabhushana (1972-73).

Additional Vice-Chairmen : 1. Chairman, Bombay Branch : Shri M. D. Chaudhuri (1972-73); 2. Chairman, Kerala Branch : Professor Samuel Mathai (1972-73); 3. Chairman, Mysore State Branch : Shri H. C. Ramanna.

MEMBERS OF GOVERNING BODY OF THE RESEARCH AND TRAINING SCHOOL : 1972-73

1. Dr. Atma Ram, Chairman (*ex-officio*); 2. Dr. C. R. Rao, Secretary, I.S.I., Director, RTS (*ex-officio*); 3. Shri A. K. Ganguli, Editor, *Capital (Associated Chambers of Commerce of India)*; 4. Dr. S. Misra (*Indian Economic Association*); 5. Shri G. K. Bhagat, Messrs. Bengal Potteries Ltd. (*Federation of Indian Chambers of Commerce & Industry*); 6. Director, Central Statistical Organisation (Dr. N. T. Mathew) (*Government of India*); 7. Additional Secretary (Shri S. K. Ghosh), Ministry of Finance (*Financial Adviser to the Department of Statistics*), Department of Expenditure (*Government of India*); 8. Dr. P. V. Sukhatme, Gokhale Institute of Economics & Politics (*Indian National Science Academy*); 9. Shri V. V. Divatia, Adviser, Department of Statistics (*Reserve Bank of India*); 10. Dr. V. S. Hazurbar, Professor and Head of the Department of Mathematics and Statistics, University of Poona (*Inter-University Board of India & Ceylon*); 11. Dr. Bhabatosh Dutta, M.A., Ph.D.; 12. Dr. B. R. Seshachar, D.Sc., F.N.I., President, Indian National Science Academy; 13. Dr. A. B. Chowdhury, M.B.B.S., D.Phil., F.A.M.S., F.N.I., Deputy Director, School of Tropical Medicine; 14. Dr. M. N. Dastur, Ph.D.; 15. Dr. D. K. Bose; and 16. Dr. J. C. Roy, M.D., F.N.A. (*Council of the Indian Statistical Institute*).

MEMBERS OF DIFFERENT COMMITTEES : 1972-73

Finance Committee of the Council

1. Chairman of the Institute (*ex-officio*) or his nominee; 2. Secretary of the Institute (*ex-officio*) or his nominee; 3. Director of the Research and Training School (*ex-officio*) or his nominee; 4. Dr. Jagjit Singh; 5. Dr. B. P. Banerjee; 6. Dr. Bhabatosh Dutta; 7. Dr. P. K. Bose; 8. Professor H. C. Ghosh; 9. Dr. Atma Ram; 10. Shri S. R. Mukherjee (*Non-member Secretary*) or in his absence, a person nominated by the Secretary or the Chairman; 11 & 12. Two representatives nominated by the Government of India, Cabinet Secretary (Shri B. D. Pande) or his representative and Additional Secretary, Ministry of Finance (Shri S. K. Ghosh).

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Finance Committee of the Governing Body

1. Chairman of the Institute (*ex-officio*) or a Vice-Chairman, authorised by him; 2. Secretary of the Institute (*ex-officio*) or in his absence, a Joint Secretary; 3. Director of the Research and Training School (*ex-officio*) or a Joint Director, if any, in charge of RTS; 4 & 5. Two representatives of the Government of India (Dr. N. T. Mathew and Shri S. K. Ghosh); 6. Representative of Reserve Bank of India on the Governing Body (Shri V. V. Divatia); 7 & 8. Two representatives to be elected by Governing Body from amongst themselves (Dr. B. R. Seshschar and Dr. Bhabatosh Dutta).

Journal Committee of the Institute

Three different Journal Committees as indicated below were set up for the term 1972-73 with National Professor S. N. Bose, F.R.S., President of the Institute, as Chairman :

(1) *Committee for Sankhyā, Series A* : 1. Dr. C. R. Rao, F.N.A., F.R.S., *Editor*; 2. Dr. Malay Ghosh, *Editorial Secretary*; 3. Dr. S. S. Shrikhande (representative of Governing Body), Head, Department of Mathematics, University of Bombay; 4. Dr. V. S. Huzar-bazar, Professor and Head, Department of Mathematics and Statistics, University of Poona; 5. Dr. R. R. Bahadur, Visiting Research Professor, Planning Unit, ISI, New Delhi; 6. Professor D. B. Lahiri.

(2) *Committee for Sankhyā, Series B (Parts 1 & 3)* : 1. Dr. C. R. Rao, F.N.A., F.R.S., *Editor*; 2. Dr. J. Roy; 3. Dr. Malay Ghosh, *Editorial Secretary*; 4. Professor K. G. Ramamurthy; 5. Dr. J. N. K. Rao (representative of Governing Body), Fellow, A.S.A. & A.A.S., Professor of Statistics, University of Manitoba, Canada; 6. Dr. S. K. Mitra.

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Annexure 2 : List of Scientific Papers published

A. MATHEMATICS AND STATISTICS

- P1 BABU, JOSEPH G. (1972) : On the distribution of additive arithmetical functions of integral polynomials, *Santhya*, A, 34, 4, 323-334.
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- P4 GHOSH, M. (with Sen, P. K.) (1973) : On strong convergence of regression rank statistics, *Santhya*, A, 34, 4, 335-348.
- P5 ——— (1972) : On the representation of linear functions of order statistics, *Santhya*, A, 34, 4, 349-356.
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- P8 ——— (with Grizzle, J. E. and Sen, P. K.) (1973) : Nonparametric methods for longitudinal studies, *Jour. Amer. Statist. Assoc.*, 68, 1.
- P9 ——— (with Sen, P. K.) (1973) : A law of iterated logarithm for one-sample rank-order statistics and an application, *Ann. Stat.*, 1, 3.
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- P13 NADKARNI, M. G. (1972) : Notes on problems relating to vector valued weakly stationary stochastic process. *Theory of Probability and its Applications* (Russian edition), 545-549.
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- P15 RAY, K. K. (with Ghosh, J. K.) (1972) : Families of densities with non-constant carriers which have finite dimensional sufficient statistics, *Santhya*, A, 34, 3, 205-226.
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- P22 ——— (1972) (with Bhimasankaram, P. and Mitra, S. K.) : Determination of a matrix by its subclasses of generalized inverses, *Sankhyā*, A, 34, 1, 5-8.
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O. BOTANY

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- P72 ——— (1972): Education for librarians and documentation lists in India. *Encyclopedia of library and information science*, University of Pittsburgh, Pa, U.S.A.
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- P74 ——— (1972): Use of information in research, invention, and innovation. *Master Motilal Shri Sanmati Pustakalaya Souvenir*, 130-142.
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- P95 ——— (1972) : Documents on survey analysis. *Lib. Sc. 9*; Paper S.
- P96 ——— (1972) : Categorisation of isolate ideas : A comparative study. *Lib. Sc. 9*; Paper X.
- P97 ——— (1972) : Orientation of users : Prospects and problems. *Tenth DRTC Annual Seminar*. Paper BB.
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L. LEAF PROTEIN

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PART III

Statement of Accounts and Auditors Report for the year 1972-73

AUDITORS REPORT

We report that we have audited the Balance Sheet as at 31st March 1973, of—

- a) The Indian Statistical Institute
- b) "Other Funds"

signed by us under reference to this report and the relative Income and Expenditure Accounts for the year ended on that date with the books and records maintained by the Institute and produced to us and information and explanations given and subject to and read with the notes thereon and also subject to the remarks given below have found them to be in accordance therewith.

The remarks referred to above are :

1. Separation of National Sample Survey Unit from the Indian Statistical Institute

As from Notification in the Government of India Gazette, it was observed that National Sample Survey Unit was to be separated from the Indian Statistical Institute and would form a part of the Directorate of National Sample Survey which is a Government organisation. This separation took place with effect from 1st June, 1972 (i.e., during the year under audit).

The consequential changes in connection with this separation with regard to assets (both fixed and current) and liabilities have not yet been worked out and reflected in the accounts of the year under audit. As such both the Income and Expenditure Account for the year ended 31st March 1973, and the Balance Sheet as at that date will not give a true and fair view to the extent to this un-worked out position.

BALANCE SHEET

1. Fixed Assets

a) Asset Registers were not maintained for Land Development, Buildings, Over-bridges, Sheds and Structures, H.T. Electricity and HTEI for UNTAA. Register for Land though maintained did not give in many cases the values of Land and in many cases where values were recorded in the Register the same did not agree with the values as per financial books of account. Registers for other fixed assets though maintained leave much scope for improvement in as much as :

- i) Assets as per financial accounts could not be compared with those of the Asset Registers as the cumulative totals of different types of assets were not shown in the Asset Registers;
- ii) Location of assets were not disclosed;
- iii) Description of assets, e.g., model, identity numbers, etc. were also not shown.

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b) Values of fixed assets acquired on dates prior to 31st March, 1952, were taken from those appearing in the Inventories prepared as on that date.

c) Certificates from the officers concerned regarding the existence and condition of the movable assets as at 31st March, 1973, belonging to the Institute and to different Funds under it, were not produced before us for the purpose of verification at the time of audit. Assets of the Institute used by the NSSO were also not certified by the NSSO. Administrative Officer and Assistant Secretary of the Institute by his office memo No. C-4130 dated 18th January, 1973, requested all departmental heads to prepare list of assets in their respective departments. However, whether the order was carried out or not could not be verified by us as no verification statement of assets of respective departments were made available to us at the time of our audit. Moreover, maintenance of records of fixed assets at any particular unit offered little scope of comparing a physical verification list with local records. The values shown in the Balance Sheets are as per General Ledger of the Institute.

In this connection, we would also refer to the suggestion of the Committee on Auditors' Report for 1971-72 Accounts regarding removal of the deficiencies in the maintenance of Asset Registers. Though the suggestions of the Committee were adopted by the Council, the same do not appear to have been carried out. The matter might be looked into.

d) *Land*: In respect of the following lands "Possession Certificates for Items I-VI and Grant Certificate for Item VII" were produced before us as in last year for the purpose of verification. No Deed of Purchase or Deed of Lease duly stamped and registered was produced before us. As suggested in our last year's report, legal opinion was sought by the Institute as to whether the Possession/Grant Certificates can give the Institute "Good & Marketable Title" to the properties concerned. According to the legal opinion it appears that the Institute did not become absolute owner of the land unless the Government conveyed the land to the Institute by a Deed and at present, therefore, the Institute has no good and marketable title to the said properties.

- i) 203, Barrackpore Trunk Road,
- ii) 153, Gopal Lal Tagore Road,
- iii) 156, 160, 165 and 166/1, Gopal Lal Tagore Road,
- iv) 205, Barrackpore Trunk Road,
- v) 206, Barrackpore Trunk Road,
- vi) Delhi (Leasehold),
- vii) Bangalore.

The addition of Rs. 7,91,299.23 during the year to Land at 206, Barrackpore Trunk Road was due to further compensation deposited with the Collector, 24-Parganas, Land Acquisition Department and not for any new land acquired by the Institute during the year.

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e) *Buildings* : (i) Preliminary expenses for New Construction at Baranagar (Item B 1.6 in Schedule 1) accounts for the following :—

Architect's Fee (Paid to Prof. A. K. Banerjee)	Rs. 37,000/-
Law Charges (Solicitor's Fee for advising, drafting and finalising agreement with the Architect)	Rs. 500/-
Preliminary Expenses (for the sanctioned plan for construction at 202, 203, 205 and 206, B. T. Road)	Rs. 1,540/-
	Rs. 39,040/-

It was noted that the Council in its meeting on 6th/7th July, 1973 (Item 14.12) decided to terminate the appointment of Prof. A. K. Banerjee as Architect for Baranagar Construction and also to examine the legal aspects of the payment made or due. It was also observed that Prof. Banerjee had been asked by a Notice dated 2nd September, 1973, to return the amount of Rs. 37,000/- received by him on *ad-hoc* basis in view of the fact that "there was never any valid, legal and enforceable contract between Prof. Banerjee and ISI." Prof. Banerjee, however, through his legal adviser (Advocate's letter dated 14th September, 1973) denied his liability to return the said amount and on the contrary described the actions of the Institute in the matter as "a dodge to avoid the Institute's liability to him amounting to Rs. 1,39,000/-." The Institute sought solicitors' advice in the matter which is awaited so far and in the absence of which we are not in a position to express any opinion whether the payment made by the Institute was regular or irregular and also whether the Institute has any further liability to Prof. Banerjee as stated by him in his letter under reference. We, however, feel that under the circumstances, the payment should have been shown under "Suspense Account" and not under "Preliminary Expenses for Construction of Building."

f) *Sheds and Structures* : i) The written down values of sheds and structures (Rs. 73,013.56) on 203, Barrackpore Trunk Road and 153, Gopal Lal Tagore Road do not give a true and fair view as at 31st March, 1973, as the values of the sheds and structures demolished are not, according to the Management, ascertainable. Steps, if any, taken by the Management to ascertain the value of the demolished structures was not, however, explained to us this year also.

ii) The tenancy agreement of the Land at 5, Rabindra Nath Tagore Road, on which sheds and structures (written down value Rs. 2,18,152.83 as at 31st March, 1973) have been constructed for UNTAA Workshop could not be produced before us this year also for verification of the terms and conditions. It is, however, understood that the land is held on monthly rent obtained through Rent Requisition Procedure and that the Certificate of Possession was shown to us.

g) It is understood that in connection with the construction of the Electronic Computer certain items of Furniture and Equipment were loaned to ISIJU in earlier years. It is also understood that a certified list for the same exists with the Institute but the same was not available for our verification at the time of audit.

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b) *Printing Press, Monotype Accessories, etc.* It is understood from the report of the Committee on auditors' report for 1971-72 Accounts that the above assets were permanently handed over to the Statistical Publishing Society long time back. During the year under report the written down value of these assets as on 31st March, 1972, amounting to Rs. 3,029.56 have been written off by debit to the General Fund. This, we understand, has been done as per Council's Resolution on 29th March, 1967. We fail to understand why the accounting effect is given so late.

i) *Soviet Printing Machine*: Soviet Printing Machine (Item 'L' of Schedule I of the Institute) received by the Institute as gift from Soviet Academy of Sciences and was taken into the Books of Accounts at a value of Rs. 18,66,696.58 by corresponding credit to the General Fund in 1970-71. The Machine is being used by the Statistical Publishing Society under an agreement dated 9th December, 1970, between the Institute and the Statistical Publishing Society. We understand from the report of the Committee on Auditors' Report for 1971-72 Accounts that the Machinery are in existence and that a few items are damaged and that there were some special difficulties in utilising some items at the present moment.

Consequent upon our last report it is observed that the matter is receiving attention of the Council.

2. *Investments*:

Investments of different Funds under the Institute stand in the name of the Indian Statistical Institute, the scripts without being car-marked for the respective funds concerned.

3. *Advance on account of ISIJU—Rs. 7,62,329.27* : (Item 3 on assets side of the Institute's Balance Sheet)

The amount is same as shown in the Balance Sheet as at 31st March 1972. The Management could not apprise us on the following points:

- i) The status of ISIJU;
- ii) Any progress report on the construction of the Electronic Computer;
- iii) Whether there is likely to be any fall in value of the work-in-progress because of the stalemate;
- iv) How the advance is going to be ultimately recovered;
- v) Likely date of completion;
- vi) What will be the total cost of the Project and the budget provision thereof.

As per audited Balance Sheet of the Indian Statistical Institute—Jadavpur University Joint Computer Project as at 31st March 1973, Funds provided by the Institute amounts to Rs. 5,80,488.00. But as per Balance Sheet of the Institute the advance amounts to Rs. 7,62,329.27. It is understood that the difference of Rs. 1,81,840.58 accounts for salary and other remuneration paid to the ISI staff for the Project Rs. 1,79,236.00 and laboratory stores stationeries etc. during 1962-63 Rs. 2,604.49. From the copy of the note dated 18th May 1973 of Shri S. K. Mitra, Secretary, ISIJU Joint Computer Project Committee, to Shri Biman Bose, Administrative Officer, it appears that a progress report on the same was

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prepared in December, 1971, but the same was not available to us. It also appears from the same note that Project Committee is now under a stale condition. It has been suggested in the said note that the ISI has to take a firm decision, (a) to dissolve the joint project and liquidate the assets and liabilities, or (b) to revive the joint project by nominating two members in the Joint Project Committee and deputing competent staff to participate in completing the Project. The whole matter appears to us to be not satisfactory. Considering the amount involved, we would suggest that the matter should be looked into immediately and all necessary steps should be taken by the Institute.

4. Recoverable Capital Outlay : (Item 4 on assets side of the Institute's Balance Sheet)

The Institute incurred certain expenditure for additions and alterations in Gooty Niwas—a rented premises occupied by Mr. Ganguly (since deceased) and Mr. B. C. Das who were employees of the Institute, with the expectation of recovering the expenditure through rent at enhanced rate to be realised from the said employees. There was, however, neither any agreement with the said employees nor any consent from them to this mode of recovery by the Institute.

The Institute spent substantial amount for this purpose.

It was reported in our last year's audit report that the Recoverable Capital Outlay standing in the books at Rs. 9,135.58 appears to us to be doubtful of recovery for reasons stated in our said report. However, as per report of the Committee on Auditors' Report for 1971-72 Accounts as adopted by the Council in its meeting dated 6th and 7th July, 1973, the amount of Rs. 9,135.58 has been written off during the year under report by charging the same to Repairs and Maintenance Account.

Secondly, Mr. B. C. Das owed to the Institute the sum of Rs. 14,615.20 (Net) on account of rent for the period from 20th October, 1965 to 30th June, 1969, which for some-unexplainable reasons was not recorded in the books of account of the Institute. Against the said outstanding sum of Rs. 14,615.20, Mr. B. C. Das had paid Rs. 8,000/- during 1971-72 which instead of being credited to Rent Account (for earlier years) and shown in the Income and Expenditure Account of the Institute as such had been credited to Recoverable Capital Outlay Account thereby reducing the outstanding balance to that extent. This accounting treatment was reported by us to be incorrect. We also suggested to reverse the said entry. No action appears to have been taken in the matter in the accounts. However, the Committee on Auditors' Report for 1971-72 Accounts suggested to take immediate decision in the matter but no decision appears to have been taken.

5. Amount Claimed/To be Claimed from Government of India

In the absence of sanction or acceptance of the claims from the Government we are unable to form any opinion as to what extent claims stated in Items 5.1 to 5.4 and Item 6 of the Institute's Balance Sheet, will be recoverable eventually.

6. Amount Recoverable from the Government of Mysore : (Item 7 on the assets side of the Balance Sheet)

As mentioned in our last audit report amount recoverable as per Books of Accounts is Rs. 29,325.80 but as per letter No. Laq. 214/68-69, Bangalore, dated 20th November, 1970,

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from the Office of the Deputy Commissioner, Bangalore District, the amount standing to the credit of the Institute is stated to be Rs. 29,378.80. The difference of Rs. 82/- could not be explained this year also. No satisfactory explanation as to why the same is outstanding for such a long period was available at the time of audit.

7. *Stores (At Cost)*: (Item 8 on the assets side of the Institute's Balance Sheet and Item 4.1 on the assets side of the Balance Sheet of Development Fund II)

Stores have been classified by the Institute broadly into two categories for the purpose of physical verification:

- i) Iron and Steel materials, Cement and Bricks.
- ii) Other Building Materials.

The physical verification of the first category was not done during the year under report. Under the circumstances, it will be appreciated that the position as at 31st March, 1972, of these materials could not be verified by us.

As regards the second category, the physical verification was made after the close of the year. The result of physical verification has revealed a Net Loss (shortage) of Rs. 2,436.81 during the year which has not been written off in the Income and Expenditure Account but has been displayed in the Institute's Balance Sheet together with loss of stores of earlier years under the heading "Effect of Physical Verification of Building Materials" (Item 11 on the assets side of the Institute's Balance Sheet).

In this connection, a reference may be made to the Report of the Committee on Auditors' Report for 1971-72 Accounts in which it was recommended to adjust the effect of physical verification of Building Materials as on 31st March. But no such adjustment has been made during the year under review.

We understand that some of the stores are unusable and in some cases conditions of stores have deteriorated but no effect has been given for any loss of value due to deterioration in the condition of stores and/or obsolescence, if any.

