

# INDIAN STATISTICAL INSTITUTE

FORTYSECOND ANNUAL REPORT

April 1973—March 1974



203, BARRACKPORE TRUNK ROAD  
CALCUTTA-700035

*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 University and ISI), Bar-at-Law, (Former President, 1945-1964) (for a term of 5 years with effect from November 1969); 2. Shri K. P. S. Menon\*\*, I.C.S. (Retired) (for a term of 5 years with effect from November 1971); 3. Shri S. C. Roy\*\*\*, M.A., B.L., Director, NICCO of Indu Ltd., Calcutta (for a term of 5 years with effect from November 1972).

*Vice-Presidents:* 1. Shri Vishnu Sahay, I.C.S., (Retired), Ex-Governor of Assam and NEFA; 2. Shri S. Dutt, I.C.S. (Retired), Indian Ambassador to Bangladesh.

#### THE COUNCIL

*Chairman:* Shri P. N. Haksar, M.Sc., Bar-at-Law, I.F.S. (Retired).

*Vice-Chairmen:* 1. Shri Ajit Dasgupta (Calcutta area); 2. Dr. Jagjit Singh, Chairman and Managing Director, Indian Drugs & Pharmaceuticals Ltd. (Delhi area).

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

*Secretary:* Dr. C. R. Rao, M.A., Ph.D., Sc.D. (Cantab.), F.N.A., F.R.S.

*\*\*\*Joint Secretaries:* 1. Dr. D. Dutta Majumdar, Professor, Electronics Division (Calcutta); 2. Dr. K. S. Parikh, Professor, Planning Unit, Indian Statistical Institute, New Delhi (Delhi).

#### MEMBERS OF COUNCIL

1. Dr. B. P. Adhikari, Dr.es.Sc. (Paris), Professor, Indian Statistical Institute, 2. Dr. Debabrata Basu, Research Professor, Indian Statistical Institute, 3. Dr. Deb Kumar Bose, Professor, Indian Statistical Institute, 4. Dr. P. K. Bose, M.Sc., Ph.D., Pro-Vice Chancellor, Calcutta University, 5. Dr. T. A. Davis, Professor, Indian Statistical Institute, 6. Dr. S. W. Dharmadhikari, M.Sc., Ph.D. (California), Department of Statistics, M.S. University of Bareda, 7. Dr. Ambarish Ghosh, Dr.es.Sc., (Aix-Marseille), Professor, Indian Statistical Institute, 8. Shrimati Nirmal Kumari Mahalanobis, 9. Dr. Ashok Mitra, Ph.D., National Fellow, Indian Council of Social Science Research, 10. Dr. T. V. Hanurav, Dean of Studies, Indian Statistical Institute, 11. Dr. V. S. Huzurbazar, Professor and Head, Department of Mathematics and Statistics, University of Poona, 12. Shri S. Naqvi, Gokhale Institute of Politics and Economics, Poona, 13. Dr. J. Roy, Professor, Indian Statistical Institute, 14. Professor S. S. Srikhande, Ph.D., Head of the Department of Mathematics, University of Bombay, 15. Dr. T. N. Srinivasan, Ph.D., Indian Statistical Institute, 16. Shri S. M. Sundara Raju, M.Sc., Chief, SQC Division, Indian Statistical Institute.

*Government nominees on the Council (Rule 6.1(b) (f)):* 1. Cabinet Secretary, Cabinet Secretariat, Government of India (Shri B. D. Pandey, I.C.S., or his representative); 2. Joint Secretary, Ministry of Finance, Department of Expenditure, Government of India (Shri S. K. Ghosh); 3. Director, Central Statistical Organisation and ex-officio Joint Secretary, Department of Statistics (Shri V. R. Rao).

*Co-opted Members (Rule 6.1(c)):* Professor Moni Mukherjee, Director, Research and Training School, Indian Statistical Institute.

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\*Died on 4 February 1974.

\*\*Former Chairmen.