Separate Registers are also not maintained for Stores as shown in the Institute's Balance Sheet and in the Balance Sheet of Development Fund II which is desirable from audit point of view. As reported last year, segregation of stores between these two Funds has been made by the Institute's Officials the basis of which could not, however, be satisfactorily explained to us.

8. *Loans and Advances*

(a) *Departmental Imprest*

Certificates confirming the imprest amount were not available from the Imprest holders to the extent of Rs. 1,752.17.

(b) *Festival Advance—Rs. 6,118.71*: (item 9.2 on the assets side of the Institute's Balance sheet)

In the absence of supporting list together with confirmation from the parties, we could not verify the above-mentioned figure.

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- (c) *Advance to Suppliers and Contractors—Rs. 1,45,112.94 and suspense and other other Advances—Rs. 4,30,805.88* : (Item 9.3 and 9.4 on the asset side of the Balance Sheet)

The above balances have been arrived at after adjustments including transfers to various expenditure heads both for the year under review as also for earlier years.

The above advances include certain on account advances made to the suppliers/ employees/others which are long outstanding and have not been accounted for by them timely and in certain cases even after a considerable lapse of time. As a result, necessary adjustments in respect of expenses against such advances have not been incorporated in the accounts under audit and/or in the accounts of the appropriate years. We have received no confirmation for advances made to suppliers and contractors outstanding as at 31st March, 1973. A part of the said amount standing under Advance and Suspense on the Institute's Balance Sheet might not be recovered eventually (attention of the Chief Accounts Officer of the Institute has been drawn to some specific cases). Further, in the absence of adequate particulars of these Advances we are unable to express our opinion as to what extent they are recoverable. The details of Suspense were prepared but the same did not agree with the General Ledger balance.

- (d) *Educational, Relief and Other Loans—Rs. 3,76,355.53*

In the absence of supporting lists with details of break-up etc. together with confirmation from the employees, we could not verify the above amount.

- (e) *Security Deposits* (Item 9.6 on the assets side of the Institute's Balance Sheet)

Receipts for deposits for earlier period could not be verified. It is understood that receipts of Security Deposits are now being separately preserved.

- (f) *Sundry Debtors—(i) Rs. 60,805.30* (Item 9.7 on the assets side of the Institute's Balance Sheet) :

These include items outstanding from as early as 1963-64. A major part (Rs. 50,001.50) is due from the Gun & Shell Factory for a number of years. No action appears to have been taken during the year under review for recovery of the dues from the Gun & Shell Factory.

- (ii) *Rs. 20,745.50* (Item 3.1 on the assets side of the Balance Sheet of the Electronic Data Processing and Computation Unit) :

Balances are outstanding from as early as 30th September, 1968. No action appears to have been taken.

9. *Advance for Land (Schedule XIII)—Rs. 4,03,458.91* (Item 9.8 on the assets side of the Institute's Balance Sheet)

- (a) *Rs. 106, Barrackpore Trunk Road—Rs. 20,790.38*

This was an Advance for the above-mentioned land made by the Institute in earlier years. The Land Acquisition Commissioner of Presidency Division by his letter dated

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28th August, 1969, had informed the Institute that the notification in respect of the above Land Acquisition Case had become inoperative under provisions of Land Acquisition (Amendment and Validation) Act, 1967. Accordingly, the Institute requested the Collector of 24-Parganas on 9th August, 1972, for refund of the amount. Refund is, however, still outstanding. It is not understood why the Institute took such a long time (i.e., from 28th August, 1969 to 9th August, 1972) to write for the refund to the Government of West Bengal. We suggested in our last audit report to classify the same in the Balance Sheet under "Refund (for Advance of Land) Receivable" has not been followed.

It is, however, learnt that by his letter No. C/1943/2/L/106 dated 9th August, 1972, the Deputy Secretary, L. & L. R. Department, proposed for fresh acquisition of the land, which appears to be a different issue from that of the "Refund Receivable."

(b) *Re : Butee Land adjacent to 123, Gopal Lal Tagore Road—Rs. 12,137.00*

The amount was advanced as early as 13th March, 1958. We are given to understand by the Estate Officer of the Institute that the Housing (Works) Department, Government of West Bengal also proceeded with acquisition of the same land. This is causing delay in acquisition in favour of the Institute. In the absence of up-to-date information we are unable to verify the terms and conditions of the advance and also whether because of the long outstanding it has become time-barred and therefore irrecoverable or not. The Institute should look into the matter immediately and take necessary action.

(c) *Re : Land adjacent to Gooptu Nivas—Rs. 5,862.00*

The advance was made in August, 1960, for Land and contingency expenses to the Collector of Land Acquisition Department (N), Alipore. The proposal of acquisition being abandoned refund of the advance was claimed by the Institute by its letter No. C2823/30/L dated 25th August, 1970. It appears to us that the claim of refund has not been pursued thereafter.

(d) *Re : 168, Gopal Lal Tagore Road—Rs. 3,744.03*

The advance was made in May, 1961. The proposal of acquisition being abandoned, refund of the advance was claimed by the Institute by its letter No. C303 dated 19th/21st April, 1972. We are given to understand that a fresh acquisition of the Land has been proposed.

(e) *Re : 102, Barrackpore Trunk Road—Rs. 3,30,687.00*

Two deposits Rs. 3,07,020/- and Rs. 22,644/- for Land and Legal and Contingency Charges respectively were made by the Institute for the above-mentioned property with the Government of West Bengal. The Council in its meeting held on 30th November, 1971, decided to withdraw the deposit made for land only and to invest the same in a way considered suitable by the administration for earning interest. In our last report, we suggested to classify the above in the Balance Sheet under "Refund (for Advance of Land) Recoverable from the Government of West Bengal" which has not been followed during the year. It is, however, understood that an amount of Rs. 3,11,862.86 has since been realised in September, 1973, and invested as per Council's Resolution.

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(f) *Re: Land at Madras—Rs. 21,563.50*

It is understood that the said amount was deposited against cost of the land. The Director of Technical Education (Construction Unit), Madras, in his letter No. CW/Ad3/802/T dated 26th April, 1973, intimated that Rs. 50,000/- is to be deposited further towards development cost. No provision for this liability of Rs. 50,000/- has been made in the accounts. We are given to understand that the title of the land is to be transferred on payment of the said Development Cost.

10. *Effects of Physical Verification of Building Materials—Rs. 22,997.44* (Item 11 on the assets side of the Institute's Balance Sheet)

This amount does not reflect any assets of the Institute though displayed on the assets side of the Balance Sheet and has already been reported upon in our observation on Stores.

11. *Cash and Bank Balances* : (Item 12 on the assets side of the Balance Sheet of the Institute and in Balance Sheets of different Funds under it)

Cash with Bank : Certificates from Banks (Schedule VII) confirming balances as on 31st March, 1973 were not available in respect of the following accounts :

- i) Nath Bank Ltd. (in Liquidation)
- ii) State Bank of India, Delhi 'A'
- iii) State Bank of India Delhi 'B'
- iv) Post Office Savings Bank Account (ISIGPF).

It also appears from Cash and Bank Balance Schedules (Schedule VI and VII) that the amount shown as Cash Balances (both in hand and at Banks) represent the balancing figures, that is to say, individual Bank Account cannot be linked up with individual Fund Account.

12. *General Fund* : (Item 1 on the liabilities side of the Institute's Balance Sheet)

Out of the amount of Rs. 4,02,336.33 charged in the Income and Expenditure Account as expenditure on Books and Journals (Item 12.1 of the Expenditures side of the Income and Expenditure Account of the Institute) Rs. 3,82,219.51 has been capitalised (vide Item 'H' of Schedule I of the Institute) by crediting the General Fund.

13. *Deposits and other Liabilities*

(a) *Hospitality and Housing Committee—Rs. 1,18,924.94* (Item 5.1 on the Liabilities side of the Institute's Balance Sheet)

It was observed in the course of audit that Hospitality and Housing Committee Account is one of the Accounts of the Subsidiary Suspense Ledger. Payments of debit vouchers raised by officer-in-charge of the Guest House from time to time are debited to this account. Bills raised by the Housing Committee on account of guests are debited to respective heads of accounts of the Units/Sectors and credited to this Suspense Account. Because of this method of accounting the credit balance of Rs. 1,18,924.94 as at 31st March, 1973, represents the balance of accumulated amount of charges made over years in respect of ISI guests and neither reflects any liability of the Institute to the Housing Committee nor

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can be regarded as profit up to 31st March, 1973. Though the Council's decision for incorporation of the accounts of the Hospitality Committee in the accounts of the Institute was referred to in our last year's audit report and the Committee on Auditors Report for 1971-72 Accounts recommended to that effect, the accounts of the Hospitality Committee were not incorporated in the accounts of the Institute this year also. The credit balance should have been wiped out by suitable adjustments against general account of ISI.

- (b) *Staff Income-tax and Annuity Deposits—Rs. 21,707.03* (Item 5.2 on the Liabilities side of the Institute's Balance Sheet)

It appeared in course of audit that Income-tax Liability on account of deductions from staff salary was not deposited with the appropriate authority in time.

- (c) *Library and Other Deposits—Rs. 1,79,730.54* (Item 5.3 on the Liabilities side of the Institute's Balance Sheet)

As reported in our last audit report Centralised Deposit Register was not maintained by the Institute at Baranagore this year also and the Deposit Registers at different Units are not properly maintained. No improvement appeared to have been made in this regard since our last audit report.

- (d) *Staff Insurance, Co-operative Society, Statistical Workers Housing Scheme etc.—Rs. 29,763.65* (Item 5.4 on the Liabilities side of the Institute's Balance Sheet)

In the absence of detailed information we could not verify to what extent the liabilities on the various heads of accounts that should have been paid by the Institute during the year remained outstanding as at 31st March and the consequences of such defaults, if any.

- (e) *Other Liabilities—Rs. 25,13,031.35* (Item 5.6 on the Liabilities side of the Institute's Balance Sheet)

Other Liabilities include outstanding liabilities as at 31st March, 1973, for goods and services etc. Liabilities for goods and services have been provided at Baranagore Office on the string of payments made up to 30th June 1973 in respect of bills for earlier years. No such uniform basis has been adopted for providing for liabilities of Branch Offices.

This year there has been a deviation from the hitherto followed policy of the Institute regarding provision for Gratuity Liability regarding all employees because of the fact that Government have agreed to provide fund required for employees who are expected to retire during the year only. No legal opinion was also available whether 1972 Gratuity Act is applicable to the Institute. As such we are not in a position to state as to what extent Gratuity Liability of Institute remains uncovered. The Institute also could not clarify as to what happened to the Gratuity Fund already created if the present practice is followed.

It was also observed that Books and Journals were wrongly debited twice and Outstanding Liabilities credited twice for the payment of Rs. 1,817.94 during the year to M/s. India Book House. Consequently, outstanding liabilities and Books and Journals remains overstated by the amount.

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14. *Excess of Expenditure over Receipts in respect of Miscellaneous Projects and Activities on behalf of the Government of India and Other Bodies (Item 6 on the assets side of the Institute's Balance Sheet)*

This includes Rs. 2,13,200.85 due from NSSO. In the absence of confirmation from the NSSO we could not verify the allocation of expenses debited to them on account of Electricity, Telephone Charges, etc.

INCOME AND EXPENDITURE ACCOUNT

(i) *Travelling Expenses*

A certain amount of 'on account' payment made to the employees for travelling is debited to Travelling Advances Account which remains unadjusted for a long time. Unless such advances are cleared within the year, the travelling expenses for the year under audit will not give a true view and to that extent both Income and Expenditure Account and Balance Sheet of the Institute will be affected.

Moreover, Travelling Expenses recoverable, if any, from outside concerns are not ascertained at the time of passing the travelling expenses bills. Such recoveries, if made in later years, are credited to travelling Expenses Account of the year of recovery. Accordingly travelling expenses are shown 'Not' in the Income and Expenditure Account. The practice appears to be defective and should be reviewed for remedial action.

The above affairs were stated in our last audit report in respect of which the Committee on Auditors' Report for 1971-72 Accounts suggested that old outstanding cases should be pursued vigorously for the purpose of adjustments.

But no improvement appeared to have been made in this regard during the year under report.

(ii) *Reimbursement of Medical Expenses*

It was observed, as in last year, that actual bills against which medical advances have been made to employees are not submitted promptly for necessary adjustments. As such, medical advances like travelling advances remain unadjusted for a long period, contrary to the Rules for Reimbursement of Medical Advances.

It was also observed that the date of payments, etc. of the medical bills are not recorded in the Register maintained by the Medical Expenses Reimbursement Unit, though the Register contains specific columns for such purposes. As a result, we could not verify whether all bills submitted to MERU upto 31st March, 1973, and not paid by that date have been fully provided for or not.

It is noted in this connection that the Committee on Auditors' Report for 1971-72 Accounts suggested for maintenance of a Register showing serial number of claim, amount claimed, amount sanctioned and date of payment. But it appears that the suggestion has not so far been implemented.

In course of our routine checking it was also observed that the entries in the personal ledger maintained by the MERU are made only on payment of the bills. There is no system

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of recording the unpaid bills in the personal ledger. It is advisable that as soon as a claim is received the same should also be recorded in the personal ledger maintained by the MERU so that a list of outstanding claims can be drawn up from the personal ledger.

(iii) *Gratuity Payment—Rs. 1,46,221.05*

This represents payment of Gratuity to the staff superannuated or retired during the year under review. Against this payment a grant of Rs. 1,50,000/- had been received from the Government of India during the year under report.

No provision for liability in respect of gratuity has been made in this account, as the Institute had been providing for in the accounts of earlier years. In this respect our report No. 13(e) above may be referred.

(iv) *Bank Charges and Interest*

a) Bank Charges and Interest Account includes Interest Payable to Provident Fund amounting to Rs. 30,980/-. We understand that Interest to Provident Fund Account is payable by the Institute @ 5% per annum on the loan from the Fund and also to compensate for the loss of interest suffered by the Fund on account of Institute's inability to obtain the exemption certificate and as such its inability to collect the Fund's accrued interest on G. P. Notes and re-invest the same. We are, however, given to understand that the exemption certificate for this purpose has since been obtained.

b) No provision for interest payable, if any, to the Gratuity Fund from which loan has been taken by the Institute has made in this account.

In this connection it may be noted that up to last year the Institute followed the practice of providing a 'token' interest of Rs. 5,000/- per annum which was pointed out in our last report. The Committee on Auditors' Report for 1971-72 Accounts also suggested that the Council should lay down the rate of interest to be credited to the Gratuity Fund for amounts borrowed from it. No decision appears to have been taken by the Council so far in this regard. The matter should be looked into.

v) *Rent, Rates, Taxes and Repairs*

As in last year payments and receipts of rent during the year have been recorded in the same account. As such the figure is shown as 'Net' in the Income and Expenditure Account'.

The Tenancy Agreements, if any, in respect of the rented premises were not made available to us this year also for the purpose of verification. Under the circumstances, we could not verify whether rents paid by the Institute during the year under audit were as per terms of Agreement. In the absence of the said agreements we could not verify also whether the repairs of rented premises undertaken by the Institute had to be borne by the Landlords or by the Institute.

The Committee on Auditors' Report for 1971-72 Accounts suggested that the entire question of rented premises should be critically examined and the terms of renting of the houses should be clearly stated in respect of every rental premises and that immediate action appears to be necessary. No notable progress in the matter could be observed in the course of our audit.

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vi) *Receipts from Experimental Research Farm*

The Institute incurred certain expenditure on experimental research farming carried out in Giridih and Baranagar. As regards our observations on Giridih Research Farming, reference is invited to our separate report on Giridih Branch as per Annexure I enclosed. As regards experimental research carried out under Baranagar Office no statement showing the products of the farming and their ultimate disposal was made available to us.

It was suggested by the Committee on Auditors' Report for 1971-72 Accounts that the state of affairs in Giridih should be thoroughly investigated, preferably by a Committee of the Council. No such investigation appears to have been made till the date of this report.

vii) In consistence with past practice Stocks of Stationeries and Consumable Stores, Laboratory Stores, Tools and Minor Accessories, Cost of Cards, Cabinets, etc. are neither taken at the close of the year nor accounted for, though their values are quite substantial. As such the purchases of these items made during the year are charged in full to the Income and Expenditure Account. As suggested in our last report, the Institute should look into the matter and, if necessary, should review whether this old practice should be continued or not.

viii) *The Indian Statistical Institute vis-a-vis Statistical Publishing Society*

Though wanted by us in course of our audit, unlike the previous year, we were not furnished with a detailed list of expenditure on various heads incurred by the Institute on behalf of the Statistical Publishing Society for the year 1972-73 and to what extent, if any, such expenditure had to be borne by the Institute could not be shown to us. In the absence of the above detailed information we could not verify the reasonableness of the expenditure and, therefore, are not in a position to give our opinion on the same.

We understand from the report of the Committee on Auditors' Report for 1971-72 Accounts that there are claims and counter claims. These claims and counter claims have, however been kept out of the books of account.

We were given to understand that the matter is receiving close attention of the administration.

ix) No provision has been made in this account for supplementary or special salaries to staff for the year 1972-73 paid in June, 1973. It was explained to us that no provision for such payment for the year under report was made in this account as the office order was received subsequently.

x) For the purpose of Income and Expenditure Account the allocations between Plan and Non-Plan as made by the officials of the Institute have been accepted by us.

Further, for the purpose of this report, we have accepted the allocation of expenses to different Sectors, as shown in Schedule (XI) to the Institute's Account. Our separate report on Sectorwise Income and Expenditure Accounts have not been issued by us.

xi) We have been given to understand that the activities of the local branches at Bombay, Mysore State and Kerala are independent of those of the Institute and accordingly, the transactions relating to these branches do not form part of the Institute's Accounts.

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In the absence of information we are not in a position to report on transactions, if any, in respect of 'ISI' Small Scale Experimental Units that have not been included in the Institute's Accounts.

Reference is also invited to our separate reports on Giridih and Delhi Branches of the Institute as per Annexures I and II respectively enclosed.

General

(a) The systems of internal check and control does not seem to have improved much since our last report on the same. There is also no arrangement for Internal Audit though the activities of the Institute are multifarious and widespread. Immediate steps should be taken to instal a comprehensive system of internal control. Coordination between the Accounts Department and the different Branches and Sectors of the Institute is far from satisfactory. As a result of which the audit of the Accounts of the Institute has been considerably delayed.

(b) The system of budgetary control leaves ample scope for improvement. Because of this deficiency there is no means of ensuring that actual expenditure are within budgeted limits. We have not been provided with a list of officials empowered by the Council of the Institute to sanction expenditure and their limits. It is observed that the budget proposals are considered as authorisation for incurring expenditure without awaiting for the sanction of the Government. This has resulted in huge expenditure made by the Institute and subsequently claimed from the Government over the years but still awaiting sanction as reflected in the Balance Sheet of the Institute (vide items 5.1 to 5.4 and item 6 on the assets side of the Institute's Balance Sheet). It is also observed that grants for specific activities are diverted and/or utilised to meet the excess of expenditure over income.

(c) The pages of the Minute Book for recording the proceedings of the meetings of the Council and/or Committee are not consecutively numbered and the proceedings are not written on the Minute Book but are typed on separate sheets and pasted on the Minute Book.

P7 Mission Row Extension,
Calcutta-1
20 March 1974

Yours faithfully,
sd/- P. K. MITRA & Co.
Chartered Accountants

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Annexure 1

Re : *Audit of the Trial Balance as at 31st March 1973, of Indian Statistical Institute, Giridih Branch*

We have audited the Trial Balance as at 31st March, 1973, of your Giridih Branch and our observations on the more important points of the Trial Balance and various Schedules submitted to us are given hereunder for your information. We will discuss in detail other points in connection with the preparation of Final Accounts of the Institute with the Chief Accounts Officer at Baranagar at the time of checking the Consolidated Accounts, though we presume he is already aware of the same as he had visited Giridih immediately before our audit.

1. FIXED ASSETS

a) *Land and Buildings*

The Institute owns the following Land and Buildings at Giridih :-

- (1) Farm Land.
- (2) Roso Villa.
- (3) Prakriti Devi Ganguli's Lane.
- (4) Health Home.
- (5) Biroga Kuthi.