\*\*\*Election in these offices kept in abeyance in terms of the decision of Annual General Meeting of 31 October 1973, and elected later in the Adjourned Annual General Meeting held on 30 March 1974.

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**PART I: GENERAL REVIEW OF THE WORK DONE DURING THE YEAR**

**I. GENERAL ADMINISTRATION**

1.1. *Membership*: During the year 1973-74, no one was elected by the Council as ordinary member. The membership of 8 members was terminated in terms of Rule 3.1 of the Rules of the Institute. Three ordinary members became life members. Three ordinary members resigned, membership of one ordinary member was revived, and according to information available in the Institute, one life member and 2 ordinary members died.

Thus the membership position as on 31 March 1974 was 355 (249 ordinary, 95 life, 4 honorary life and 7 institutional members).

During the year 1973-74, 111 sessional members and 185 student members were enrolled for one year.

1.2. *General Meetings*

1.2.1. *Adjourned Annual General Meeting*: 31 October 1973: To consider (a) G. Basu Committee's report; (b) Audited Statement of Accounts and Auditors' Report, 1971-72; and (c) Proposals for restructuring of the Institute.

1.2.2. *Annual General Meeting*: 31 October 1973: To consider (a) Annual Report, 1972-73; (b) Statement of Accounts, 1972-73; (c) Matters relating to the election of Vice-Chairmen and Joint Secretaries; (d) Proposals for pay revision and other benefits; (e) Timely rendering of accounts; (f) Proposals for restructuring of the Institute; (g) Election of President, Vice-Presidents, Office-bearers and Members of Council; and (h) The appointment of auditors.

1.2.3. *Adjourned Annual General Meeting*: 30 March 1974: (a) Mourned the death of Professor S. N. Bose, F.R.S., President, on 4 February 1974; (b) Considered and adopted the Auditors' Report and Audited Statement of Accounts, 1972-73; and (c) Elected the Vice-Chairmen and Joint Secretaries.

A list of President, Vice-Presidents, Office-bearers and Members of the Council is given in *Annexure 1*.

1.3. *Meetings of the Council*: The Council of the Institute met six times during the year: (1) 6-7 July 1973 (jointly with Governing Body of the RTS), (2) 30 October 1973, (3) 29 December 1973, (4) 30 December 1973 (jointly with the Governing Body of the RTS and Finance Committees), (5) 13 February 1974 (jointly with the Governing Body of the RTS), and (6) 16-17 March 1974 (jointly with the Governing Body of the RTS).

1.4. *Meetings of the Governing Body*: The Governing Body of the Research and Training School met five times during the year: (1) 6-7 July 1973 (jointly with the Council), (2) 30 October

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1973, (3) 29 December 1973, (4) 30 December 1973 (jointly with the Council and Finance Committees), and (5) 16-17 March 1974 (jointly with the Council).

1.5. *Meetings of the Finance Committees:* The Finance Committees of the Council and Governing Body met jointly two times during the year: (1) 29 December 1973, and (2) 30 December 1973 (when the meetings of the Council and Governing Body were also held jointly). The Finance Committee of the Council met once during the year on 30 October 1973.

1.6. *Membership of the Governing Body and Finance Committees:* The names of the members of the Governing Body of the Research and Training School and of the Finance Committees are given in *Annexure 1*.

1.7. *Institute Staff:* Dr. C. R. Rao, on return from abroad, resumed as Secretary in September 1973.

Dr. Rao was re-elected as Secretary for a term of two years at the Annual General Meeting held on 31 October 1973.

Professor M. Mukherjee continued to officiate as Director, Research and Training School.

At the adjourned Annual General Meeting held on 30 March 1974, Dr. D. Dutta Majumdar and Dr. K. S. Parikh were elected Joint Secretaries respectively from the Calcutta and Delhi areas.

Shri Biman Bose, Executive Officer, continued to function as Assistant Secretary and officiating Administrative Officer.