Title Deeds of the first two properties are at Patna High Court and of the third at Hazratibagh Court in connection with suits filed against the Institute. Title Deeds of the fourth and fifth, we are told, are at Baranagar and will be inspected by us at the time of final audit at Baranagar.

b) *Furniture and Fixture*

No physical inventory as at 31st March, 1973, of Fixed Assets, particularly of Furniture and Fixture (which are easily removable articles), was taken for the purpose of verification. As a result we could not verify Fixed Assets Items that will appear in the Final Consolidated Accounts of the Institute as at 31st March, 1973. A sort of Asset Register is being maintained at Giridih and the same was produced before us. But it is neither up-to-date nor appears to have been checked by any responsible official of the Institute at any time during the year of our audit. As such, the said Register is of little use from audit point of view. There is also no proper Records of damaged and broken items of furniture. We also did not receive any custody certificate from the Officer-in-Charge.

In reply to our last year's report on this point we were informed by the Joint Secretary of the Institute by his letter No. C4317 A/C dated 29/30th January, 1973, that "the Institute has taken steps to have inventory of such assets for which it has already issued a circular No. C 672/A/C dated 17th May, 1972, enclosing the list of various types of assets in order to obtain a certificate of the existence of the assets with conditions thereof from the concerned officer and a reminder has also been issued to expedite the matter." But in spite of the letter and the reminder under reference, no physical inventory taken as at 31st March, 1973, was made available to us for the purpose of audit and also for checking the local Asset Register.

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2. STOCKS AND STORES IN HAND

On going through the inventories of building materials made on 31st March, 1973, it was noticed that there has been practically no movements during the year of surplus building materials lying in storage for a considerable period. For example :

Name of the Material	A/c No.	Balance on	
		Rs.	p.
(i) Iron and Steel Material	730	14,594.83	14,594.83
(ii) Bricks and Blocks	732	1,535.48	1,535.48
(iii) Power Paints & Varnish	737	999.40	999.35
(iv) Stone Chips—Ranigunj	746	6,880.02	6,880.02
(v) Cement and Tiles	748	8,006.54	8,006.54

In reply to our last year's audit report for early use/disposal of these materials to prevent further loss through damage and deterioration, the Joint Secretary had informed us that the Administration is taking necessary action about the use/disposal of the materials. It will, however, be noticed from the above comparative statement that the action, if any, has not produced any result.

3. RENTED PREMISES

While checking Payment for Rent for 1972/73 (including Municipal Taxes and Ground Rents) for the various premises (see Annexure I) taken for office use and for Residential/Guest House purposes we requested the Officer-in-Charge to furnish us with a statement showing the names of the landlords and terms and conditions of the tenancies together with supporting Rent/Lease Agreements for the purpose of our verification. We were furnished with Rent Agreements of four premises only (some of the Agreements, had however, expired but not renewed), namely :

- (1) Himani Bhavan.
- (2) Niogi Kuthi.
- (3) R. N. Ghose's House.
- (4) Khubilal House.

Of the remaining fourteen, three premises have been given up during the year of our audit and about the remaining eleven, we were told that Rent Agreements/Lease, if any, will be available at Baranagar. At Baranagar, however, no Agreements were made available to us by the Accounts Section.

In reply to our last year's report on this account head, we are informed by the Joint Secretary that "in respect of terms and conditions of Rented Premises the Institute is looking into the matter." It, therefore, appears that not much progress has been made up to the time of our writing this report.

4. GUEST HOUSE

There are three buildings—Mohua, Salboni and Uttara—at Giridih which are used for Guest House purposes. The 'Mohua' exclusively as Guest House, 'Salboni' for Guest

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House-cum-Library and 'Uttara' for Guest House-cum-Outdoor Dispensary. It was, however, noticed (from the number of visitors in 1972-73) that the accommodation available for the purpose of guests was far in excess of what was required by the Institute during 1972-73 (number of visitors in 1972-73 was 78 at 'Uttara', 31 at 'Salboni' and only 9 at 'Mohua'). The picture was more or less the same in 1971/72 also.

As the houses have been taken on rental basis we had, in our 1971-72 Report, raised the question about the retention of all the three buildings for guest house purpose in view of the difficult financial position of the Institute. In reply we were informed by the Joint Secretary by his letter under reference that "the matter is being looked into by us." It, however, appears that no decision has been taken up to the time of our audit.

5. MEDICAL EXPENSES

a) Doctor's Remuneration

There are three part-time Doctors—Dr. Das, Dr. Das Gupta and Dr. (Mrs.) Nandy—who attend the outdoor dispensary at 'Uttara' for an hour on an honorarium of Rs. 300/- per month each. They also attend to employees and their eligible relations in their homes on a fee of Rs. 4/- for each day call per patient and Rs. 5/- for each night call per patient and there were innumerable occasions when the Doctors were attending to more than one patient during each call. A monthly statement of fees payable to each Doctor is prepared in the Medical Section from the diary of each Doctor and on the strength of such statements, without any counter check, payments are made by the Institute. Therefore, in the case of any slip by the compounder both as regards eligible relations and total number of visits, the same will remain undetected and will be paid, which is not at all satisfactory from the audit point of view and was duly commented upon in our last year's audit report.

It was also noticed that even after separation of N.S.S. from 1st June 1972, though the staff strength has been reduced to 1/5th (approx.) of what it originally was there has been no corresponding reduction in the number of doctors. The Joint Secretary in his reply to our last year's report on this point had informed us that "the matter is being looked into." No decision appears to have been taken up to the time of our audit.

The average number of patients per day examined at the outdoor dispensary by the three Doctors in the month of August, 1973 (when we visited Giridih) is as follows :

<i>Dr. Mrs. Nandy</i>	<i>Dr. Das</i>	<i>Dr. Das Gupta</i>
8	1	4

The two compounders of the Institute, who are whole-time employees, also charge a fee of Re. 1/- for pushing injections to employees and their eligible relations at their homes. Such fees are also borne by the Institute at the first instance and then realised @ 25 paise from Class Four Staff and @ 50 paise from other staff.

It was noticed on a test check at the time of our audit that on 26th, 29th and 30th June, 1972, Shri D. Mitra, one of the two compounders, had to be attended to at night in his home by the Doctors of the Institute but each time by a different Doctor.

Shri Mitra, however, not only attended office on all the three abovementioned dates (full normal hours) but also visited employees in their homes and pushed injections to 9 patients on 26th, 6 patients on 29th and 8 patients on 30th and charged fees for the same.

INDIAN STATISTICAL INSTITUTE

No prescription for medicines could be produced by Shri Mitra concerning the three emergency night visits that the Doctors paid on the 28th, 29th and 30th June, 1972. We suggest a thorough probe of the whole matter.

(b) *Medicines*

The procedure for purchase and issue of medicines is the same as it was in 1971-72. In our last year's report we had suggested that the record for consumption of medicines, particularly in dispensing section should be maintained so as to have a counter check at the end of the year on the closing stock of medicines. The Joint Secretary in his reply had also informed us that "necessary instruction is being given to Giridih Office for maintenance of proper Register." It, therefore, appears that the instruction has not been carried out by Giridih Office.

Other irregularities noticed in the Medicine Section are :

(i) The Stock Register has been maintained in pencil throughout 1972-73 for which no satisfactory explanation was available to us.

(ii) In the Stock Statement of 1971-72 there was a list of damaged and out-dated medicines which amounted to Rs. 197.61. We have seen no disposal/destruction certificate of the same in the year 1972-73.

(iii) The list of medicines also contains items for which employees are not eligible. We were given to understand that such medicines are purchased and issued to patients and afterwards realised from the patients. In view of the complete lack of internal check and control at Giridih it is suggested that the Institute should look into the matter to decide whether inadmissible medicines should be purchased at all.

(iv) It was also noticed that the bills submitted to N.S.S. for the reimbursement of medical facilities enjoyed by their employees upto 17th July, 1972, do not include Doctors and Compounders' fees amounting to :

	<i>Compounder</i>				
	<i>Dr. Das</i>	<i>Dr. Das Gupta</i>	<i>Dr. Mrs. Nandy</i>	<i>A. Mitra</i>	<i>P. Ghosh</i>
	Rs.	Rs.	Rs.	Rs.	Rs.
April	645/-	463/-	698/-	399/-	118/-
May	694/-	663/-	1,075/-	447/-	99/-
June	414/-	518/-	565/-	373/-	22/-
July upto 17th	123/-	330/-	154/-	166/-	—
	1,876/-	1,874/-	2,492/-	1,385/-	239/-

Grand Total Rs. 7,866/-

It will be seen from Annexure II that the approximate cost to the Institute on Medical ground for 48 regular and 9 casual employees and their dependents came to Rs. 46,414.13 in 1972-73.

As there is no limit to the extent of reimbursement permissible under the prevailing Rules of the Institute and as the chances of misuse of the present system are very high owing to lack of internal control, it is suggested that the Institute should think of some alternatives to serve the purpose.

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6. FARM ACCOUNTING

There are certain experimental research work carried on by the Institute at Giridih for the cultivation of rice, wheat, etc. The expenses and sale proceeds are booked in the Giridih Books on Account. Last year for the purpose of our audit we requested a Reconciliation statement of quantitative production and sales of farm products but the same was not made available to us. We were, however, informed by the Joint Secretary by his letter mentioned earlier that "Giridih Office is being instructed for maintenance of proper record." During our audit of 1972-73 Accounts at Giridih we had requested for plotwise Productions Statement of wheat, paddy, etc. and their disposal for the purpose of our audit. We did not receive the quantitative Reconciliation Statement inspite of our repeated requests for the same. Under the circumstances we could not verify the disposal of farm products.

7. LIBRARY AND READING ROOM

(a) No physical verification list of Books as at 31st March, 1973, was available for the purpose of our audit. We were told that the last verification was made in 1970.

(b) *Reading Room*—A number of English and vernacular dailies and weeklies are subscribed for the Reading Room which is in Salboni Building. The Reading Room is kept open for only one hour during office time. As a result it was noticed that only a few readers were making use of the Reading Room.

As regards issue of books for the Institute and Circulating Library, it was noticed on going through the relevant Registers that only one book in a week on an average is issued from Institute's Library and 15 per day from the Circulating Library. The work can hardly justify one full-time assistant. The Institute, however, not only has a full-time Librarian but an Assistant Librarian also for this purpose. We suggest the matter be looked into and suitable action taken as early as possible.

8. STAFF POSITION

The staff strength of Giridih Office consists of 48 permanent employees and 9 casual employees after the separation of N.S.S.

The present allocation of staff amongst the various Sections does not appear to have been well planned. Because on scrutiny it was revealed that some of the staff in certain sections have practically no work e.g., Junior Assistant, Grade I, in Stores (The Assistant handles 3 Receipts and 11 Issues in a month on an average). (b) The Assistant Librarian (see our Report on Library). (c) The Blacksmith. (d) Quite a few of the Casual Employees.

The Institute should look into the matter at an early date.

9. There were no confirmation of balances of Delhi Branch and Central Office appearing in the Giridih Trial for the purpose of verification.

We have checked the Cash in Hand at Giridih on 23rd August, 1973, and found the same to be in order.

Please acknowledge receipt and let us have your comments at an early date which will be necessary while finalising I.S.I. Central Office audit.

Thanking you,

Yours faithfully,
dr : P. K. MITRA & Co.

INDIAN STATISTICAL INSTITUTE

APPENDIX I

INDIAN STATISTICAL INSTITUTE : GIRIDIH

HOUSING STATEMENT FOR THE YEAR 1972-73

Sl. No.	Name of Premises	Owned or Rented	House Rent Paid		Ground Rent Paid		Municipal Tax Paid		Total	House Rent Received including Taxes	
			Rs.	P.	Rs.	P.	Rs.	P.		Rs.	P.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. Mahua		Rented	*	19.03	161.86		170.89		225.00		
2. Sulboni		"	*						424.50		
3. Usiara		"	*						668.00		
4. Himanibhawan		"	1,200.00				1,200.00		72.00		
5. Neogikuthi		"	*	10.82	25.79		36.61		787.44		
6. West Point		"	*	54.00	36.30		90.30		329.73		
7. R. N. Ghose House		"	1,125.00				1,125.00		48.00		
8. Kunja Kuthi		"	480.00				480.00		—		
9. Anandadham		"	348.20	26.71	326.71		375.00		340.00		
10. Karhabari		"	*	25.00	38.44		63.50		518.94		
11. Datta House		"	336.00				336.00		—		
12. Mitra House		"	534.20	14.50	51.30		600.00		542.87		
13. K. Banerjee House I & II		"	2,024.00				2,024.00		1,613.50		
14. Smtiki Mandir		"	1,226.84	9.16			1,236.00		782.05		
15. Jam Kuthi		"	*	16.37	71.82		91.19		200.00		
16. Gol Kuthi		"	3,300.00				3,300.00		—		
17. Khubilal House		"	4,500.00				4,500.00		—		
18. Baghakuthi		"	*	20.70	630.30		651.00		219.00		
			15,073.33	169.44	935.31		16,178.08		8,450.83		

Note : * Rent is paid by the Head Office.

Sd/- P. K. MITRA & Co.

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APPENDIX II

INDIAN STATISTICAL INSTITUTE : GERIDIH BRANCH

MEDICAL EXPENDITURE

			Rs.	P.	Rs.	P.
(1) Cost of Medicine	28,537	39
(2) Doctors' Fees	20,915	00
(3) Medical Reimbursement of employees' bill	11,907	58
					<u>59,449</u>	<u>97</u>
<i>Less : Realisation for inadmissible Medicine and Doctors' Fees :</i>						
Medicine	7	50
Doctors' Fees	<u>1,264</u>	<u>75</u>
						<u>58,177</u>
<i>Add : Opening Stock of Medicine</i>	28,811	94
<i>Less : Closing Stock</i>	<u>8,813</u>	<u>34</u>
						<u>18,068</u>
						<u>78,276</u>
<i>Less : Medicine for N.B.S. :</i>						
April	5,299	14
May	7,873	81
June to July 17th	<u>6,023</u>	<u>83</u>
						<u>18,996</u>
<i>Add : Doctors' and Compounders' Fees for April to July 17th to be realised from N.B.S.</i>	<u>7,866</u>	<u>00</u>
						<u>38,862</u>
						<u>40,414</u>

Sd/- P. K. MITRA & Co.

INDIAN STATISTICAL INSTITUTE

ANNEXURE III

INDIAN STATISTICAL INSTITUTE : GIRIDIH BRANCH

STAFF BY DESIGNATION

<i>Designation</i>	<i>Number of Staff</i>	<i>Remarks</i>
Officer	.. 1—Sri A. Biswas	
Senior Asstt.	.. 1—Sri B. C. Asharjee	i) Stores ii) P.F. Loan etc.
Jr. Asstt.	.. 3— i) D. K. Rana—A/c Section ii) M.A.Q. Jan. Est. Book. iii) Sumita Sen (Grd.II)-Stores	Rs. 287/- per month. Receipts 2 in a month. Leave slip 11 in a month.
Tech. Asstt.	.. 1—Sociology Unit	
Jr. Tech. Asstt.	.. 5— -do-	
Doctors	.. 3	
Compounders	.. 2	
Electricians	.. 1	
Carpenters	.. 1	
Blacksmiths	.. 1	Rs. 286/-; Practically no work.
Plumber	.. 1	
Helpers	.. 2—Allorased to i) Office ii) Sociology Unit	
Gardensrs	.. 6	Rs. 210/-; approximately a month.
Sweepers	.. 2	
Security Guard	.. 8	Inspite of them, a motor stolen during the year on 29th March, 1973 and 70 ft. pipes in early April.
Farm Asstt.	.. 1	
Farm Labourers	.. 7	
Librarians	.. 3	Average issue per day 15 books of Circulating Library, 1 book per week of Institute Library.
Total	.. 48	

Sd/- P. K. MITRA & Co.

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Annexure 2

Re : Audit of Trial Balance as at 31st March, 1973, of Indian Statistical Institute, Delhi Branch

We have audited the Trial Balance as at 31st March, 1973, of your Delhi Branch, a copy of which, we understand, has already been forwarded to your Central Accounts Section at Baranagar for the purpose of compilation.

Our observations on the important points of the Trial Balance are given heretunder for your information. A detailed discussion, particularly from the standpoint of Consolidated Accounts, will be made with the Chief Accounts Officer of the Institute in due course.

1. FIXED ASSETS

As a result of our last year's detailed Report on this point, this year a physical verification of Fixed Assets as at 31st March, 1973, has been made at the various units (e.g., Planning Unit, SQC, Stores etc.). The original manuscript sheets were, however, not available for our inspection. We were given to understand that they have been destroyed. As these original manuscript sheets are very important from the audit point of view, we do not know who gave orders for their destruction before the audit was over. We have advised the Accountant in Delhi to preserve these sheets in future.

There is no local Asset Register. Under the circumstances, the Assets shown in the physical verification list could not be checked with any Asset Register to find out shortage/excesses, if any.

A local Asset Register should be prepared at an early date and kept in Delhi Office.

There are also some Fixed Assets, lying in I.S.I. rented premises, which are now under N.S.S.O. occupation. Though separation of N.S.S. from I.S.I. had taken place on 1st June, 1972, the Asset/Liability position of I.S.I. vis-a-vis N.S.S. has not yet been finalised. This will, naturally, lead to complications whilst finalising I.S.I. Balance Sheet as at 31st March, 1973.

The Institute should look into this aspect as early as possible and take suitable steps for necessary adjustments.

2. STOCK-IN-HAND (STORES MATERIALS ETC.)

Subsequent to our last year's Report on this point, it was noted that Stores Registers are being maintained on these lines suggested by us. A physical verification was also made as at 31st March, 1973. In this case also the original manuscript lists were destroyed before audit. There were one or two cases of items being found short at the time of physical verification. We were given to understand by the Accountant Sri Bardhan that items will be replaced by the Store-keeper Sri Raj Narain.

3. RENTED BUILDINGS AND NEW CAMPUS

The Delhi Office has taken a number of premises on rental basis (see Annexure I). Some of these premises are now occupied by N.S.S. employees who were formerly on I.S.I. Pay Roll. Recovery of rent in respect of these premises has created many problems as a

INDIAN STATISTICAL INSTITUTE

result of which outstandings are getting more and more accumulated. Some of these premises are also being used as offices in violation of D.D.A. Rules (Premises being in residential areas). Eviction notices and law suits are pending in courts in which I.S.I. is also involved. We had discussed the matter with the Institute Counsel Sri P. D. Bhargava and were given to understand that most likely Institute also (in addition to the landlords) will have to pay compensation in connection with these eviction suits but the quantum cannot be ascertained at this stage. Institute has, therefore, some definite liabilities in these connections but because of the undeterminable character the question of making provision has not been looked into. We were further given to understand by the Counsel that Institute is contesting these cases just to gain time so as to enable it to regularise the matter by shifting the offices to the New Campus Site as soon as the Institute Building that is being built is complete. Institute has, however, already incurred substantial Law Charges in this connection. The matter might be looked into so as to expeditiously complete the construction of the Building. This is necessary because it was found on visiting the construction site and discussing with the Institute Architect and Constructors of the Building that payments by the Institute are not being made in time which might slow down the pace of construction.

There were two or three subordinate staffs who were given House Rent Allowances though they enjoyed rent-free quarters at J.19 Hauz Khas, New Delhi. The matter should be looked into.

4. GUEST HOUSE

Subsequent to our last audit, a circular has been issued by the Special Officer, I.S.I., Delhi, detailing charges for meals and accommodation both for I.S.I. staff and outsiders. It was also noted that except Visiting Professors (who are I.S.I. guests) almost everyone has settled his bill in cash at Delhi thus removing the complications that were prevailing previously. The Secretary also has issued a circular recently advising that all bills for staying in Guest House should be settled by visitors before departure.