1.8. *New Appointments:* The staff of the Institute was strengthened during the year by the addition of the following persons:

1. Dr. S. K. Chakravarty, M.A., M.Sc., Ph.D. (ERU); 2. Dr. Arun Kr. Chattopadhyaya, M.Sc., M.S. (RTS); 3. Dr. J. C. Gupta, M.Sc., Ph.D. (RTS); 4. Shri Anup Majumdar, (B.E. Mech. Engg.), Post Graduate Diploma in SQC & O.R. of I.S.I. (SQC); 5. Shri S. R. Mohan, M.Stat., (SQC); 6. Dr. B. V. Rao, M.Sc., Ph.D. (RTS); 7. Dr. Ashok Rudra, B.Sc., Ph.D. (Planning, Delhi).

1.9. *Resignations and Retirements:* The following members of the staff left the Institute during the year:

1. Dr. Pronab Bardhan (Planning, Delhi); 2. Shri R. K. Chordia, (SQC); 3. Professor S. R. Das, M.Sc. (Anthropometry Human Genetics); 4. Shri B. M. Dasgupta, M.A. (Econ.), (S.R.C.); 5. Major B. C. Dutta, Senior Security Officer-Cum-Estate Superintendent (Administration); 6. Professor D. B. Lahiri, M.Sc., Director, RTS; 7. Shri K. S. Pillai, B.Sc., Post Graduate Diploma in SQC of ISI (SQC); 8. Shri V. S. Rajamani, B.A. (Hons. Math), Two-year Professional Statistician Course, (SQC); 9. Dr. J. C. Roy, Acting Secretary; 10. Shri T. F. Sebastian, M. Stat. (SQC).

### 1.10. *Obituary*

*Professor S. N. Bose:* The adjourned Annual General Meeting held on 30 March 1974 mourned the sad demise of Professor S. N. Bose, President of the Indian Statistical Institute, who passed away on 4 February 1974. The following resolution was adopted:

This adjourned Annual General Meeting of the Indian Statistical Institute places on record its deep sense of sorrow and bereavement at the passing away of National Professor S. N.

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Bose, a noble Indian and an eminent scientist, The Institute had the privilege of close association for nearly 30 years with Professor S. N. Bose who was a life-long friend of the late Professor P. C. Mahalanobis. A genius who had contributed to the understanding of Nature through the well-known Bose-Statistics, Professor Bose had always stood by the Institute in making its growth possible.

Professor S. N. Bose became a member of the Institute in 1934 and was elected honorary life member in 1948. His association with the affairs of the Institute was so close that Professor Bose had become its executive head as Secretary from 1946 to 1948. As Vice-President, Vice-Chairman and finally as President since 1967, Professor Bose remained officially associated with the Institute till his death.

Professor Bose's range of vision and involvement spread over almost all branches of science, physics, chemistry, biology, mathematics, etc., as well as literature, art and music.

The development of science in the country and various cultural aspects of this city bears the indelible imprint of Professor Bose.

Professor Bose devoted a great part of his illuminating mind and innate sympathy for the dissemination of scientific knowledge in the Bengali language, so that scientific education can have unfettered growth.

This meeting conveys its deep sense of grief to his bereaved family.

1.11. *Review Committee: N.S.S. Take-over and Reorganisation:* It was reported in the previous Annual Report (1972-73), that the NSS work along with its staff had been taken over by the Government of India on 1 June 1972. The previous Annual Report (1972-73) also reported that the Governing Body and Council deliberated on the proposals for restructuring on 26 March 1973 and the proposals were also discussed in the adjourned Annual General Meeting on 27 March 1973.

The Council of the Institute and the Governing Body of the Research and Training School deliberated on the proposals for restructuring of the Institute in their meetings held on (1) 6-7 July 1973; (2) 30 October 1973; (3) 29 December 1973, and (4) 16-17 March 1974.

In the meetings on 16 and 17 March, proposals regarding the Memorandum of Association and Regulations were formulated in detail after considering different views.