5. SUSPENSE ACCOUNT

On going through the Subsidiary Suspense Ledger it was noted that there are many cases where advances taken on Suspense Account are not being accounted for promptly. In the absence of Dr. Rao (who was on a visit to Calcutta) we have drawn Dr. Upadhyaya's attention to the case of Sri Raj Narain's Suspense Account which is rather serious. As on the date of the Trial Balance i.e., 31st March, 1973, advances taken by Sri Raj Narain on different occasions and outstanding on Suspense Account amounted to Rs. 2,952.28 and on the date of audit i.e., on 15th October, 1973, further unaccounted for advances taken by him from April, 1973 to October, 1973, came to Rs. 4,277.75. Thus the total outstanding on 15th October, 1973, was Rs. 7,230.03. On questioning Sri Raj Narain, he could produce vouchers amounting to approximately Rs. 4000/- to be adjusted against aforesaid advances of Rs. 7,230.03 (Some of the vouchers were for June and July, 1973). About the Balance which is more than Rs. 3,000/- Sri Raj Narain could neither produce any cash nor could give any explanation as to what he has done with the Institute's money. On going through the past history of Sri Raj Narain it was noticed that on 3rd September, 1969, there was a letter from the Jt. Secretary telling him to pay back immediately Rs. 1,205.69 long outstanding from him, the other alternative being an adjustment of Rs. 40/- each month from his salary. He had accepted the second alternative. Against this background why further

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accumulation in his suspense had again been allowed could not be explained. There was also no explanation as to under whose orders and to liquidate what amount Rs. 75/- per month is presently being deducted from his salary. We have impressed upon Dr. Upadhyaya the gravity of the matter and have requested him for taking immediate and suitable action so that Institute might not suffer any loss.

6. LIBRARY AND READING ROOM

a) Delhi Library of the Institute purchases books worth approximately Rs. 50,000/- in a year. We have, however, seen no Registers in which suggestions by professors, scholars and students are duly recorded for future purchases. On enquiring about the method for purchase of books for the Library, we were given to understand by Dr. Srinivasan that informal talks take place between the Professors during luncheon hours and on the basis of such talks purchases are made from time to time. The present system does not appear to be very satisfactory, firstly because from such informal talks students suggestions naturally cannot come much into prominence and secondly because it does not seem to fall in line with the method of purchase followed by other public libraries. This will also be reflected from the facts that a high percentage of the books purchased have not been issued even for once in the course of more than three months and a half (see Annexure II). Considering the limited resources of the Institute we would suggest as to whether a more comprehensive method can be followed or not should be looked into.

b) *Reading Room*: The Delhi Library has a Librarian and now an Assistant Librarian also (we understand) after a lapse of a year or two. The average number of books handled by the Library in connection with Receipts and Issue was only 11 in the week of our audit (see Annexure III). The immediate necessity for appointing the Assistant Librarian was, therefore, not very clear from the stand point of work load.

We were given to understand that there has never been any stock-taking of books upto 31st March, 1973.

7. CASH-IN-HAND

Delhi Office maintains two Cash Books. One Rough Cash Book wherein day-to-day transactions are recorded and another Fair Cash Book (mechanised) which is entered at the end of the year. The Trial Balance of Delhi Office as at 31st March, 1973, has been prepared by taking into account the balance of Fair Cash Book. The actual cash, however, is in excess by Rs. 157/- only. No satisfactory explanation was available for the excess cash. The matter should be looked into and the balance reconciled under advice to us.

We had checked the physical cash on 13th September, 1973, which agreed with the balance shown in Rough Cash Book.

8. BRANCH OFFICE SUSPENSE ACCOUNT

The balance shown in Trial Balance against Giridih Office did not agree with the balances shown against Delhi Office in Giridih Office Trial Balance. The matter should be looked into.

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9. HEAD OFFICE SUSPENSE ACCOUNT

There was no confirmation of Head Office balances shown in Delhi Office Trial as at 31st March, 1973.

10. Outstanding Liabilities have been provided for in respect of Medical Bills submitted upto first week of March, 1973, while in respect of other items from an analysis of payments made upto 30th September, 1973. There should be a circular from Central Office to all Branches for the basis of providing outstanding liabilities so that the basis may be uniform both in the Central Office and in Outstation Branches.

On the whole there appeared to be an all-round improvement in Delhi Office from accounting point of view this year. We would like to take this opportunity of thanking Delhi Office Personnel for the help and co-operation extended by them.

Please let us have your comments at an early date.

Thanking you,

Yours faithfully,
Sd/- P. K. MITRA & Co.

INDIAN STATISTICAL INSTITUTE

DELHI

STATEMENT OF RENT PAID AND RECEIVED

House No.	Rate of Rent per month	Period	Amount paid for												
			Office		S.Q.C.		Planning		R.T.S. Hostel		Guest House		N.S.S.		
			4(a)	4(b)	4(c)	4(d)	4(e)	4(f)	4(g)	4(h)					
(1)	(2)	(3)	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	
1. P2 Haus Khas	1,800.00	April '72 to March '73	—	—	—	—	—	—	—	—	—	—	—	2,400.00	—
2. P3 Haus Khas	1,800.00	April '72 to March '73	—	—	—	—	—	—	—	—	—	—	—	2,400.00	—
3. P4 Haus Khas	2,800.00	April '72 to March '73	—	—	—	—	—	—	—	—	—	—	—	4,200.00	—
4. K29 Haus Khas	1,800.00	April '72 to March '73	—	—	—	—	—	—	—	—	—	—	—	2,400.00	—
5. K30 Haus Khas	1,800.00	April '72 to March '73**	—	—	—	8,000.00	—	—	—	—	—	—	—	2,800.00	—
6. D6 Haus Khas	800.00	April '72 to March '73	5,300.00	—	—	—	—	—	—	—	—	—	—	1,100.00	—
7. D64 Haus Khas	400.00	April '72 to March '73	4,000.00	—	—	—	—	—	—	—	—	—	—	800.00	—
8. Y22 Haus Khas	878.00	April '72 to March '73	4,443.56	—	—	—	—	—	—	—	—	—	—	1,198.00	—
9. Z18 Haus Khas	800.00	April '72 to March '73	8,000.00	—	—	—	—	—	—	—	—	—	—	1,200.00	—
10. D3 Green Park Extension	450.00	April '72 to March '73	—	5,400.00	—	—	—	—	—	—	—	—	—	—	—
11. D1 Green Park Extension	316.00	April '72 to March '73	—	2,580.00	—	—	—	—	—	—	—	—	—	—	—
12. 4B/2 Rajinder Nagar	1,000.00	April '72 to March '73	—	—	—	—	—	12,000.00	—	—	—	—	—	—	—
13. D46 Haus Khas	878.00	April '72 to March '73	6,900.00	—	—	—	—	—	—	—	—	—	—	—	—
14. J19 Haus Khas	2,600.00	April '72 to March '73	—	—	—	—	—	—	—	—	—	—	30,000.00	—	—
15. Yojana Bhawan	5,808.48	April '72 to March '73	—	—	—	80,713.76	—	—	—	—	—	—	—	—	—
Total :			27,343.56	7,980.00	76,213.76	12,000.00	30,000.00	19,800.00	—	—	—	—	—	19,800.00	—
Dr. Balance carried to Trial Balance			—	—	—	—	—	—	—	—	—	—	—	—	—
			Rs.	27,343.56	7,980.00	76,213.76	12,000.00	30,000.00	19,800.00	—	—	—	—	19,800.00	—

† Rent realised on account of Office Building—P2, P3, P4 and K29 Haus Khas and K30 Haus Khas, New Delhi.

* Rs. 170.00 spent on 12.3.1972 (71-72) on account of repairs adjusted against rent.

** Being half of the House under occupation of N.S.S.O. since 1st June, 1972 and the rest half under occupation of Planning Unit.

*** Realisation for April and May, 1972.

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ANNEXURE I

BRANCH

FOR THE YEAR ENDED 31st MARCH 1973

N.S.S.C.	Amount realised from									
	Total	Offce	S.Q.C.	Planning	R.T.S. Hotal	Quasi Hotal	N.B.R.	N.B.S.O.	Total	
	4(g)	4(h)	5(a)	5(b)	5(c)	5(d)	5(e)	5(f)	5(g)	5(h)
Rs. P.	Rs. P.	Rs. P.	Rs. P.	Rs. P.	Rs. P.	Rs. P.	Rs. P.	Rs. P.	Rs. P.	Rs. P.
12,000.00	14,400.00	—	—	—	—	—	—	—	—	—
12,000.00	14,400.00	—	—	—	—	—	—	70,800.00*	70,800.00	—
22,000.00	28,220.00*	—	—	—	—	—	—	—	—	—
18,000.00	21,600.00	—	—	—	—	—	—	—	—	—
6,500.00	16,600.00	—	—	1,283.00	—	—	—	—	—	1,283.00
—	6,800.00	—	—	—	—	—	186.00***	—	—	186.00
—	4,800.00	—	—	—	—	—	270.00***	—	—	270.00
—	5,683.38	—	—	—	—	—	358.16***	—	—	358.16
—	7,800.00	—	—	—	—	—	371.80***	—	—	371.80
—	5,400.00	—	1,746.00	—	—	—	—	—	—	1,746.00
—	2,500.00	—	—	—	—	—	—	—	—	—
—	12,000.00	—	—	—	3,657.88	—	—	—	—	3,657.88
—	6,900.00	124.00	—	—	—	—	—	—	—	124.00
—	30,000.00	—	—	—	—	2,700.00	—	—	—	2,700.00
—	80,712.78	—	—	—	—	—	—	—	—	—
70,800.00	2,43,677.31	124.00	1,746.00	1,283.80	3,657.88	2,700.00	1,187.80	70,800.00	—	81,188.08
—	—	27,209.55	6,228.00	74,830.19	8,102.32	27,300.00	18,412.20	—	—	1,82,450.23
70,800.00	2,43,677.31	27,242.54	7,980.00	78,213.78	12,000.00	30,000.00	18,580.00	70,800.00	—	2,43,677.31

INDIAN STATISTICAL INSTITUTE

ANNEXURE II

DELHI BRANCH
STATEMENT of Issue of New Books

	I Time	II Time	III Time	IV Time	I Time	II Time	III Time	IV Time
Books received on 26-6-73								
DP 7001	2.7.73	26.7.73	30.8.73	—	20.7.73	12.8.73	7.9.73	—
DP 7002	—	—	—	—	—	—	—	—
DP 7003	3.7.73	—	—	—	27.7.73	—	—	—
DP 7004	—	—	—	—	—	—	—	—
DP 7006	6.7.73	10.8.73	—	—	1.8.73	14.9.73	—	—
DP 7006	—	—	—	—	—	—	—	—
DP 7007	4.7.73	13.8.73	—	—	2.8.73	28.8.73	—	—
DP 7008	9.7.73	17.8.73	—	—	13.8.73	—	—	—
DP 7009	—	—	—	—	—	—	—	—
DP 7010	12.7.73	4.8.73	—	—	26.7.73	24.8.73	—	—
DP 7011	—	—	—	—	—	—	—	—
DP 7012	—	—	—	—	—	—	—	—
DP 7013	4.8.73	28.8.73	—	—	25.8.73	23.9.73	—	—
DP 7014	—	—	—	—	—	—	—	—
DP 7015	10.8.73	—	—	—	3.9.73	—	—	—
DP 7016	—	—	—	—	—	—	—	—
DP 7017	—	—	—	—	—	—	—	—
DP 7018	21.7.73	—	—	—	22.8.73	—	—	—
DP 7019	20.7.73	—	—	—	1.8.73	—	—	—
DP 7020	7.8.73	—	—	—	1.9.73	—	—	—
DP 7021	—	—	—	—	—	—	—	—
DP 7022	13.8.73	—	—	—	1.9.73	—	—	—
DP 7023	17.8.73	—	—	—	15.9.73	—	—	—
DP 7024	18.8.73	20.9.73	—	—	22.9.73	—	—	—
DP 7025	7.8.73	—	—	—	1.9.73	—	—	—

FORTYFIRST ANNUAL REPORT: 1972-73

ANNEXURE III

DELHI BRANCH

STATEMENT OF DAILY RECEIPT AND ISSUE OF BOOKS

Date	Number of Books Issued	Number of Books Returned	Total Books
On 8.10.73	10	6	16
.. 9.10.73	8	6	14
.. 10.10.73	1	1	2
.. 11.10.73	8	2	10
			<u>42</u>

4) 42 (= 11 Books (approx.))

INDIAN STATISTICAL INSTITUTE

BALANCE SHEET

1971-72	Rs.	P.	Fund and Liabilities	Rs.	P.
			1. GENERAL FUND :		
1,81,01,829	88		As per Schedule VIII enclosed		1,82,78,243 82
			2. OTHER FUNDS (EXCLUDING DIRECTOR'S CONTRIBUTION FUND AND INDIAN STATISTICAL INSTITUTE GENERAL PROVIDENT FUND FOR WHICH SEPARATE ACCOUNTS ARE PREPARED)		
			As per separate Balance Sheet enclosed as per contra :		
			1. Visiting Professors and Fellows Fund	113	18
			2. Gracuity Fund	18,70,589	98
			3. Development Fund I	119,321	94
			4. Development Fund II	11,01,856	09
			5. Supervision Fee Fund	2,18,304	87
			6. Statistical Quality Control Development Fund	7,61,065	21
				65,69,540	22
60,98,311	84		7. Less : Leave Salary Fund	48,169	75
				65,01,370	47
			3. LOANS FROM OTHER FUNDS :		
37,85,000	00		As per Schedule IX enclosed		38,45,000 00
			4. ROCKEFELLER FOUNDATION GRANT :		
			As per contra :		
1,322	29		As per last account		1,322 29
			5. DEPOSITS AND OTHER LIABILITIES :		
			1. Hospitality and Housing Committee	1,18,954	49
			2. Staff Income tax and Annuity Deposits	81,070	03
			3. Library and other deposits	1,78,930	34
			4. Staff Insurance, Cooperative Society, S.W. Housing Scheme etc.	59,783	61
			5. Director of Health Services for purchasing Census Reports through UNESCO		8,126 00
40,22,354	80		6. Other Liabilities	25,18,031	35
				26,88,846	31
			6. EXCESS OF INCOME OVER EXPENDITURE IN RESPECT OF MISCELLANEOUS PROFITS AND ACTIVITIES :		
2,82,386	18		As per Schedule X enclosed		2,82,752 17
			7. EXCESS OF INCOME OVER EXPENDITURE IN RESPECT OF PLAN REVENUE EXPENDITURE GRANT RECEIVED FROM GOVERNMENT OF INDIA :		
1,54,978	31		As per Schedule XIV enclosed		1,52,980 00
<hr/>			Carried over :		<hr/>
3,34,17,180	56				3,32,74,175 00

FORTYFIRST ANNUAL REPORT: 1972-73

AS AT 31ST MARCH 1973

1971-72	No.	P.	Property and Assets	No.	P.	No.	P.
			1. FIXED ASSETS:				
1,78,96,320	67		As per Schedule I enclosed			1,80,74,183	80
			2. RENTAL OF TELEPHONE UNDER GOVT SCHEME (INCLUDING INSTALLATION CHARGES):				
			Capital Grant Account:				
			As per last account			68,860	70
			Less: written off during the year @ 5%			3,343	03
						<u>65,517</u>	67
68,860	70		Add: payments during the year			3,114	00
						<u>68,631</u>	67
			3. ADVANCE ON ACCOUNT OF ISIJU EXPENDITURE ON JOINT PROJECT FOR THE CONSTRUCTION OF ELECTRONIC COMPUTERS IN PROGRESS (EXCLUDING VALUE OF FURNITURE, EQUIPMENT ETC. LOANED TO ISIJU WHICH ARE INCLUDED IN SCHEDULE 1):				
6,67,329	27		As per last account			7,62,329	27
			4. RECOVERABLE CAPITAL OUTLAY:				
			As per last account			9,132	58
9,135	58		Less: adjustment during the year			<u>9,135</u>	58
			5. AMOUNT CLAIMED/TO BE CLAIMED FROM GOVERNMENT OF INDIA:				
			1. Amount already claimed but pending acceptance as per Schedule II enclosed			31,86,151	88
			2. Amount to be claimed as per schedule III enclosed			28,71,545	52
			3. Amount claimed and rejected (but under correspondence) as per Schedule IV enclosed			12,87,137	54
			4. Excess of expenditure over receipts on account of NRS work during 1959-60 to 1963-64 already claimed:				
			As per last account			11,18,892	37
90,78,697	31		Less: reimbursement received during the year			<u>8,65,892</u>	27
						<u>78,65,697</u>	31
			6. EXCESS OF EXPENDITURE OVER RECEIPTS IN RESPECT OF MISCELLANEOUS PROJECTS AND ACTIVITIES ON BEHALF OF THE GOVERNMENT OF INDIA AND OTHER BODIES PENDING ADJUSTMENTS ON SETTLEMENT OF CLAIMS MADE TO BE MADE:				
4,51,499	56		As per Schedule V enclosed			9,59,492	43
			7. AMOUNT RECOVERABLE FROM GOVERNMENT OF MYSORE IN RESPECT OF BANGALORE LAND REQUISITIONED BACK BY GOVERNMENT OF MYSORE:				
29,325	80		As per last account			29,325	80
2,94,662	01		8. STORES (BUILDING MATERIALS ETC.) AT COBT			2,72,938	53
2,70,88,626	88		Carried over:			<u>2,78,91,569</u>	16

INDIAN STATISTICAL INSTITUTE

BALANCE SHEET

1971-72	Fund and Liabilities		Re. P.	
Rs.	P.		Re.	P.
3,84,17,180.65		Brought forward:		3,83,76,178.85
		8. EXCESS OF RECEIPTS OVER EXPENDITURE IN RESPECT OF CAPITAL EXPENDITURE GRANT RECEIVED FROM GOVERNMENT OF INDIA:		
		As per Schedule XII enclosed		12,48,911.74
		9. AMOUNT DUE TO ELECTRONIC DATA PROCESSING AND COMPUTATION UNIT ON LOAN ACCOUNT:		
		As per Balance Sheet of the Unit enclosed		10,00,000.00
		10. EARMARKED DONATION BY STATISTICAL PUBLISHING SOCIETY IN RESPECT OF LAND AT BANGALORE:		
		As per last account Donation received		42,000.00
		Less:		22,500.00
		11. GRANT-IN-AID FOR FLOOD ADVANCE TO STAFF REFUNDABLE TO GOVERNMENT OF INDIA:		
		As per last account		6,00,000.00
		Less: adjusted in respect of grant during the year		2,30,000.00
		12. EXCESS OF RECEIPTS OVER EXPENDITURE IN RESPECT OF SURVEY RESEARCH CENTRE:		
		As per Balance Sheet of Survey Research Centre enclosed		6,54,610.41
		13. EXCESS OF INCOME OVER EXPENDITURE IN RESPECT OF NON-PLAN REVENUE EXPENDITURES DURING 1972-73 VIDE SCHEDULE XI		5,06,855.48
				<hr/>
				3,87,29,169.81
				<hr/>
				3,81,76,059.68

- NOTES: (a) In accordance with the terms and conditions of the Grants for Capital Expenditure received from the Government of India, the Institute shall not sell or otherwise dispose of or mortgage any property acquired by it with such grants without prior approval of the Government. Most of the assets have been acquired out of the Government grant, total written down values of which, however, are not ascertainable.
- (b) Cash balance in hand include balance with International House of Japan, Translation Unit in Tokyo amounting to Rs. 7,798.10 being Japanese Yens 5,35,104 converted at pre-devaluation rate of exchange (Rs. 100 = Yen 7500) approximately.
- (c) Transactions in respect of Electronic Data Processing and Computation Unit of the Institute have not been incorporated in these accounts. These are set out in separate Balance Sheet as at 31st March 1972 and the Income and Expenditure Account of the Unit annexed herewith.
- (d) These accounts do not include grant received from Government of India on account of Honeywell H.100 Computer and the utilisation thereof, the details of which have been set out in a separate Balance Sheet as at 31st March 1972.
- (e) The Institute has guaranteed that in the event of the recognition of the Indian Statistical Institute (General) Provident Fund by the Commissioner of Income-Tax, West Bengal, is not given, the Institute will be responsible for any additional income-tax which may be payable in this regard.
- (f) These accounts do not include the grant of \$85,000.00 made by the Ford Foundation to the Institute and disbursements thereout (except c.i.f. value of certain equipments amounting to Rs. 81,391.50 included in the item 7 of Fixed Assets Schedule) particulars of which are not available.
- (g) The Institute may be liable to pay additional rent with interest in respect of Cooplu Nivas accommodation, the amount of which is not readily ascertainable. A case is pending with the Calcutta High Court in this respect.
- (h) Comparative figures, have, wherever necessary, been rearranged.

Calcutta,
30 March 1974.

Sd. B. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research and Training School

FORTYFIRST ANNUAL REPORT: 1972-73

AS AT 31ST MARCH 1973—Contd.