1.12. *Land and Construction:* There was no major construction during the year under review. Certain important developments, however, took place as described below:

*Baranagar:* (i) In May 1973, 52 MT of 22 mm. steel rounds were purchased for the construction of the library building.

(ii) The Council of the Institute in its meeting dated 6-7 July 1973 decided to terminate the earlier arrangements about construction and the Works Committees for Baranagar and Delhi were converted as Advisory Committees. The Secretary was vested with the executive responsibilities about the construction. In accordance with the decision of the Council meeting dated 6-7 July 1973, a reputed firm of architects (Messrs. Ballardie Thompson & Mathews Co. Ltd.) was appointed as the architect for the construction of the library building. An agreement was finalised on 20 August 1973 with the architect for the construction of a composite library building.

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(iii) On 30 December 1973, the Council appointed a Works Advisory Committee to submit proposals about the construction of the Baranagar complex. The Works Advisory Committee formulated its proposals for the construction of the proposed multi-storied library building and these were considered by the Council on 13 February 1974.

(iv) The sketch plan prepared by the architects for the first phase of the library building was forwarded to the Government for approval.

(v) Soil investigation was carried out at the proposed site by an expert firm, Shri K. N. Dadina, selected by calling open tenders.

*Delhi:* The construction of a group of buildings of the Institute at Delhi commenced in the early part of the financial year 1973-74 at the 14.76-acre plot of the Institute land off McHrauli Road near Hauz Khas. The buildings currently under construction are the faculty offices, library, dormitory, class rooms and kitchen, comprising a total carpet area of about 60,000 square feet and costing an estimated Rs. 32 lakhs.

### 2. RESEARCH AND TRAINING SCHOOL

The Research and Training School carried out its training and research activities under the guidance of the Director, Professor M. Mukherjee.

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

#### 2.1. Training Programmes

2.1.1. *Admission to Courses:* A new course, the one-year regular course on Statistical Craftsmanship, was started during the 1973-74 session at the Calcutta centre. A full list of the courses is given in the Prospectus of Degrees, Diplomas and Certificates, 1973-74. No summer course was held during the year.

The following is a list of the number of candidates admitted to the different degree and training courses during 1973-74:

	<i>Number of admissions</i>
1. <i>Courses leading to a Degree in Statistics:</i>	
1.1 Bachelor of Statistics with Honours (B. Stat.) (Hons.)	
1st year .. .. .	24
2nd year .. .. .	19
3rd year .. .. .	17
4th year .. .. .	21
1.2 Master of Statistics (M. Stat.)	
1st year .. .. .	16
2nd year .. .. .	39
1.3 Advanced Studies leading to Diploma and Ph.D. (Research Course preparatory to Ph.D.) .. .. .	14
1.4 Research Fellows, Scholars, Project Assistants, Apprentices .. .. .	47



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2.	<i>Specialized Courses in Applied Statistics leading to Diplomas:</i>			
2.1	Statistical Quality Control and Operations Research .. .. .			11
3.	<i>Courses in Statistics for Persons in Employment:</i>			
3.1	Statistical Officers' training course (Jointly with the Central Statistical Organisation) .. .. .			8
3.2	Specialisation Courses for Statistical Officers (Jointly with the Central Statistical Organisation) .. .. .			9
4.	<i>Evening Courses:</i>			
4.1	Statistical Methods and Applications:			
	(i) Calcutta .. .. .			40
	(ii) Delhi (in collaboration with the Central Statistical Organisation) .. .. .			40
4.2	Diploma in Statistical Quality Control and Operations Research (Bombay and Madras)			
4.2.1	Bombay—1st year .. .. .			22
	Bombay—2nd year .. .. .			16
4.2.2	Madras—1st year .. .. .			33
	Madras—2nd year .. .. .			10
5.	<i>Electronic Computer Courses:</i>			
5.1	Diploma in Computer Science .. .. .			5
5.2	Intensive Course on Programming and Applications .. .. .			35
5.3	Course on Operation of Punch Card Machine .. .. .			13
6.	<i>Courses at the International Statistical Education Centre, Calcutta:</i>			
6.1	Regular Course in Statistics .. .. .			24
6.2	Specialisation Course for Individuals .. .. .			2
7.	Documentation Training Course, Bangalore .. .. .			15
8.	<i>Indian Statistical Service Officers Course</i>			
	Probationers .. .. .			9
9.	<i>New Course</i>			
	One-year regular course on Statistical Craftsmanship .. .. .			9
Total .. .. .				498