1971-72	Re. P.	Property and Assets	Re. P.	Re. P.
2,70,88,880.00		Brought forward:		2,70,91,589.15
		9. LOANS AND ADVANCES:		
		1 Departmental Imprest	2,652.47	
		2 Festival advance to workers	8,118.71	
		3 Advance to suppliers and contractors	1,45,112.39	
		4 Suspense and other advances	4,39,896.04	
		5 Educational, relief and other loans	2,70,355.13	
		6 Security deposit	25,877.07	
		7 Sundry debtors (partly irrecoverable)	50,605.30	
			16,47,127.70	
		8 Advance for land (Schedule XIII)	4,02,459.91	
		9 Charges prepaid	2,875.00	
17,30,866.48		10 Marginal deposit for letter of credit	3,965.00	16,56,926.01
		10. NET ASSETS OF OTHER FUNDS: (EXCLUDING DIRECTOR'S CONTRIBUTION FUND AND INDIAN STATISTICAL INSTITUTE GENERAL PROVIDENT FUND FOR WHICH SEPARATE ACCOUNTS ARE PREPARED):		
		As per separate Balance Sheet enclosed: As per contra:		
		1 Visiting Professors and Fellows Fund	113.13	
		2 Gratuities Fund	43,70,376.98	
		3 Development Fund I	1,18,321.84	
		4 Development Fund II	11,91,516.09	
		5 Supervision Fee Fund	2,18,304.87	
		6 Statistical Quality Control Development Fund	8,71,965.21	
			65,99,540.12	
60,89,511.84		7 Low : Leave Salary Fund	86,159.75	65,01,380.47
20,641.83		11. EFFECT OF PHYSICAL VERIFICATION OF BUILDING MATERIALS		22,997.44
		12. CASH BALANCES:		
		1 In hand: As per Schedule VI enclosed	73,167.35	
		2 At Banks: On Current Accounts:		
		i) With American Express International Banking Corporation, Calcutta for Rockefeller Foundation Grant: As per contra	3,222.29	
7,89,399.93		ii) With other Banks as per Schedule VII enclosed	4,30,009.67	3,03,177.02
3,57,28,189.81				3,51,76,656.89

This is the Balance Sheet referred to in our report of even date.

M. P. K. Muria & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

BOOKS AND EXPENDITURE ACCOUNT

1971-72		1971-72		Expenditure	Plan		Non-plan	
Plan	P.	Plan	P.		Rs.	P.	Rs.	P.
2,07,596	96	78,06,404	49	1. Salary, remuneration to teachers etc.	1,12,803	14	49,30,711	36
20,107	00	22,47,361	48	2. Dearness pay	14,154	30	12,25,902	15
5,947	85	8,06,296	96	3. Dearness allowance	4,297	17	4,50,378	77
14,085	70	11,59,960	10	4. House rent allowance	10,357	84	6,97,785	90
7,013	90	6,44,949	98	5. City compensatory allowance	5,084	96	3,96,415	57
6,925	00	8,70,865	87	6. Interim pay	6,785	63	6,34,859	18
—	—	8,30,588	38	7. Employer's contribution to workers provident fund	—	—	4,83,712	36
—	—	11,11,594	89	8. Reimbursement of medical expenses	—	—	4,76,045	79
—	—	46,550	41	9. Children's education allowance	—	—	19,137	05
—	—	22,012	38	10. Leave travel concession	—	—	21,250	23
82,443	58	3,23,947	30	1. Travelling expenses	36,287	72	4,50,262	56
—	—	5,24,680	53	2. Overtime allowance	—	—	2,82,210	44
—	—	80,870	00	3. Payments for leave vacancies	—	—	60,777	12
47,423	20	25,968	09	4. Visiting professors, foreign scientists, fellows and experts	29,182	80	85,460	67
59,968	35	4,68,001	99	5. Scholarship, stipends and other assistance to students	1,02,089	67	3,50,232	71
—	—	—	—	6. Prizes to workers for initiative	—	—	500	08
—	—	4,98,352	98	7. Gratuity payments	—	—	1,46,221	08
—	—	—	—	8. Machine Tabulation expenses :	—	—	—	—
—	—	—	—	Hire and maintenance of tabulating equipment, punches & verifying machines, etc. including service charges & freight, customs and other charges for new machines and cost of cards and cabinets, stores and stationaries etc.	3,01,006	28	1,85,717	18
1,90,000	00	14,56,618	63	9. Printing and publication	4,906	40	29,669	31
2,282	53	1,06,109	79	10. Society type activities (entertainment and conference expenses etc.)	5,857	85	13,345	14
4,715	07	14,216	22	11. Examination expenses	179	00	68,751	31
131	50	60,871	95	12. Books and journals (including cost of binding etc.)	58	70	4,02,210	43
216	20	8,25,679	57	13. Microfilm, photo and audiography expenses	44	00	5,788	23
107	25	14,785	79	14. Expenses on Translation Unit in Japan	—	—	—	—
—	—	218	34	15. Repairs, replacement and maintenance of office equipment, furniture and accessories	3,289	15	92,987	81
2,401	94	1,21,248	70					
6,59,593	48	1,96,64,175	00	Carried over:	6,68,660	81	1,14,48,194	85

FORTYFIRST ANNUAL REPORT : 1972-73

FOR THE YEAR ENDED 31st MARCH, 1973

1971-72		1971-72		Income	Plan		Non-plan	
Rs.	P.	Rs.	P.		Rs.	P.	Rs.	P.
1. Grants-in-aid from Government of India for Project and Non-project activities :								
5,10,000.00		52,26,000.00		1. Research and Training School				54,75,000.00
—		—		2. Statistical Quality Control	7,00,000.00			9,28,000.00
30,000.00		1,73,000.00		3. International Statistical Education Centre ..				1,73,000.00
1,20,000.00		45,50,000.00		4. National Sample Survey				18,05,000.00
—		44,61,000.00		5. Common Services				41,40,000.00
2. Grants-in-aid from Government of India in respect of Gratiuity payment								
								1,50,000.00
								<u>1,25,76,000.00</u>
3. Receipts from non-Governmental sources :								
1. In respect of SQO :								
Membership fees, training fees, service charges etc. 10,70,364.10								
Less : transferred to Statistical Quality Control Development Fund 3,79,364.10								
—		7,00,000.00						7,00,000.00
2. In respect of RTS :								
—		8,974.80		a) Membership subscription				10,888.81
—		45,449.87		b) Fees for training course and sale proceeds of syllabus etc.				37,257.54
—		11,672.00		c) Examination fees & other receipts				11,948.20
—		7,177.47		d) Receipts from product at Giridih experimental farm etc.				5,204.88
—		1,02,398.10		e) Service charges for work done by Psychometry, Computer Science Units etc. ..				1,35,277.18
4. Grants-in-aid for Miscellaneous Projects :								
—		48,000.00		1. From Ministry of Health & Family Planning, Government of India for Family Planning Survey				33,100.00
—		32,000.00		2. From Ministry of Health & Family Planning, Government of India for Demographic Research Centre				28,900.00
7,70,000.00		1,94,06,881.84		Carried over :	7,00,000.00			1,35,38,374.41

INDIAN STATISTICAL INSTITUTE

INCOME AND EXPENDITURE ACCOUNT

1971-72		1971-72				1971-72		1971-72	
Plan	Non-plan	Plan	Non-plan	Expenditure		Plan	Non-plan	Plan	Non-plan
Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.
8,59,652.48		1,96,44,175.00		Brought forward:		8,46,069.81		1,14,48,194.82	
26,174.50		2,06,569.56		15.1	Stationeries and consumable stores	3,797.78		1,96,173.26	
7,899.05		1,81,073.47		2	Other miscellaneous expenses viz., advertisement, insurance premium, labour charges, vehicle, cartage, conveyance and other petty expenses like bus, weather cocking etc.	6,083.39		1,82,070.67	
				18. Out of non-salary contingencies:					
1,150.09		6,10,825.14		1	Postal and M.O. charges, air and railway freight, electricity and telephone charges	1,070.67		6,51,342.04	
—		28,840.11		2	Audit fees and expenses	—		17,630.10	
—		60.73		3	Bank charges and interest	—		41,500.00	
313.50		4,91,139.28		17.1	Rent, rates & taxes (including those of Beld, camps and outstation offices)	700.00		5,47,962.94	
—		3,34,161.60		2	Repairs and/or maintenance of buildings, land etc. and petty construction	—		2,45,192.94	
10,331.88		1,01,300.71		16.	Transport	12,436.75		1,21,322.03	
91.38		41,580.22		19.	Workers' welfare and amenities (excluding reimbursement of medical expenses)	—		54,229.42	
—		—		20.	Director's discretionary expenses	—		—	
6,539.97		63,040.75		21.1	Library stores, tools and minor accessories etc.	258.05		47,741.81	
—		20,276.72		2	Material and other charges for experimental farming and rice research scheme	—		14,260.30	
				22. Projects (Miscellaneous):					
—		41,185.99		1.	Estimates of Probabilities of Hospitalisation according to age, sex and diagnosis and their use in planning Hospital Services	—		—	
—		77,673.41		2.	Fertiliser optimal Demand Study projecting fertiliser demand in India (As per Appendix A)	—		47,430.25	
—		38,988.20		3.	Summer Course on Research Methods in Social Sciences, 1971	—		—	
7,11,724.88		2,01,21,027.05		Carried over:		6,72,016.23		1,35,91,513.21	

FORTYFIRST ANNUAL REPORT : 1972-73

FOR THE YEAR ENDED 31st MARCH 1973—Contd.

1971-72		1971-72		Income	Plan		Non-plan	
Plan	Non-plan	Plan	Non-plan		Rs.	P.	Rs.	P.
Rs.	P.	Rs.	P.					
7,70,000.00	1,94,05,881.84			Brought forward :	..	..	7,00,000.00	1,35,35,674.41
				5. Miscellaneous receipts :				
—	343.76			Library .. .. .	..	..	—	—
				6. Projects (Miscellaneous) :				
				1. Grants received from Fertiliser Association of India in respect of Project mentioned in item 22.2 of expenditure side (As per Appendix A) .. .. .	..	..	—	—
—	1,40,000.00							
				2. Grant-in-aid received from Indian Council of Social Science Research in respect of project—Summer Courses on Research Methods in Social Sciences, 1971 .. .. .	..	..	—	—
—	30,000.00							
				3. Grant-in-aid received from National Bureau of Economic Research in respect of project mentioned in item 22.4 of expenditure side (As per Appendix B) .. .. .	..	..	—	—
—	32,806.70							
				4. Grant-in-aid from Indian Council of Social Science Research in respect of project mentioned in item 22.5 of expenditure side (As per Appendix C) .. .. .	..	..	—	19,965.00
—	—							
				5. Recovery from Government of India for house rents of Delhi houses used by NISSO .. .. .	..	..	—	70,500.00
—	—							
—	35,17,595.76			6. Excess of expenditure over income .. .. .	..	..	—	—
7,70,000.00	2,21,26,477.60	—	—	Carried over :	..	..	7,00,000.00	1,36,35,639.41

INDIAN STATISTICAL INSTITUTE

INCOME AND EXPENDITURE ACCOUNT

1971-72		1971-72		Expenditure	Plan		DNon-plan	
Plan	P.	Re.	P.		Re.	P.	Re.	P.
7,11,794.98		2,91,21,027.06		Brought forward:	8,72,018.23		1,36,61,543.34	
—		—		22.4 Project on Exchange Control and Liberalisation (As per Appendix B)	—		14,370.44	
—		—		Research project "Central Place Hierarchy for a developing Agricultural Region"— Karnal Area (As per Appendix O)	—		10,594.80	
—		5,400.00		.8 An investigation of age and related changes in the electrophoretic and immuno-electro- phoretic components of serum proteins ..	—		—	
88,873.02		—		23. Excess of income over expenditure allocated to senior as per Schedule XI enclosed	27,983.77		37,070.81	
<u>7,70,000.00</u>		<u>2,21,26,427.06</u>			<u>7,00,000.00</u>		<u>1,36,23,039.41</u>	

- NOTES: (a) As stated in the Balance Sheet, this account excludes transactions in respect of Electronic Data Processing and Computation Unit and Honeywell H-400 Computer Unit of the Institute, separate sets of accounts in respect of which are annexed (See notes (c) and (d) on Balance Sheet).
- (b) This account does not include the transactions in respect of International Statistical Education Centre (Colombo Plan Fellowship, net effect of which has been given in the Balance Sheet (vide Schedule V enclosed).
- (c) An amount of Rs. 9,80,092.31 being depreciation on fixed assets on OVT telephone has been adjusted in General Fund.
- (d) In accordance with the consistent practice, the costs of car, canteen, stationery and stenographic, have been written off in this account and any stocks in hand as on 31st March 1973 have not been treated as assets in the Balance Sheet.
- (e) In accordance with the previous practice, certain transactions have been included in these accounts on a cash basis.
- (f) This amount excludes Rs. 24,200.00 and Rs. 40,000.00 being grants sanctioned by the Government with 31st March 1973 on account of Family Planning Survey and Demographic Research respectively, which have been received by the Institute after that date.
- (g) Grants-in-aid of Rs. 1,25,78,000.00 received from Government of India includes Rs. 2,30,000.00 being adjustment in respect of Flood Advance.

Calcutta,
30 March, 1974

Sd. S. P. Mukherjee
Chief Accounts Officer

FORTYEIRST ANNUAL REPORT: 1972-73

FOR THE YEAR ENDING 31st MARCH 1973—Contd.

1971-72		1971-72		Income	Plan		Non-plan		
Plan	P.	Plan	P.		Plan	P.	Plan	P.	
7,00,000.00		2,21,28,427.05		Brought forward:	7,00,000.00	1,35,23,089.41		

7,00,000.00 2,21,28,427.05

7,00,000.00 1,35,23,089.41

Sd. M. Mukherjee
Director, Research & Training School

Sd. P. K. Mitra & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

SCHEDULE I

SCHEDULE OF FIXED ASSETS

particulars	written down value as on 31st March 1972		deletions/adjustments made during the year		value after deletions/adjustments (col. 1-5)	
	(1)	(2)	(3)	(4)	(5)	(6)
A. Land and Land developments:		Rs. P.	Rs. P.		Rs. P.	
1. Calcutta:						
.1 At 153 Gopal Lal Tagore Road (adjoining 202 B.T. Road) ..		60,545.90	—		60,545.90	
.2 Development of above land		40,524.76	—		40,524.76	
.3 At 205 B.T. Road (including cost of development) ..		4,38,915.70	—		4,38,915.70	
.4 At 154, 180, 185, 186/1 Gopal Lal Tagore Road		96,643.71	—		96,643.71	
.5 Development of above land		6,818.51	—		6,818.51	
.6 At 206 B.T. Road (including cost of development (Note (a) below)		19,96,094.66	—		19,96,094.66	
.7 At 202 B.T. Road		5,79,104.76	—		5,79,104.76	
2. Giridih:						
.1 Farm land (Note (b) below)		9,514.43	—		9,514.43	
.2 Development and fencing etc.		29,839.35	—		29,839.35	
.3 Farming development		10,682.00	—		10,682.00	
.4 Irrigation and water supply		25,810.00	—		25,810.00	
.5 In village "Makaspur" Giridih (Note (c) below)		1,30,087.00	—		1,30,087.00	
.6 Purchased from Smt. Prakriti Devi Gangopadhyay ..		14,000.00	—		14,000.00	
3.1 Delhi (lease-hold)		20,74,638.12	—		20,74,638.12	
.2 Development of above land		29,949.83	—		29,949.83	
4. Baroda		27,611.32	—		27,611.32	
5. Bangalore (Note (d) below)		22,600.00	—		22,600.00	
8. Hyderabad		1,14,335.00	—		1,14,335.00	
Sub-total: (A1-8)		50,52,135.92	—		50,52,135.92	
B. Buildings:						
1. Calcutta:						
.1 Partly at 202 B.T. Road and partly at 153 Gopal Lal Tagore Road (Main building) (Note (3) below)		8,15,452.24	—		8,15,452.24	
.2 At 153 Gopal Lal Tagore Road		10,61,406.00	—		10,61,406.00	
.3 At 205 B.T. Road		18,36,785.01	—		18,36,785.01	
.4 At 206 B.T. Road		1,40,603.97	—		1,40,603.97	
.5 At 202 B.T. Road		54,868.00	—		54,868.00	
.6 Preliminary expenses for new construction at Baranagar ..		—	—		—	
2. Delhi:						
.1 Preliminary expenses for construction		12,000.00	—		12,000.00	
Sub-total: (B1.1-1.5)		36,17,025.31	—		36,17,025.31	

FORTYFIRST ANNUAL REPORT: 1972-73

as on 31st March 1973

depreciation for the year		not value (col. 6-6.1)		additions during the year						written down value as on 31st March 1973		
rate %	amount			out of capital expenditure grant		out of current expenditure grant		total (col. 7.0 to 7.1)				
(5.0)	(5.1)	(6)		(7.0)		(7.1)		(7.2)		(8)		
	Rs. P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	
—	—	55,545	90	—	—	—	—	—	—	55,545	90	
—	—	40,524	78	—	—	—	—	—	—	40,524	78	
—	—	4,38,915	70	—	—	—	—	—	—	4,38,915	70	
—	—	96,883	71	—	—	—	—	—	—	96,883	71	
—	—	6,818	51	—	—	—	—	—	—	6,818	51	
—	—	13,36,094	56	7,91,299	23	—	—	7,91,299	23	21,27,393	79	
—	—	5,79,104	75	—	—	—	—	—	—	5,79,104	75	
—	—	9,814	31	—	—	—	—	—	—	9,814	31	
—	—	29,839	65	—	—	—	—	—	—	29,839	65	
—	—	10,682	00	—	—	—	—	—	—	10,682	00	
—	—	55,810	00	—	—	—	—	—	—	55,810	00	
—	—	1,20,087	90	—	—	—	—	—	—	1,20,087	90	
—	—	14,000	00	—	—	—	—	—	—	14,000	00	
—	—	50,74,838	12	—	—	—	—	—	—	50,74,838	12	
—	—	20,049	83	—	—	—	—	—	—	20,049	83	
—	—	27,611	32	—	—	—	—	—	—	27,611	32	
—	—	22,500	00	—	—	—	—	—	—	22,500	00	
—	—	1,14,385	00	—	—	—	—	—	—	1,14,385	00	
—	—	50,52,135	92	7,91,299	23	—	—	7,91,299	23	58,43,435	15	
2.5%	20,586	31	7,06,065	93	—	—	—	—	—	7,26,651	93	
2.6%	26,265	16	10,25,120	83	—	—	—	—	—	10,51,385	83	
2.0%	45,918	88	17,90,875	18	25,814	96	—	25,814	96	18,16,690	15	
2.35%	3,862	80	1,42,841	37	—	—	—	—	—	1,42,841	37	
2.35%	1,371	70	52,498	39	—	—	—	—	—	53,496	35	
—	—	—	—	39,040	00	—	—	39,040	00	39,040	00	
—	—	—	12,000	00	1,75,075	00*	—	1,75,075	00	1,87,075	00	
—	—	97,025	64	38,10,399	67	2,40,829	96	—	2,40,829	96	40,60,299	63

* Includes cost of cement Rs. 1,10,000/-

INDIAN STATISTICAL INSTITUTE

SCHEDULE I—Contd.