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:

Kanti Bhusan Pakrasi (*Anthropometry and Human Genetics*), Prabhat Ranjan Pal (*Bio-chemistry*), Bhubendra Chandra Das (*Biometry*), Subodh Kumar Roy (*Botany*), Durga Narayan Ghosal (*Chemistry*), Jogabratra Roy (*Computer Science*), Samarendra Kumar Mitra (*Computing*)

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*Machines & Electronics*), Trupapur Antony Davis (*Crop Science*), Manaspadom Venkateswarier Raman (*Demography*), Deb Kumar Bose (*Economic Research*), Dwijesh Datta Majumdar (*Electronics & Communication Science*), Ratan Lal Brahmachary (*Embryology*), Anima Sengupta (*Family Planning*), Sohan Lal Jain (*Geology*), Shyam Matai (*Leaf Protein*), Alokandanda Mitter (*Linguistic Research*), Monimohan Mukherjee (*National Income Research*), Amulya Bhusan Gupta (*Physics*), Durgaprosad Bhattacharyya (*Pre-Census Population Studies*), Sibabrata Chatterjee (*Psychometric Research and Service*), Ramkrishna Mukherjee (*Sociology*), and T. N. Srinivasan (*Planning and Regional Survey, Delhi*).

T. V. Hanurav was the Dean of Studies during the year. T. J. Rao was in charge of the training at the International Statistical Education Centre (ISEC), Calcutta, during the year in the place of Asoke Maitra who was on leave.

2.2.1. *Important Topics of Research*: The research work of the Institute during April 1973–March 1974 is embodied in a large number of 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, linguistic research, psychometry, sociology, survey research, theoretical physics and electronics. A selected list of topics organised in broad divisions on which research was carried out during the year is given below.

### A. MATHEMATICS AND STATISTICS

Descriptive Theory of Sets  
Measure Theory  
Commutative Harmonic Analysis  
Generalized Inverses of Matrices  
Topological Machines  
Mathematical Programming  
Martingales and Probabilistic Potential Theory  
Probabilities of Moderate Deviations  
Construction of Experimental Designs  
Sampling Theory  
Various Aspects of Statistical Inference, and  
Multivariate Analysis of Binary Data, Cluster Analysis.

### B. APPLIED STATISTICS, SURVEYS AND COMPUTING

#### *Computer Science*

During the year, the Computer Science Unit (CSU) carried on its programme of training, research projects, consultation and service in applied statistics, surveys and computing.

*Training*: Apart from the courses taught to regular B. Stat. and M. Stat. degree students, the CSU organises the following special courses: (i) One-year Advanced Studies leading to Diploma in Computer Science; (ii) Ten-week Intensive Course on Programming and Application of Electronic Computers; and (iii) Specialisation courses in applied statistics/sample surveys/computer

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programming and application for second-year M. Stat. students. The members of the staff also assist other organisations in their training programmes.

Three trainees completed the one-year course of advanced studies and submitted dissertations to qualify for the Diploma in Computer Science. Five and three trainees joined the advanced studies course on computer science and applied statistics respectively. Seven students of the M. Stat. second-year course were given specialised training in sample surveys and computer programming. Twentytwo trainees joined the ninth session of the Intensive Course on Programming and Application of Electronic Computers, held from 5 November 1973 to 11 January 1974; 19 were awarded certificates of merit and 3 certificates of attendance.

*Research:* Research was conducted in the development of new computer methods for applied statistical work. Work was also done in updating and maintaining the software packages of the Honeywell 400 computer system.