SCHEDULE OF Fixed Assets

particulars	written down value as on 31st March 1972		deletions/adjustments made during the year		value after deletions/adjustments (col. 2-3)
	(1)	(2)	(3)	(4)	(5)
	Rs.	P.	Rs.	P.	Rs. P.
C. Sheds and Structures :					
1. Calcutta :					
.1 203 B.T. Road and 168 Gopal Lal Tagore Road (Note (3) & (g) below)	78,889.58	—	78,889.58
.2 At 205 Barrackpore Trunk Road	74,811.72	—	74,811.72
.3 At 166, 160, 165 & 166/1 Gopal Lal Tagore Road	40,201.00	—	40,201.00
.4 At 206 Barrackpore Trunk Road	7,551.33	—	7,551.33
.6 At 202 Barrackpore Trunk Road	2,98,386.34	—	2,98,386.34
.8 At 5 Rabindranath Tagore Road (for UNTAA Workshop situated on rental premises)	2,28,840.68	—	2,28,840.68
2. Delhi :					
.1 Partitions, structures etc. at Delhi	2,422.62	—	2,422.62
.2 Erection of a Nissan hut	1,013.06	—	1,013.06
.3 Hut for Chowkidar	1,318.13	—	1,318.13
Sub-total : (C1-8)	7,38,859.16	—	7,38,859.16
D. Machinery & Equipment :					
1. Calculating, Punching and other tabulating equipment	3,07,736.74	—	3,07,736.74
2. Office machinery and equipment	2,66,649.97	—	2,66,649.97
3. Workshop machinery and equipment	30,087.16	—	30,087.16
4. Photo & optical equipment	24,537.75	—	24,537.75
5. Laboratory equipment	5,78,548.04	—	5,78,548.04
6. Printing Press, monotype accessories etc.	3,029.53	3,029.53	—
7. Construction equipment	14,275.26	—	14,275.26
8. UNTAA Workshop machinery and equipment	31,377.85	—	31,377.85
9. Electronic Computer (HEC 23) and other tabulating equipment	38,460.34	—	38,460.34
Sub-total : (D1-9)	15,04,856.25	3,029.53	15,01,826.72
E. Passenger lift	61,207.21	—	61,207.21

FORTYFIRST ANNUAL REPORT 1972-73

as on 31st March 1973

depreciation for the year		additions during the year						written down value as on 31st March 1973
rate %	amount	net value (col. 4-5.1)		out of capital expenditure grant		out of current expenditure grant			total (col. 7.0 to 7.1)
(5.0)	(5.1)	(6)		(7.0)		(7.1)		(7.2)
	Rs. P.	Rs. P.		Rs. P.		Rs. P.		Rs. P.
7.5%	5,920.02	79,013.08		—		—		73,093.06
7.5%	5,579.39	68,739.34		—		—		66,739.34
7.5%	3,016.08	27,185.92		—		—		37,185.92
7.5%	566.34	6,984.89		—		—		6,984.89
7.5%	22,277.48	2,76,988.88		461.64		—	461.64	2,76,450.50
7.5%	17,688.00	2,18,169.83		—		—		2,18,169.83
7.5%	181.70	2,240.92		4,296.50		—	4,296.50	6,536.42
7.5%	78.01	937.81		—		—		937.81
7.5%	98.88	1,219.27		—		—		1,219.27
—	65,496.95	8,84,462.20		4,767.14		—	4,767.14	8,89,219.34
15%	89,860.81	5,08,077.93		12,305.00		—	12,305.00	5,20,382.93
15%	39,982.50	2,58,567.47		15,017.34		—	15,017.34	2,41,614.81
15%	4,505.57	26,551.59		—		—		25,531.59
15%	6,180.66	29,357.09		—		—		29,357.09
15%	86,782.21	4,91,765.83		32,738.82		—	32,738.82	5,36,604.35
15%	—	—		—		—		—
15%	2,141.29	12,134.58		—		—		12,134.58
15%	4,706.88	26,671.17		—		—		26,671.17
15%	3,789.04	22,691.20		—		—		22,691.20
—	2,28,724.86	13,62,796.84		60,090.85		—	60,090.85	14,12,887.70
10%	8,120.72	66,086.49		—		—		74,000.49

INDIAN STATISTICAL INSTITUTE

SCHEDULE I—Contd.

SCHEDULE OF FUND AMOUNTS

particulars	written down value as on 31st March 1972		deletions/adjustments made during the year		value after deletions/adjustments (col. 2-3)	
	(1)	(2)	(3)	(4)	(5)	(6)
	Rs.	P.	Rs.	P.	Rs.	P.
F. Electrical equipment and installation :						
1. High tension electricity	88,909	58	—	—	88,909	58
2. Electrical equipment and fittings	5,12,120	54	—	—	5,12,120	54
3. High tension electricity for UNTAA Workshop	42,336	85	—	—	42,336	85
Sub-total : (F1-3)	6,23,316	97	—	—	6,23,316	97
G. Furniture and fittings	7,45,461	94	—	—	7,45,461	94
H. Books and journals	28,00,161	02	—	—	28,00,161	02
I. Motor cars and vehicles	65,457	94	1,192	83	64,265	11
J. Library equipment (including equipment procured through Ford Foundation Grant and Rockefeller Foundation Grant)	1,57,385	19	—	—	1,57,385	19
K. Construction of Overbridge	6,905	45	—	—	6,905	45
L. Soviet Printing Machine (Note (f) below)	15,86,692	09	—	—	15,86,692	09
M. SRC equipment	48,058	53	—	—	48,058	53
Grand Total :	1,73,86,320	47	4,222	34	1,73,90,542	11

NOTES : (a) Excluding Students Hostel situated on a part of premises 208 Barrackpore Trunk Road, the cost of which has been shown in the accounts of Development Fund II. (Item 3.1 and note (b) in Development Fund II Piped Assets Schedule.)

(b) Excluding Rs. 14,861.18 paid out of Supervision Fee Fund and included in the accounts of that Fund [Note (c) in Supervision Fee Fund, Balance Sheet].

(c) Including Rs. 68,584.19 being additional amount paid under protest. An appeal lodged with the Patna High Court by the Institute in this respect is pending.

(d) Paid based out of un-marked donation received from Statistical Publishing Society. Excluding Rs. 19,254 being value of trees grown on the land, payable to Government of Mysore not provided for in these accounts.

(e) Situated partly on land at 203 Barrackpore Trunk Road, the value of which amounting to Rs. 57,554.46 has been included in Supervision Fee Fund. (Note (a) in Supervision Fee Fund, Balance Sheet.)

(f) Represents value of Soviet Printing Machines received as gift from the Academy of Sciences, USSR which have been made over to the Statistical Publishing Society for utilization as per agreement.

(g) Includes value of certain partly demolished sheds and structures but of small consequence.

(h) Out of capital expenditure grant Rs. 11,83,500.03 and out of SRC expenditure grant Rs. 96,550.53.

(i) No depreciation is computed on additions during the year.

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

FORTYFIRST ANNUAL REPORT : 1978-79

AS ON 31st March 1979

year	depreciation for the year		net value (col. 4-5.1)		additions during the year				written down value as on 31st March 1979	
	rate %	amount			out of capital expenditure grant		out of current expenditure grant		total col. 7.0 to 7.1	
(5.0)	(5.1)	(6)		(7.0)		(7.1)		(7.2)		(8)
	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.
10%	6,880.96		61,928.82		—	—	—	—	—	61,928.82
10%	61,212.05		4,60,808.49		3,534.85	—	—	3,534.85	4,64,443.44	
10%	4,238.56		38,146.99		—	—	—	—	—	38,146.99
—	62,531.57		3,60,384.10		3,534.86	—	—	3,534.85	5,64,519.05	
10%	74,648.19		6,70,915.75		9,321.78	—	—	9,322.78	6,80,238.61	
5%	1,40,008.85		50,60,152.07		30,097.88	3,83,219.51	4,12,317.39		30,72,470.36	
50%	12,853.02		51,412.69		—	—	—	—	51,412.69	
15%	23,807.78		1,33,777.41		50,443.25	—	—	50,443.25	1,54,220.66	
7.5%	517.91		6,987.54		—	—	—	—	6,987.54	
15%	2,38,003.81		12,48,668.28		—	—	—	—	12,48,668.28	
15%	6,808.74		30,149.75		96,299.25	—	—	96,299.25	1,35,369.00	
—	8,56,749.28 (Note *) below		1,44,38,349.01		12,56,696.20 (Note *) below	2,82,919.61	16,38,814.79		1,80,74,183.80	

86. P. K. Mittal & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

CHEDULE II

AMOUNT ALREADY CLAIMED FROM GOVERNMENT OF INDIA BUT PENDING ACCEPTANCE AS ON 31ST MARCH 1973

particulars	Rs.	P.	Rs.	P.	Rs.	P.	
1. On account of Capital Expenditure :							
Excess of expenditure over receipt of grants :							
1. In respect of 508 Barrackpore Trunk Road, for repair, renovation, etc.							
As per last account						1,17,703.07	
2. On account of Non-Project Sectors :							
Excess of expenditure over income :							
1. Upto 1958-59							
As per last account						5,35,727.00	
2. On account of NSS Project Sector :							
Excess of expenditure over income :							
1. Upto 1968-59							
As per last account						5,44,011.00	
4. On account of Revenue (current) Expenditure (excluding Miscellaneous Projects) :							
1. Excess of expenditure over income in UNTAA Sector less savings in Non-Project Sectors and NSS Project Sector in 1966-67 :							
As per last account	1,62,078.	00					
Less : reimbursement received during the year	1,62,078.	00					
2. Excess of expenditure over income for 1968-70 :					8,18,545.	10	
As per last account							
3. Excess of expenditure over income for 1970-71				12,91,798.	05	21,11,343.	15
5. On account of Plan Revenue Expenditure :							
1. Excess of expenditure over income in 1966-67 :							
As per last account	430.	16					
2. Excess of expenditure over income in 1967-68 :							
As per last account	117.	57					
3. Excess of expenditure over income in 1968-69 :							
As per last account	174.	21					
				921.	94		
Less : reimbursement received during the year							
4. Excess of expenditure over income in 1969-70 :							
As per last account				84,787.	65	84,857.	65
6. On account of the 25th Anniversary of the Institute :							
Excess of expenditure over receipt :						1,650.	00
As per last account							
						31,88,121.	85

Dr. S. P. Mukherjee
Chief Accounts Officer

Dr. M. Mukherjee
Director, Research and Training School

Calcutta,
20th March 1973

Dr. P. K. Mitra & Co.
Chartered Accountants

FORTYFIRST ANNUAL REPORT : 1972-73

SCHEDULE III

AMOUNT TO BE CLAIMED FROM GOVERNMENT OF INDIA AS ON 31ST MARCH 1973

particulars	Rs.	P.
1. On account of Revenue (Current) Expenditure (excluding Miscellaneous Projects):		
Excess of expenditure over income for 1971-72:		
As per last account	23,71,846.	81

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research and Training School

Calcutta,
29th March 1974

Sd. P. K. MITRA & Co.
Chartered Accountants

SCHEDULE IV

AMOUNT CLAIMED FROM GOVERNMENT OF INDIA AND STATES (BY ORDER CORRESPONDENCE) AS ON 31ST MARCH 1973

particulars	Rs.	P.	Rs.	P.	Rs.	P.
1. On account of Capital Expenditure:						
Excess of expenditure over receipt of grant:						
.1 1968-67						
As per last account					2,06,861.	82
5. On account of Non-Project Sectors:						
Excess of expenditure over income:						
.1 1968-61						
As per last account					1,84,017.	00
.2 1962-63 (including UNTAA Sector)						
As per last account					2,46,076.	00
.3 1963-64						
As per last account					65,273.	76
.4 1964-65						
As per last account					2,67,213.	77
					5,63,139.	53
2. On account of Revenue (Current) Expenditure (including Miscellaneous Projects):						
Excess of expenditure over income:						
.1 1967-68						
As per last account					50,063.	46
.2 1968-69						
As per last account					56,089.	53
					1,06,762.	79
4. On account of loss on sale of stock of building materials:						
.1 1968-69						
As per last account					43,363.	40
					15,97,137.	54

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research and Training School

Calcutta,
29th March 1974

Sd. P. K. MITRA & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

SCHEDULE V

EXCESS OF EXPENDITURE OVER RECEIPTS IN RESPECT OF MAJOR PROJECTS AND ACTIVITIES OF BODIES OF THE GOVERNMENT OF INDIA AND OTHER BODIES AS ON 31st MARCH 1973

projects and activities	net excess of expenditure (+) / receipts (-)							
	upto 31st March 1972				for the year upto 31st March 1973			
	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.
1. On behalf of Governances of India :								
1. Research and Planning Committee of the Planning Commission for Sociological Studies			+23,755.14					23,755.14
2. ISBC Colombo Plan Fellowship : As per last account			+76,774.53			+84,104.49		
Expenditure during the year								
Sub-total: (1.2)			+75,744.53			+84,104.49		1,59,870.00
						[Note (a) below]		
3. Ministry of Health and Family Planning, Government of India for Family Planning Survey :								
As per last account		94,565.22						
Less amount received during the year		60,000.00		+34,565.22				
Expenditure during the year		1,30,170.52						
Less : amount received during the year		33,100.00			+97,070.52			
Sub-total: (1.3)				+34,565.22		+97,770.52		1,31,335.74
						[Note (b) below]		
4. Ministry of Health and Family Planning, Government of India for Demographic Studies :								
As per last accounting (including Rs. 97,653.89 for Calcutta Fertility Survey work)		2,10,009.50						
Less : amount received during the year		80,000.00		+1,30,009.50				
Expenditure during the year		1,30,507.00						
Less : amount received during the year		28,900.00			+1,01,607.00			
						[Note (b) below]		
Sub-total: (1.4)				+1,30,009.50		+1,01,607.00		2,39,676.50
5. Ministry of Planning, Government of India for National Sample Survey Organisation :								
Expenditure during the year		2,83,700.85				2,13,300.85		2,13,300.85
Less : amount received during the year		70,500.00						
						[Note (b) below]		
Sub-total: (1.1 to 1.5)				+3,22,864.45		+4,55,987.85		8,16,817.31
						[Note: (a) below]		
2. On behalf of other Bodies :								
1. International Social Science Council for International Conference on Comparative Research in Social Change and Regional Disparities :								
As per last account				+838.84				838.84
2. Indian Council for Social Science Research for Summer Course on Research Methods in Social Sciences, 1971								
		4,298.20						
Less : amount received during the year		7,000.00		+2,701.80				1,594.20
Sub-total: (2.1 to 2.2)				+1,635.14				1,635.14
Total: (1-2)				+3,24,499.59		+4,56,585.88		8,20,487.43

NOTES: (a) To be claimed from Government of India.

(b) The items are vide Schedule XI attached.

Calcutta,	Sd. S. P. Mukherjee	Sd. M. Mukherjee	Sd. P. K. Mitra & Co.
30th March 1974	Chief Accounts Officer	Director, Research & Training School	Chartered Accountants

FORTYFIRST ANNUAL REPORT : 1972-73

SCHEDULE VI

DETAILS OF CASH IN HAND AS ON 31st MARCH 1973

At the Central Office and other offices of the Institute

	Rs.	P.
At Calcutta :		
Central Office	38,172	30
At Delhi	16,890	70
At Giridih	1,771	68
At Bangalore :		
SQC	231	69
DRTC	556	16
RTS	189	68
At Ernakulam (Kerala)		
	3,215	57
At Madras	699	30
At Coimbatore	23	42
At Bombay	10,374	86
At Baroda	1,739	55
At Bhitai Project	901	93
At Tokyo, Japan	7,790	61
	90,728	85

The above amount of Rs. 90,728.85 has been shown in the following Balance Sheets of the Institute and its various funds:

The Institute	72,167	35
Other funds :		
Visiting Professors & Fellows Fund	113	12
Leave Salary Fund	940	25
Gratuity Fund	3,217	64
Development Fund I	521	94
Development Fund II	2,181	01
Supervision Fee Fund	5,600	96
Director's Contribution Fund	3,352	23
1st General Provident Fund ¹	8,448	34
	26,371	30
	90,728	85

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

Calcutta,
26th March 1974

Sd. P. K. Mitra & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

SCHEDULE VII

DETAILS OF BANK BALANCE (EXCEPT AMERICAN EXPRESS INTERNATIONAL BANKING CORPORATION, CALCUTTA) AS ON 31st MARCH 1973

State Bank of India, Shamshar 'B'	1,48,800.87
State Bank of India, Delhi 'A'	1,073.98
State Bank of India, Delhi 'B'	898.85
United Bank of India, Dunlop Bridge	11,86,311.01
National Grindlays Bank Ltd.	8,874.82
Reserve Bank of India (P/L A/c)	19,539.62
Nath Bank Ltd. (in liquidation)—doubtful	3,885.14
United Commercial Bank, Giridih	305.99
United Bank of India, Giridih	55,845.21
Canara Bank, Delhi	1,37,010.84
State Bank of India, Bangalore	7,291.82
Bank of Baroda, Bangalore	7,323.40
State Bank of India, Madras	25,487.70
State Bank of Travancore, Ernakulam	26,155.64
Indira Bank, Coimbatore	33,593.95
State Bank of India, Bombay	49,210.01
Bank of Baroda, Baroda	16,432.15
State Bank of India, Durgapur	22,247.46*
Bank of Baroda, Bilhisi	10,122.05
	17,87,790.95

* Includes Rs. 8,000/- in transit.

The above amount of Rs. 17,87,790.95 has been shown in the following Balance Sheet of the Institute and its various funds as follows:

The Institute	4,28,687.38
Electronic Data Processing and Computation Unit	82,098.24
Honeywell H-400 Computer Unit	14,843.12
Statistical Quality Control Development Fund	7,81,065.21
Statistical Quality Control Development Fund	7,81,065.21
ISI General Provident Fund	5,00,000.00
	17,87,790.95

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

Calcutta,
26th March 1974

Sd. P. K. Mitra & Co.
Chartered Accountants

FORTYFIRST ANNUAL REPORT : 1971-72

SCHEDULE VIII

GENERAL FUND AS ON 31st MARCH 1972

particulars	Rs.	P.	Rs.	P.	Rs.	P.
1. Opening Balance					1,91,91,829.33	
2. Add : Assets added during the year :						
1. Capital Expenditure Grant Account :						
A. per Schedule I (Col. 7.0) annexed to the Balance Sheet ..	11,00,086.08					
2. Survey Research Centre Grant Account :						
A. per Schedule I (Column 7.0) annexed to the Balance Sheet ..	98,209.58					
3. Current Expenditure Grant Account :						
A. per Schedule I (column 7.1) annexed to the Balance Sheet ..	3,82,519.51					
4. OYT telephone	3,114.00		16,41,828.78			
3. Less :						
1. Sale of Motor Cars acquired through Capital Expenditure Grant						
			1,192.83			
2. Depreciation written off during the year :						
(a) on Fixed Assets as per Schedule I ..	8,68,749.58					
(b) on OYT telephone as per Balance Sheet	3,345.03		9,60,092.31			
3. Printing Press & Monotype accessories written off						
	3,029.55		9,84,314.88		6,77,811.00	
						1,97,78,213.63

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

Cd-44A,
5th March 1974

Sd. P. K. Mishra & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

SCHEDULE EX

LOANS FROM OTHER FUNDS AS ON 31st MARCH 1973

Fund	Rs.	P.
As per Balance Sheet of:		
1. Gratuity Fund	22,20,000	00
2. Development Fund I	1,19,000	00
3. Development Fund II	3,85,000	00
4. Supervision Fee Fund	1,15,000	00
	28,17,000	00
Less: Loan to Leave Salary Fund .. .	69,000	00
Total	28,48,000	00

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research and Training School

Sd. P. K. Mitra & Co.
Chartered Accountants

SCHEDULE X

EXCESS OF INCOME OVER EXPENDITURE IN RESPECT OF MISCELLANEOUS PROJECTS AND ACTIVITIES
AS ON 31st MARCH 1973

Projects and activities	net excess of receipts (+) / expenditure (-)							
	upto 31st March 1972		for the year		upto 31st March 1973			
	Rs.	P.	Rs.	P.	Rs.	P.		
1. Estimate of Probabilities of Hospitalisation according to age, sex and diagnosis etc.	-	12,468	00	—	—	12,468	00	
2. International Course on Management of Quality Control in collaboration with Dr. J. M. Juran	-	17,826	55	—	—	17,826	55	
3. An investigation of age and related changes in the electrophoretic and immunoelectrophoretic components of serum protein	-	97,518	37	—	—	97,518	37	
4. Fertiliser Optimal Demand Study—Projecting Fertiliser Demand in India	+1,21,670	50	-	47,460	25	74,210	25	
5. Project on Exchange Control & Liberalisation	-	32,606	70	-	14,270	18	18,336	52
6. Research Project "Central place Hierarchy for developing Agricultural Region," Kerala Area	—	—	—	-	3,780	40	3,780	40
Total:	-	2,82,388	18	-	57,980	31	2,24,408	87

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research and Training School