*Survey Project:* A survey on Some Aspects of Family Planning in Calcutta, 1973-74 was conducted from December 1973 to March 1974. Information was collected from 1417 households sampled, using a two-stage procedure, with urban blocks as the first stage according to a circular systematic sampling scheme with different probabilities, and households as second-stage units. A few novel features of the design were: (1) Use of a master sample of urban blocks to ensure self-weighting as well as equal distribution of work load; (2) Interpenetration in two stages to ensure validity of estimate of sampling error as well as assessment of non-sampling errors; and (3) Use of a project network and critical path approach to control field operations.

*Consultation:* Statistical consultation and computation services were provided to scientists within and outside the Institute and covered topics in agriculture, biology, medicine, flood research, psychology etc.

### *Psychometry*

Validity studies for selections in the Hindusthan Aeronautics Limited and Hindusthan Steel Limited.

Collection of data and corresponding analysis to ascertain the construct validity of Non-Language Tests of Verbal Intelligence.

Studies dealing with neuroticism, environmental conditions and delinquency, and social prejudice.

The Psychometric Research and Service Unit rendered technical service to public sector organisations like the Indian Telephone Industries Ltd., Fertiliser Corporation of India, Bharat Aluminium Co., Ltd. and some private sector organisations like the TELCO.

## C. PHYSICAL AND EARTH SCIENCES

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

Important topics of theoretical research were on the following:

Hydroclone Model; Electro-chemical machining problem; Flame stabilization in a rectangular cavity; Determination of normal burning velocity in pre-mixed gaseous mixture;

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Mathematical model of the propagation of waves in shallow channels and interlacing channels; Switching circuits and fault diagnosis; Applied probability and numerical analysis; Generation of music by Honeywell 400 computer.

*Computers' Memory Techniques:* This is one of the continuing research projects of the laboratory on which more than 30 research papers were published in India and abroad. Extensive studies, both theoretical and experimental, have been made on magnetic drum and magnetic core. The system design on associative and distributive type of memories with Non-Destructive Read-out were studied. Work has been undertaken on some new memory technology such as thin film and solid state memory. The properties of error correcting codes and improving the memory reliability of the computer is being extensively studied.

*Speech Processing, Pattern Recognition, Learning Machines and Statistical Methods:* The application of statistical method in Pattern Recognition problems has a tremendous potentiality in man-machine communication problem. The work in this field is divided into two sub-groups namely, (a) Acoustic Phonetics, and (b) Pattern Recognition. Studies on acoustic phonetic parameters of Indian languages viz. Bengali, Hindi and Telugu, were completed successfully. The statistical behaviour of different acoustic parameters in relation to machine recognition of speech sound was studied. An elaborate programme on machine recognition of handwritten characters with the H-400 Computer was undertaken. Fifteen research papers were published in this field in Indian and foreign journals. Further studies on psycholinguistic and neurophysiological aspects have been undertaken to understand the basic recognition mechanism of the human system. Studies on automata theory and brain models are being undertaken.

*Digital Communication Techniques:* This is a new field on which work was started last year. The scheme comprises theoretical work on coding theory, switching theory and digital filtering. More than four papers were communicated. Some experimental work on digital communication system was undertaken to study the noise effects in communication system.

*Computer Peripherals:* A 350-character per second paper tape recorder was developed. Work is continuing on further modification to the equipment.

*Mini Computer:* The work on the mini computer is in progress.

### *Training and Research Guidance*

In the Electronics and Communication Science Unit, fresh engineers and post-graduate students are given training every year in the advanced topics of computer technology. Six B. Tech students from the Calcutta University received practical training for two months on advanced electronic circuitry; three final-year students of the B.E. College successfully completed practical training for six weeks in digital techniques.

Shri Jyotirmoy Das, M. Tech, submitted his Ph.D. thesis on "The properties of ferromagnetic materials and their application in information handling and storage systems" with the Calcutta University under the guidance of Dr. Dutta Majumder.

### *Chemistry*

A comparative study on the adsorbability of different cationic dyes on bentonite, kaolinite and illite.

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Selective adsorption of dyes from solution of dye mixtures.

Grade desorption of dyes held in double-layer adsorption on clay-surface with the help of quaternary ammonium cations.

### *Geology*

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

Sedimentology and tectonics of the Precambrians.

Sedimentology of the Gondwanas.

Palaeontology and stratigraphy of the Gondwanas.

The programme of study of recent sedimentary deposits of the Usri river, near Giridih (Bihar) launched in 1970-71, was continued. The study is providing information on the precise mechanism of transportation and deposition of fluvial sediments in nature.

## D. BIOLOGICAL SCIENCES

### *Anthropometry and Human Genetics*

Genetic studies of human placental enzymes, in collaboration with the B. J. Medical College, Poona.

Study of biochemical polymorphism amongst different tribes of Andhra Pradesh (Telengana area) in collaboration with the National Laboratory, Hyderabad, and the Ranchi University.

Study of developmental genetics of the production of lactate dehydrogenase in the human system, in collaboration with the Department of Anthropology, Calcutta University.

Biosocial problems of sex ratio at birth by parity and region and first birth interval by social class in India.

Biosocial problems of fertility, reproductive wastage and population in general in India.

Family-oriented health problems in Calcutta.

Genetical problems in dermatoglyphics in the rural population in Haiti, West Indies, and also in the Gavda population of Maharashtra.

Serological, biochemical and biosocial investigation among the Nandiwalas, a nomadic group of Maharashtra. Population genetics of the Parsis—an endogamous group.

### *Biochemistry*

Investigations are being carried out on the level of beta-carotene contents of different edible green leaves.

The plant *Cassia tora* is being investigated for the isolation of active principles.

### *Biometry*

Design of micro and macro level survey on blood chemistry and hematology to investigate into the causes of atherosclerosis in young and old age.

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Survey and experiments on biological species on growth, survival, aging and disease.

### *Botany*

Intra-specific and inter-specific interactions in crop plants.

Mechanisms of plant interactions.

Ecology and behaviour of field rodents.

Estimation of pre-harvest loss of rice due to field rodents.

### *Crop Science*

Study of asymmetrical structures in plants and animals.

Explorative work in the family palmace (Arecaceae).

Morphological study including the process of germination on juvenile palms was extended to their sub-families. Germinating seeds of *Salacca edulis* (Lepidocaryoideae) obtained from Indonesia are being studied.

Investigation of anatomical structures of the vegetative and reproductive parts of different palm species under the above-mentioned sub-families.

Study on the association of foliar spirality and the aestivation of flowers with the yield of fruits on some species of Malvaceae.

Some trials on tissue culture work to explore the possibility of effecting clonal propagation in economically important palms.

In order to study the reproductive behaviour of the coconut robber crab, *Birgus latro*, a second expedition in collaboration with a German scientist, Dr. R. Altevogt, was sent to the Andaman Islands.

Presence of divine proportion in human figures of Indian and German nationalities.

### *Embryology*

Further studies on transcription, translation and metabolism of sulphur compounds in *Limnaea* (mollusca) were conducted. DNA synthesis has also been studied and it was found that the arrest of embryonic mitosis in *Limnaea* by Phytohaemagglutinin, a plant protein, is due to its inhibitory action on DNA-synthesis. The particular site of action of PHA on DNA is now being investigated.

In order to study the behaviour of marine animals, an expedition was conducted in the Andaman Islands. Slides and movie films were made on marine animals.

### *Leaf Protein*

Screening of local vegetation and aquatic plants including water weeds.

Statistically designed observations are being conducted to establish preliminary observations in the study of optimal conditions in eight crops.

Study of annual yield of extracted protein per unit area.

Work on stability to B-carotene content in Leaf Protein Concentrate (L.P.C.).