Sd. P. K. Mitra & Co.
Chartered Accountants

Calcutta,
29th March 1973

FORTYFIRST ANNUAL REPORT : 1977-78

SCHEDULE XI

STATEWISE BREAKUP OF INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR 31st MARCH 1978

sectors	grant from Government of India and other bodies		miscellaneous income		total income		total expenditure		excess of income over expenditure (+) / excess of expenditure over income (-)		
	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	
(1)	(2)		(3)		(4)		(5)		(6)		
Non-Plan											
1. Non-Project Sectors:											
1. Research and Training School	34,70,000.00		2,00,674.41		56,76,674.41		53,20,239.88		+3,55,331.33		
2. Statistical Quality Control	9,28,000.00		7,00,000.00		16,28,000.00		14,55,874.97		+1,72,125.03		
3. International Statistical Education Centre	1,78,000.00		—		1,78,000.00		1,23,544.38		+54,455.62		
Sub-total (item 1)	65,81,000.00		9,00,674.41		74,81,674.41		68,99,659.23		+5,81,916.18		
2. Project Sector:											
1. National Sample Survey	16,85,000.00		—		16,85,000.00		17,14,899.65		-1,00,899.62		
2. Common Services (excluding amounts relating to miscellaneous items i.e. below)	42,40,000.00		—		42,40,000.00		42,09,823.92		+31,964.28		
4. Grains payment	1,50,000.00		—		1,50,000.00		1,48,121.93		+2,778.85		
Total: Project and Non-Project Sectors and Common Services:	1,25,76,000.00		9,00,674.41		1,34,76,674.41		1,29,68,714.92		+5,08,959.49		
			[Note (a)]						[Note (b)]		
5. Miscellaneous Projects:											
1. Family Planning Survey	33,100.00		—		33,100.00		1,30,170.52		87,070.52		[Note (c)]
2. Demographic Research	28,800.00		—		28,800.00		1,30,507.00		1,01,707.00		[Note (c)]
3. Fertiliser optimal demand study—Projecting fertiliser demand in India	—		—		—		47,450.25		-47,450.25		[Note (d)]
4. Project on exchange control and liberalisation	—		—		—		14,270.48		14,270.48		[Note (d)]
5. Research Project "Central plan Hierarchy for a developing Agricultural Region," Karnal Area.	13,965.00		—		13,965.00		2,10,294.60		+2,760.40		[Note (d)]
6. National Sample Survey Organisation	70,500.00		—		70,500.00		2,83,700.85		-2,13,200.85		[Note (e)]
Sub-total (item 5)	1,46,465.00		—		1,46,465.00		5,16,313.68		-1,70,933.68		
Total: (item 1-5)	1,27,22,465.00		9,00,674.41		1,37,23,139.41		1,24,85,014.60		+12,37,924.81		
Plan											
1. Non-Project Sectors:											
1. Research and Training School	7,00,000.00		—		7,00,000.00		5,81,848.88		+97,863.77		
2. Statistical Quality Control			[Note (f)]				1,20,187.38				
Total (item 1)	7,00,000.00				7,00,000.00		6,72,016.23		+27,983.77		[Note (f)]
Grand Total:	1,34,22,465.00		9,00,674.41		1,43,23,139.41		1,42,58,731.83		+64,504.58		

NOTES: (a) Includes Rs. 2,30,000.00 being adjustment in respect of S.O. advance. (b) Item is vide item 12 of the Budget & Legislative side of Balance Sheet. (c) The items are vide Schedule V attached. (d) The items are vide Schedule X attached. (e) Plan extension grant for Rs. 32,90,000/- received during the year is split up as follows: Rs. 7,00,000/- under Plan Current Expenditure Account; Rs. 6,00,000/- under Survey Research Centre Account and Rs. 19,90,000/- under Plan Capital Expenditure Account; Total Rs. 32,90,000/-. (f) The item is vide Schedule XIV attached.

Col-2
30th March 1978

S. R. P. Mishra
Chief Accounts Officer

S. M. Mukherjee
Director, Research & Training School

S. P. K. Iyengar & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

SCHEDULE XII

EXCESS OF RECEIPTS OVER EXPENDITURE IN RESPECT OF CAPITAL EXPENDITURE
GRANT RECEIVED FROM THE GOVERNMENT OF INDIA
AS ON 31ST MARCH 1973

Particulars	Rs. P.		Rs. P.	
1. Excess of receipts over expenditure :				
.1 1967-68		1,058.40		
.2 1969-70		1,173.00		
.3 1970-71		1,33,241.69		
.4 1971-72		2,73,174.78		
.5 1972-73		8,40,263.97	12,48,911.74	

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

Sd. P. K. MITRA & Co.
Chartered Accountants

SCHEDULE XIII

ADVANCE FOR LAND AS ON 31ST MARCH 1973

sr. no.	details of land and premises	amount	
		Rs.	P.
1.	106 Barrackpore Trunk Road	99,790.58	
2.	Bustee adjacent to 123 Gopal Lal Tagore Road	12,137.00	
3.	Land adjacent to Gopala Niwas	5,662.00	
4.	169 Gopal Lal Tagore Road	3,744.03	
	Sub-total : (1 to 4)	1,13,332.41	
5.	Land at 102 Barrackpore Trunk Road	3,30,564.00	
6.	Land at Madras	21,682.50	
	Sub-total : (5 to 6)	3,52,246.50	
			[Note (a) below]
	Total :	4,03,659.91	

Note : (a) Mat from Capital Expenditure Grant received from Government of India.

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

Dalmeida,
29th March 1974

Sd. P. K. MITRA & Co.
Chartered Accountants

FORTYFIRST ANNUAL REPORT : 1972-73

SCHEDULE XIV

EXCESS OF RECEIPTS OVER EXPENDITURE IN RESPECT OF PLAN REVENUE EXPENDITURE GRANT RECEIVED FROM GOVERNMENT OF INDIA AS ON 31st MARCH 1973

particulars	Rs.	P.	Rs.	P.
1. Excess of receipts over Expenditure :				
.1 1970-71	66,701.29			
.2 1971-72	58,975.02			
.3 1972-73	<u>37,886.77</u>		1,58,060.08	

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

Calcutta,
29th March 1974

Sd. P. K. Mitra & Co.
Chartered Accountants

FORTYFIRST ANNUAL REPORT : 1972-73

STATEMENT OF ACCOUNT OF GRANT RECEIVED FROM THE GOVERNMENT OF INDIA IN RESPECT OF SURVEY RESEARCH CENTRE AND EXPENDITURE FOR THE YEAR ENDED 31st MARCH 1973

1971-72		Expenditure		1971-72		Income	
Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.
1. Expenditure during the year:				1. Unspent Balance of Grant for 1970-71 and 1971-72 .. 2,82,841.49			
1. Revenue expenditure:				2. Grant received from Government of India for current year's expenditure .. 6,00,000.00			
		(a) Salary and allowances etc. ..	1,14,800.13				
		(b) Travelling expenses	976.80				
		(c) Machine tabulation expenses	1,441.67	2,80,000.00			
		(d) Microfilming expenses for photographic materials etc. ..	12,721.05				
23,608.58		(e) Contribution to Branch for survey work ..	2,000.00	1,32,031.63			
3. Capital expenditure:							
46,038.53		(a) Equipment ..	96,208.53				
		Total expenditure during the year ..	2,28,240.88				
2,82,841.49		2. Excess of receipts over expenditure ..	6,54,800.01				
<u>3,54,503.58</u>		<u>8,82,841.49</u>		<u>3,54,503.58</u>		<u>8,82,841.49</u>	

* Note : Plan expenditure grant for Rs. 32,00,000/- received during the year is split up as follows :
 Rs. 7,91,903/- under Para Current Expenditure Account
 Rs. 6,00,000/- under Survey Research Centre Account
 Rs. 15,97,100/- under Plan Capital Expenditure Account
Rs. 32,00,000/-

Sd. S. P. Mukherjee
 Chief Accounts Officer

Sd. M. Mukherjee
 Director, Research & Training School

Calcutta,
 29th March 1974

Sd. P. K. Mitra & Co.
 Chartered Accountants

INDIAN STATISTICAL INSTITUTE
VISITING PROFESSORS AND FELLOWS FUND
BALANCE SHEET AS AT 31st MARCH 1973

1971-72 Rs. P.	Fund and Liabilities	Rs. P.	1971-72 Rs. P.	Property and Assets	Rs. P.
	Fund :			Cash in hand :	
118.18	As per last account	118.18	118.18	As per Schedule VI to the Institute's Balance Sheet	118.18
118.18		118.18	118.18		118.18

Note: Transactions during the year in respect of Visiting Professors and Fellows have not been incorporated in these accounts but have been included in the Income and Expenditure Account of the Institute.

Sd. N. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

This is the Balance Sheet referred to in our report of even date.

Cuttack,
20th March 1973

Md. P. K. MITRA & Co.
Chartered Accountants

LEAVE SALARY FUND
BALANCE SHEET AS AT 31st MARCH 1973

1971-72 Rs. P.	Fund and Liabilities	Rs. P.	1971-72 Rs. P.	Property and Assets	Rs. P.	Rs. P.
67,000.00	Amount due to the Institute on loan account as per Schedule IV to the Institute's Balance Sheet	69,000.00		1. Debit :		
				As per last account	65,212.75	
				Add: Leave salary paid during the year ..	2,948.00	68,160.75
				2. Current Assets :		
				Cash in hand :		
			1,766.35	As per Schedule VI to the Institute's Balance Sheet	1,766.35	
67,000.00		69,000.00	67,000.00		68,160.75	68,160.75

Note: A sum of Rs. 1,61,000/- (including interest accrued for five years upto 31st March 1972, which has not been ascertained) being liability in respect of leave salary as at 31st March 1973 estimated by the Institute, has not been provided for in these accounts.

Sd. N. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

This is the Balance Sheet referred to in our report of even date.

Cuttack,
20th March 1973

Md. P. K. MITRA & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

GRATUITY FUND

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st MARCH 1973

1971-72	Expenditure		1971-72	Income	
Rs. P.		Rs. P.	Rs. P.		Rs. P.
	Excess of income over expenditure transferred to Fund Account	28,429.50	28,429.50	Interest:	
33,429.50				(i) On G.P. Notes ..	28,429.50
			5,000.00	(ii) From Institute for utilising money of the Fund ..	
<u>33,429.50</u>		<u>28,429.50</u>	<u>33,429.50</u>		<u>28,429.50</u>

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

Calcutta,
26th March 1974

Sd. P. K. Mitra & Co.
Chartered Accountants

DEVELOPMENT FUND I

BALANCE SHEET AS AT 31st MARCH 1973

1971-72	Fund and Liabilities		1971-72	Property and Assets	
Rs. P.		Rs. P.	Rs. P.		Rs. P.
	Fund:			Current Assets:	
1,19,521.94	As per last account	1,19,521.94		Amount due from the Institute on Loan Account as per Schedule IX to the Institute Balance Sheet	1,19,000.00
				Cash in hand:	
			521.94	As per Schedule VI to the Institute's Balance Sheet	521.94
<u>1,19,521.94</u>		<u>1,19,521.94</u>	<u>1,19,521.94</u>		<u>1,19,521.94</u>

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

Calcutta,
26th March 1974

This is the Balance Sheet referred to in our report of even date.

Sd. P. K. Mitra & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

DEVELOPMENT FUND II

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st MARCH 1973

1971-72 Rs. P.	Expenditure	Rs. P.	1971-72 Rs. P.	Income	Rs. P.
	Depreciation :		18,604.00	Rent ..	11,863.00
10,004.43	On Fixed Assets ..	10,417.34	2,413.90	Interest on investments	2,760.00
	Amount written off :			Excess of expenditure over income transferred to Fund Account	1,978.71
898.84	U.V.T. telephone advance	284.30			
985.76	Loss on sale of old and condemned stock of iron and steel ..				
1,707.91	Excess of income over ex- penditure transferred to Fund Account ..				
<u>19,021.00</u>		<u>16,711.71</u>	<u>19,021.00</u>		<u>16,711.71</u>

Sh. H. P. Mukherjee
Chief Accounts Officer
Chief Account

Sh. M. Mukherjee
Director, Research & Training School

Udumta,
30th March 1973

Sh. P. K. Mitra & Co
Chartered Accountants

FORTYFIRST ANNUAL REPORT : 1975-76

DEVELOPMENT FUND II

SCHEDULE OF FIXED ASSETS AS ON 31st March 1976

particulars	written down value as on 31st March 1975	Appreciation for the year		net value (col. 5-3.1)
		rate %		
		Rs.	P.	
(1)	(2)	(3.0)	(3.1)	(4)
1. LAND:				
1 Polytechnic Serani	30,000.00	—	—	30,000.00
2 169½ sqft Lal Tadore Road, Baranagar	1,03,853.00	—	—	1,03,853.00
3 Res- Villa, Giridih	1,07,502.71	—	—	1,07,502.71
4 Baraja Kutor, Giridih	7,448.10	—	—	7,448.10
5 Faldah Planters' Club, Darjeeling	25,898.50	—	—	25,898.50
Sub-total: (1)	2,94,799.41	—	—	2,94,799.41
2. BUILDINGS:				
1 At 169½ sqft Lal Tadore Road, Baranagar	20,701.13	2.5%	517.53	20,184.56
2 At Polytechnic Serani, Baranagar	9,052.59	2.5%	226.06	8,726.53
3 Res- Villa, Giridih	80,854.43	2.5%	2,018.49	78,835.97
4 Health Home, Giridih (a)	11,525.86	2.5%	288.15	11,237.71
Sub-total: (2)	1,20,849.01	—	3,271.22	1,17,577.79
3. SHOPS AND STRUCTURES:				
1 Students Hostel etc. at 206 B. T. Road, Baranagar (b)	1,21,394.56	7.5%	9,104.60	1,12,289.96
2 169½ sqft Lal Tadore Road, Baranagar	87,717.18	7.5%	6,578.79	81,138.39
3 Post Office at 2N4 B. T. Road, Baranagar	396.62	7.5%	29.75	366.87
4 Polytechnic Serani, Baranagar	1,081.18	7.5%	77.54	1,003.64
5 Petty Construction at Giridih	1,779.71	7.5%	133.45	1,646.26
Sub-total: (3)	1,05,319.34	—	12,989.08	1,18,308.42
4 TELEPHONIC TELEPHONE SYSTEM	5,002.00	10%	500.20	4,501.80
5 Motor Cars	2,334.70	20%	466.94	1,867.76
Total: (1-5)	5,06,105.06	—	16,417.38	5,12,522.44

(a) Situated on land, acquired as gift, the value of which has been ignored for the purpose of these accounts.
 (b) Situated on land, acquired by the Institute out of its General Fund [Note (a) of the Fixed Assets schedule attached to the Institute's Balance Sheet].

Sd. S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

Circular
No. M-1-1974

Sd. P. K. Mitra & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE
ELECTRONIC DATA PROCESSING AND COMPUTATION UNIT
BALANCE SHEET AS AT 31st MARCH 1973

1971-72 Fund & Liabilities	Ra.	P.	Ra.	P.	1971-72 Properties & Assets	Ra.	P.	Ra.	P.
I. Fund:					1. Fixed Assets:				
As per last account ..	14,78,444.				As per Schedule annexed..			13,598.12	
Add: Excess of Income over expenditure for the year as per Income & Expenditure account ..	22,430.89		13,00,884.15		2. Fixed deposit with United Bank of India, Thane & State Bank of India	4,00,000.00		4,00,000.00	
14,78,444.19					3. Current Assets:				
					30,745.50	Bundry debtors	20,745.50		
						3. Amount due from Institute on Loans			
					10,00,000.00	Amount ..	10,00,000.00		
					8,525.60	3. Interest accrued on investment ..	1,525.22		
						4. Cash in hand:			
						As per Schedule VI to the Institute's Balance Sheet ..	37,183.34		
						5. Balance with Banks forming part of the Institute Bank Account shown in Schedule VII to the Institute's Balance Sheet ..	43,096.24	10,27,273.04	
14,78,444.19			15,00,954.18		14,78,444.19			15,00,954.18	

Sd. S. P. Mukherjee
 Chief Accounts Officer

Sd. M. Mukherjee
 Director, Research & Training School

We have examined the above Balance Sheet of the Indian Statistical Institute Electronic Data Processing and Computation Unit as at 31st March 1973 and the Income and Expenditure Account for the year ended that date with the books and records maintained by the Institute and produced to us and the information and explanations given and have found them to be in accordance therewith.

Calcutta,
 20th March 1973

Sd. P. K. Mitra & Co.
 Chartered Accountants

FORTYFIRST ANNUAL REPORT : 1972-73

ELECTRONIC DATA PROCESSING AND COMPUTATION UNIT

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st MARCH 1973

1971-72 Rs. P.	Expenditure	Rs. P.	1971-72 Rs. P.	Income	Rs. P.
1,310.37	1. Salary and other remuneration	600.00	22,000.00	1. Interest on investment	24,441.00
	2. Depreciation on Assets: As per Schedule annexed	1,501.01			
1,811.38	3. Excess of Income over Expenditure transferred to Pupil Account	22,439.99			
25,000.00		24,441.00	22,000.00		24,441.00

Sd. R. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

Cuttack,
29th March 1974

Sd. P. K. Mishra & Co.
Chartered Accountants

ELECTRONIC DATA PROCESSING AND COMPUTATION UNIT

SCHEDULE OF FIXED ASSETS AS ON 31st MARCH 1973

particulars	value as on 31st March 1972		depreciation for the year		net value
	Rs.	P.	rate %	amount	
			Rs.	P.	
(1)	(2)	(3)	(3)	(4)	
1. Furniture and fittings	8,837.68		10%	883.76	7,953.92
2. Electrical equipment	2,098.55		10%	209.85	1,888.70
3. Office machinery and equipment	1,402.54		10%	140.25	1,262.29
4. Purching equipment	1,723.68		10%	172.37	1,551.31
Total:	15,010.13		—	1,501.01	13,509.12

Sd. R. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

Cuttack,
29th March 1974

Sd. P. K. Mishra & Co.
Chartered Accountants

FORTYFIRST ANNUAL REPORT : 1972-73

HONEYWELL H-400 COMPUTER UNIT

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st MARCH 1973

1971-72 Rs. P.	Expenditure	Rs. P.	1971-72 Rs. P.	Income	Rs. P.
	Depreciation on Fixed Assets I		3,10,224.58	Excess of expenditure over income ..	2,11,530.10
3,10,224.58	As per schedule annexed ..	2,11,530.10			

3,10,224.58

2,11,530.10

3,10,211.58

2,11,537.10

Sd: S. P. Mukherjee
Chief Accounts Officer

Sd. M. Mukherjee
Director, Research & Training School

Cd-1155,
20th March 1974

Sd. P. K. Mittal & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

HONEYWELL H-400

DETAILS OF FIXED ASSETS

particulars	value as on 31st March 1972 (prior to depreciation)		depreciation upto 31st March 1972		written down value as on 31st March 1972	
	(1)	(2)	(3)	(4)	(5)	(6)
	Rs.	P.	Rs.	P.	Rs.	P.
1. Cost of Honeywell H-400 Computer	10,59,844.	50				
1.1 Customs duty and importation charges	8,85,743.	39				
1.2 Insurance charge-	47,007.	22				
Sub-total : (1)	17,92,594.	11	8,34,219.	11	11,28,456.	00
2. Cost of motor alternator	27,597.	94				
2.1 Customs duty and importation charges	10,656.	47				
2.2 Insurance charge-	373.	63				
Sub-total : (2)	38,226.	04	7,382.	32	31,016.	72
3. Cost of magnetic tape	41,855.	00	14,877.	00	58,148.	00
4. Cost of Air-conditioning	1,16,709.	75	43,602.	61	73,107.	24
5. Cost of electrical installation	64,786.	04	16,503.	48	40,223.	56
6. Cost of construction of floor etc.	38,585.	19	3,748.	83	35,770.	36
Total : (1-6)	20,02,949.	13	7,17,592.	23	13,33,056.	44

Sd. B. P. Mukherjee
Chief Accounts Officer

Calcutta,
10th March 1974

FOURTYFIRST ANNUAL REPORT - 1972-73

COMPUTER UNIT

as on 31st March 1973

deletional/ adjustment upto 31st March 1972	value after adjustment as on 31st March 1972 (col. 4-5)		adjustment during the year	value after adjustment (col. 6-7)		depreciation for the year		net value as on 31st March 1973	
	Rs.	P.		Rs.	P.	rate %	amount		
(3)	(5)		(7)	(8)		(9.1)	(9.1)	(10)	
Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.
—		11,89,456.00	—	11,89,456.00		20%	2,38,091.20	9,51,364.80	
—		31,045.72	—	31,045.72		10%	3,104.57	27,941.15	
(-117,591.25)		9,166.75	(+14,224.85)	15,381.60		20%	3,076.32	12,305.28	
		73,107.24		73,107.24		10%	10,906.09	62,141.15	
		40,223.56		40,223.56		10%	4,022.36	36,201.20	
		35,776.36		35,776.36		2.0%	894.41	34,881.95	
(-117,591.25)		12,17,765.63	(+16,224.85)	12,33,990.48			2,47,751.85	10,76,238.63	

Sd. M. Mukharjee
Director, Research & Training School

Sd. P. N. MITRA & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

P. K. MITRA & Co
Chartered Accountants

77, Mission Row Extn.
Calcutta-1.

Please Quote AU/303/74.

30 March 1974

INDIAN STATISTICAL INSTITUTE GENERAL PROVIDENT FUND AUDITORS' REPORT

We report that we have audited the Balance Sheet as at 31st March, 1973, of the Indian Statistical Institute General Provident Fund, signed by us under reference to this report and relative Income and Expenditure Account for the year ended on that date with books and records of the Fund maintained by the Institute and produced to us and information and explanations given, and subject to the remarks mentioned below, have found them to be in accordance therewith.

The remarks referred to above are:—

1. A Board of Trustees as envisaged in Rule 14 read with Rule 2(L) of the Rules of the Fund was formed and the Trust Deed was registered on 28th September 1970. However, the investments of the Fund continued to be held in the name of the Institute and the Bank Accounts of the Fund except the one maintained with the United Bank of India, Dunlop Bridge Branch, were also in the name of the Institute as at 31st March, 1973.

Investments during the year of Rs. 10,50,000/- in Cumulative Time Deposit have, however, been made in the name of the Board of Trustees.

Investment to the tune of Rs. 1,41,10,944.60 (Face Value—Rs. 1,46,40,000/-) has been transferred to the name of Trustees after the end of the year.

2. As appears from Schedule VI annexed to the Institute's Accounts as at 31st March, 1973, the amount of Rs. 8,448.34 shown as Cash Balance in the Balance Sheet dealt with by this report represent the balancing figure.

3. Interest Income includes Interest from the Institute on the following accounts:—

(a) Interest of Rs. 4,050/- for one month on loan to Institute of Rs. 9,50,000/-.

(b) Interest of Rs. 26,890/- for loss of interest due to non-collection of interest on Investments for technical grounds.

It may also be noted in this connection that Investment of Rs. 80,000/- in 12 Year National Plan Savings Certificate matured on 27th August, 1971, but the amount has not yet been withdrawn and reinvested till the date of this report. So the members of the Fund are losing interest on that amount since the date of maturity.

4. Under the provision of Rule 11 of the Fund Interest/Income should be included in the account as and when received. These accounts, however, included interest accrued and due in case of G. P. Notes and in all other cases interest accrued whether due or not.

5. The Board of Trustees has declared the rate of Interest payable to members for 1971-72 and 1972-73 @ 5.5%.

FORTYFIRST ANNUAL REPORT 1972-73

6. Schedules of Members' Own Subscription, Employers' Contribution, Members' Voluntary Subscription, Interest Payable on Members' Own Subscription, Interest Payable on Employers' Contribution, Interest Payable on Members' Voluntary Subscription, Interim Relief due to Workers, Loan to Members, Relief Loan to Members were not prepared and made available to us for the purpose of audit. In the absence of the said Schedules we are unable to verify the correctness of the same. The figures shown in the Balance Sheet are General Ledger figures.

7. The liabilities for tax amounting to Rs. 33,017.02 which is outstanding from 31st March, 1971, should be discharged at an early date, for which necessary steps should be taken.

8. The houses/sites for houses purchased by the members out of withdrawals from the Fund were not assigned to the Trustees as stipulated in Rule 21(f)(i) of the Rules of the Fund.

9. Income-tax Recoverable amounting to Rs. 2,72,464.00 represents the deduction of Income-tax at source on the interest collected during 1972-73.

It is understood that the amount is recoverable on production of Exemption Certificate granted by the Income-tax Authorities. We are given to understand that the said exemption certificate has since been obtained.

10. The forfeited amounts of Employers' Contribution and interest thereon, available for the disposal of the Trustees as provided in Rule 27, has been credited to the Income and Expenditure Account of the Fund in the year of forfeiture and has been distributed to the members as interest.

11. In course of our routine checking the following irregularities were observed :

- (a) In some cases Application Forms/Sanction Memos for loans do not state the period during which the loans are to be repaid, monthly rate of deduction, etc.
- (b) In some cases violation of rule regarding repayment of loan in not more than 48 equal monthly instalments has taken place (Rule 21(c)(ii) of the Provident Fund Rules).
- (c) In some cases there was violation of rule regarding sanction of loan up to 6 months' pay (Rule 21(b)(i) of the P.F. Rules).
- (d) In some cases deductions are not made in equal monthly instalments.
- (e) In some cases full amounts of old loans are not realised before sanction of fresh loan.

12. The Proceedings of the Meetings of Board of Trustees are not written on the Minute Book but are typed on separate sheet and pasted on the Minute Book. Moreover, certain additions, alterations, deletions, corrections were also done without being duly initialled.

Sd. P. K. MITTAL & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

INDIAN STATISTICAL INSTITUTE

BALANCE SHEET

1971-72	Fund and Liabilities		Rs.	P.	Rs.	P.	Rs.	P.
Rs.	P.							
		Members' own subscription :						
		As per last account	58,85,061	80				
		Add : during the year	4,98,842	28				
			<u>70,93,823</u>	<u>68</u>	68,96,401	52		
83,90,254	30	Less : refunded during the year						
		Less : withdrawn to date			<u>2,83,401</u>	<u>00</u>	86,13,000	52
		Employee's contribution :						
		As per last account			65,96,961	30		
		Add : during the year (including Rs. 5,000.76 in respect of workers on deputation)			<u>1,98,842</u>	<u>28</u>		
					<u>70,93,823</u>	<u>68</u>		
85,85,091	30	Less : (i) refunded during the year	1,91,552	00				
		(ii) amount forfeited	<u>5,980</u>	<u>06</u>	1,97,532	06	88,96,401	52
		Member's voluntary subscription :						
		As per last account			2,75,333	23		
		Add : during the year			<u>25,881</u>	<u>80</u>		
2,75,333	23	Less : refunded during the year			<u>3,01,215</u>	<u>75</u>	1,20,530	78
					<u>1,80,994</u>	<u>27</u>		
		Interest payable :						
		(a) On Members' own subscription :						
		As per last account			21,48,831	88		
		Add : (i) for the year 1971-72	4,40,031	80				
		(ii) for the year 1972-73	<u>1,89,748</u>	<u>42</u>	2,38,780	22		
					<u>30,87,812</u>	<u>11</u>		
		Less : paid during the year			<u>80,056</u>	<u>40</u>		
20,37,277	49	Less : withdrawn to date			<u>30,06,655</u>	<u>71</u>	29,08,440	71
					<u>98,195</u>	<u>00</u>		
		(b) On Employee's contribution :						
		As per last account			10,75,506	82		
		Add : (i) for the year 1971-72	4,03,724	09				
		(ii) for the year 1972-73	<u>1,82,197</u>	<u>32</u>	5,85,922	31		
					<u>28,61,129</u>	<u>13</u>		
18,75,208	82	Less : (i) paid during the year	78,093	88				
		(ii) amount forfeited	<u>107</u>	<u>08</u>	78,200	04	17,82,829	80
		(c) On Member's voluntary subscription :						
		As per last account			68,028	07		
		Add : (i) for the year 1971-72	18,964	20				
		(ii) for the year 1972-73	<u>9,199</u>	<u>43</u>	86,191	63		
82,028	07	Less : paid during the year			<u>86,098</u>	<u>60</u>	16,121	84
					<u>42,661</u>	<u>68</u>		
29,088	28	Interim relief due to workers					24,631	74
<u>1,74,06,979</u>	<u>70</u>	Carried over:					<u>1,84,02,360</u>	<u>30</u>

FORTYFIRST ANNUAL REPORT : 1972-73

GENERAL PROVIDENT FUND

as at 31st March 1973

1971-72	Re.	P.	Property and Assets	Rs.	P.	Rs.	P.	
			Investment as to:					
			(a) Government Promissory Notes:					
			Rs. 18,55,000/- 3% concessional loan 1966-68	18,00,768	00			
			Rs. 11,07,000/- 4½% loan 1966	11,00,000	00			
			Rs. 33,50,000/- 5½% loan 1969	33,08,450	00			
			Rs. 20,25,000/- 6½% loan 1992	20,47,576	00			
			Rs. 23,05,000/- 3½% loan 2000	23,03,464	00			
			Rs. 18,00,000/- 6% W-4s Bengal loan 1983	18,00,000	00	1,41,19,944	00	
			Rs. 1,68,40,000/- (Market value)					
			Rs. 1,36,71,000/-)					
			(b) Rs. 50,000/- 12 year National Plan Savings Certificate			50,000	00	
			(c) Rs. 10,54,000/- Five Year Postal Cumulative Time Deposit			10,50,000	00	
	1,41,80,944	80				1,52,19,944	00	
			17,16,889	01			19,53,312	00
			72,429	00			11,859	01
			Current Assets:					
			Interest accrued:					
			(a) On Government Promissory Notes (excluding interest accrued but not due)	6,43,967	25			
			32,500	00			32,500	00
			20,688	83			—	
			(d) On 5 year Postal Cumulative Time Deposits	50,768	00			
			(e) On loan to NRSO workers	70,612	12	8,37,938	47	
			Income tax recoverable			2,75,464	00	
			8,50,000	00			—	
			Amount due from the Institute on loan accounts					
			Cash balance:					
			In custody of the Institute (as shown in Schedule VI to the Institute Balance Sheet)			8,448	31	
	27,084	28						
			With Banks on Current Account:					
			(i) With State Bank of India, Strand Road			20,146	75	
			(ii) With United Bank of India, Dandup Bridge Branch			6,00,400	00	
			(iii) Postal Savings Bank Account			19,703	50	
			(iv) With Banks (forming part of the Institute Bank Account as shown in Schedule VII to the Institute's Balance Sheet)			5,00,000	00	
	1,20,464	73				22,50,094	25	
			Carried over:					
	1,48,18,837	54				1,64,68,331	17	

FORTYFIRST ANNUAL REPORT: 1972-73

GENERAL PROVIDENT FUND—Contd.

as at 31st March 1973

1971-72		Property and Assets				
Rs.	P.		Rs.	P.	Rs.	P.
1,83,15,457.54		Brought forward:				1,94,69,331.17

1,83,15,457.54

1,94,69,331.17

Sd. M. Mohanraj
Director, Research & Training School

This is the Balance Sheet referred to in our report of even date.

Sd. P. K. Mirra & Co.
Chartered Accountants

INDIAN STATISTICAL INSTITUTE
INDIAN STATISTICAL INSTITUTE GENERAL FUND
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st MARCH 1973

1971-72 Rs. P.	Expenditure	Rs. P.	1971-72 Rs. P.	Income	Rs. P.
	Excess of income over expenditure :			Interest :	
8,83,066.92	Carried down	9,92,867.16		(i) On G.P. Notes ..	7,49,804.75
				(ii) On Postal Savings Bank Account ..	9,088.85
			7,14,465.70	(iii) On Five Years Postal Cumulative Time Deposits ..	60,750.00
			45,000.00	(iv) From Institute ..	30,080.00
			1,23,800.10	(v) On loan given to the members ..	1,31,788.34
<u>8,83,066.92</u>		<u>9,92,867.16</u>	<u>8,83,066.92</u>		<u>9,92,867.16</u>
	Interest on :		9,14,116.54	Amount brought forward from last account ..	8,76,399.71
1,70,600.39	(i) Members' own subscription ..	9,83,780.22	7,962.08	Amount forfeited during the year ..	5,068.11
4,40,724.76	(ii) Employer's con- tribution ..	8,85,922.31		Excess of income over expenditure brought down ..	9,92,867.16
17,116.46	(iii) Member's volun- tary subscription	29,107.48	8,83,066.92		
8,76,399.73	Balance carried over to Balance Sheet ..	28,968.45			
<u>18,04,804.94</u>		<u>18,74,814.01</u>	<u>18,04,804.94</u>		<u>18,74,814.01</u>

Sd. S. P. Mukherjee
 (Chief Accounts Officer)

Sd. M. Mukherjee
 Director, Research & Training School

Calcutta,
 29th March 1974.

Sd. P. K. MITRA & Co
 Chartered Accountants

Ex-officio Members (Rule 6.1(b) Secretary of each local branch: 1. *Bombay Branch:* Professor P. N. Phulane (1972-73); 2. *Kerala Branch:* Dr. (Miss) A. George (1969-70); *Mysore State Branch:* Professor Srinagabhushana (1972-73).

Additional Vice-Chairmen: 1. *Chairman, Bombay Branch:* Shri M. D. Chaudhuri (1972-73); 2. *Chairman, Kerala Branch:* Professor Samuel Mathai (1972-73); 3. *Chairman, Mysore State Branch:* Shri H. C. Ramanna.

MEMBERS OF GOVERNING BODY OF THE RESEARCH AND TRAINING SCHOOL: 1972-73

1. Dr. Atma Ram, Chairman (*ex-officio*); 2. Dr. C. R. Rao, Secretary, I.S.I., Director, RTS (*ex-officio*); 3. Shri A. K. Ganguli, Editor, *Capital (Associated Chambers of Commerce of India)*; 4. Dr. S. Miers (*Indian Economic Association*); 5. Shri G. K. Bhagat, Mosera, Bengal Potteries Ltd. (*Federation of Indian Chambers of Commerce & Industry*); 6. Director, Central Statistical Organisation (Dr. N. T. Mathow) (*Government of India*); 7. Additional Secretary (Shri S. K. Ghosh), Ministry of Finance (*Financial Adviser to the Department of Statistics*), Department of Expenditure (*Government of India*); 8. Dr. P. V. Sukhatme, Gokhale Institute of Economics & Politics (*Indian National Science Academy*); 9. Shri V. V. Divatia, Adviser, Department of Statistics (*Reserve Bank of India*); 10. Dr. V. S. Huzurbazar, Professor and Head of the Department of Mathematics and Statistics, University of Poona (*Inter-University Board of India & Ceylon*) 11. Dr. Bhabatosh Dutta, M. A., Ph.D.; 12. Dr. B. R. Seehachar, D.Sc., F.N.I., President, Indian National Science Academy; 13. Dr. A. B. Chowdhury, M.B.B.S., D.Phil., F.A.M.S., F.N.I., Deputy Director, School of Tropical Medicine; 14. Dr. M. N. Dastur, Ph.D.; 15. Dr. D. K. Bose; and 16. Dr. J. C. Roy, M.D., F.N.A. (*Council of the Indian Statistical Institute*).

MEMBERS OF DIFFERENT COMMITTEES: 1972-73

Finance Committee of the Council

1. Chairman of the Institute (*ex-officio*) or his nominee; 2. Secretary of the Institute (*ex-officio*) or his nominee; 3. Director of the Research and Training School (*ex-officio*) or his nominee; 4. Dr. Jagjit Singh; 5. Dr. B. P. Banerjee; 6. Dr. Bhabatosh Dutta; 7. Dr. P. K. Bose; 8. Professor H. C. Ghosh; 9. Dr. Atma Ram; 10. Shri S. R. Mukherjee (*Non-member Secretary*) or in his absence, a person nominated by the Secretary or the Chairman; 11 & 12. Two representatives nominated by the Government of India, Cabinet Secretary (Shri B. D. Panje) or his representative and Additional Secretary, Ministry of Finance (Shri S. K. Ghosh).

Finance Committee of the Governing Body

1. Chairman of the Institute (*ex-officio*) or a Vice-Chairman, authorised by him; 2. Secretary of the Institute (*ex-officio*) or in his absence, a Joint Secretary; 3. Director of the Research and Training School (*ex-officio*) or a Joint Director, if any, in charge of RTS; 4 & 5. Two representatives of the Government of India (Dr. N. T. Mathow and Shri S. K. Ghosh); 6. Representative of Reserve Bank of India on the Governing Body (Shri V. V. Divatia); 7 & 8. Two representatives to be elected by Governing Body from amongst themselves (Dr. B. R. Seehachar and Dr. Bhabatosh Dutta).

Journal Committee of the Institute

Three different Journal Committees as indicated below were set up for the term 1972-73 with National Professor S. N. Bose, F.R.S., President of the Institute, as Chairman:

(1) *Committee for Sankhyā, Series A* : 1. Dr. C. R. Rao, F.N.A., F.R.S., *Editor* ; 2. Dr. Malay Ghosh, *Editorial Secretary* ; 3. Dr. S. S. Shrikhande (representative of Governing Body), Head, Department of Mathematics, University of Bombay ; 4. Dr. V. S. Huzar-bazar, Professor and Head, Department of Mathematics and Statistics, University of Poona ; 5. Dr. R. B. Behadar : Visiting Research Professor, Planning Unit, ISI, New Delhi ; 6. Professor D. B. Lahiri.

(2) *Committee for Sankhyā, Series B (Parts 1 & 3)* ; 1. Dr. C. R. Rao, F.N.A., F.R.S., *Editor* ; 2. Dr. J. Roy ; 3. Dr. Malay Ghosh, *Editorial Secretary* ; 4. Professor K. G. Ramanurthy ; 5. Dr. J. N. K. Rao (representative of Governing Body), Fellow, A.S.A. & A.A.S., Professor of Statistics, University of Manitoba, Canada ; 6. Dr. S. K. Mitra.

(3) *Committee for Sankhyā, Series B (Parts 2 & 4)* ; Dr. C. R. Rao, F.N.A., F.R.S., *Editor* ; 2. Dr. T. N. Srinivasan, and 3. Dr. P. Bardiha, (*Editorial Secretaries*) ; 4. Professor V. M. Dandekar, Director, Gokhale Institute of Politics and Economics, Poona, 6. Professor M. Mukherjee ; 6. Dr. L. Hurwitz, Professor, Massachusetts Institute of Technology, U.S.A. ; 7. Dr. B. S. Minhas (representative of Governing Body), Member, Planning Commission, Government of India ; 8. Dr. A. L. Nagar, Delhi School of Economics, University of Delhi ; 9. Dr. N. S. Iyengar, Professor of Econometrics, Osmania University, Hyderabad.

Examinations Committee of the Institute

1. Dr. P. K. Bose, Pro-Vice-Chancellor, University of Calcutta ; 2. Dr. V. S. Huzar-bazar, Professor and Head, Department of Mathematics and Statistics, University of Poona ; 3. Professor V. M. Dandekar, Director, Gokhale Institute of Politics and Economics, Poona ; 4. Professor D. B. Lahiri, Research Professor, Indian Statistical Institute ; 5. Professor K. G. Ramanurthy, Executive-in-charge, S.Q.C. T & P Unit, Indian Statistical Institute ; 6. Professor V. B. Kamath ; 7. Dr. J. Roy ; 8. Professor D. D. Joshi, Professor of Statistics, Institute of Social Sciences, University of Agra ; 9. Dr. T. N. Srinivasan ; 10. Dr. N. T. Mathew, Director, Central Statistical Organisation, Government of India, New Delhi ; and 11. Shri S. Raja Rao, Director, National Sample Survey Organisation (Survey Design & Data Processing), Calcutta, (*representative of the Governing Body*) ; 12. Shri S. Sengupta, *Member-Secretary*.

MYSORE STATE BRANCH : 1972-73

Chairman : Shri H. C. Ramanna.

Vice-Chairmen : Shri C. S. Seshadri; Professor R. R. Umarji.

Secretary : Professor Srinagabhushana.

Joint Secretary : Shri N. S. Sreerivasan.

Treasurer : Shri P. S. Narayana.

Members of the Council : Shri K. C. Katwey; Dr. K. P. Srinath; Shri S. K. Iyengar; Shri V. Narayana; Shri V. V. Buehe.

BOMBAY BRANCH : 1972-73

Chairman : Shri M. D. Chaudhari, M.Com., Minister of Finance, Maharashtra State.

Vice Chairman : Shri M. A. Telang, M.A., Director, Bureau of Economics & Statistics, Bombay.

Secretary : Professor P. N. Phutane.

Treasurer : Dr. M. N. Vartak.

Members of the Council : Dr. P. M. Visaria, Professor B. G. Iyengar.