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### E. SOCIAL SCIENCES

#### *Economic Research*

The Economic Research Unit (ERU) is mainly concerned with applied economic studies on problems of planning and economic development, besides methodological studies in mathematical economics and econometrics. With the help of the National Income Research Unit, the ERU also shoulders the responsibility of teaching economics and econometrics in B. Stat., M. Stat., and other courses of the Research and Training School, and the International Statistical Education Centre. The ERU also organises an advance course in economics and econometrics leading to the Ph.D. degree of the Institute. Three students besides one student from Bangladesh were admitted to the advanced course during the year.

An important activity of the Unit is the holding of seminars and discussions. Seven seminars by visiting scientists were organised during the year.

The scientific workers continued to work on problems of economic development. Particular emphasis was laid on the problems of growth of West Bengal and the eastern region of the country. Towards the end of the year, the Unit undertook a project sponsored by the Planning Commission for analyzing the interdependence of transport, power, coal and steel in the eastern region. Work has already been started for collecting and collating the necessary information from the agencies involved in planning and implementing the various programmes. The study may help in formulating concrete proposals for removing the bottlenecks hindering the industrial progress of this important region.

Studies in demand analysis were continued, chiefly based on NSS budget data. Extensive investigation was started on the effects of the degree of monetization of household income on household consumption patterns.

A macro-econometric model of the Indian economy was constructed for examining the behaviour of prices.

As regards the data collected through the survey of industrial labour in the Greater Calcutta area, some tabulation was completed for the engineering workers in the sample. The analysis of the entire data on the electronic computer in the ISI was started.

The studies on inter-regional disparities in the level of living were continued (jointly with the NIRU). Among new lines of research undertaken may be mentioned a study of inter-industrial and inter-regional wage differentials in India, a mathematical analysis of decentralization procedures in planning, and an examination of relative efficiencies of television and film shows in mass education.

#### *National Income Research*

The National Income Research Unit (NIRU), Calcutta, 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 variables and furnishing thereby explanations of the growth of the Indian economy.

The main items of research work during the period are as follows: (1) Estimates of national income, (2) National accounts, (3) Studies on the development of West Bengal and the eastern

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region (comprising four eastern States) of India, (4) Inter-regional and inter-temporal variation in consumer prices and levels of living, (5) Estimates of net domestic product at current prices for some specific years, (6) Degree of monetization-variation between States, (7) Impact of indirect taxes on the size and other distributions of the levels of living, (8) Level of living after taxation and benefits.

A subject-wise bibliography of all the papers submitted to the conferences on national income in India was prepared. Some methodological studies are also in progress.

Particular attention is being paid to national income estimates of West Bengal, other bordering States and Bangladesh. A second project is a continuing research survey on national income. A national accounting framework for developing countries is also being devised.

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

### *Sociology*

Some steps were taken toward the maximisation of the use of accumulated and generating data-sets on social sciences; and a Data Centre has started functioning.

A research scheme elucidating Content Analysis on societal change in India was prepared.

A Directory on Social Science Institutes in India is being prepared.

A study on the problems and possibilities of utilization of N.S.S. data (1-19 rounds) was undertaken.

An exploratory enquiry into the socio-economic structure and change in some villages around Sriniketan, Birbhum, was completed.

The following exploratory studies are in progress:

Pilgrim Centres—Puri (Orissa); Hardwar and Rishikesh (Uttar Pradesh); Tarakeshwar (West Bengal).

Socio-economic polarization.

Social communication and development in several selected backward/non-backward regions of India.

The final report on the study of variation in family structures in West Bengal was prepared.

The transcription of data relating to 80,000 family and non-familial units in India in 1961-62, for computer analysis, is underway at Giridih.

A field survey on "Working class consciousness" was completed in collaboration with the Faculty of Sociology, University of Bielefeld, Federal Republic of Germany.

Data collected from several towns of West Bengal on the impact of conurbation areas upon the fringe-society, was analysed.



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The transcribed information of the socio-economic data of 1876 villages consisting of 85,613 households surrounding Giridih town (Bihar) is now in the punching stage.

The following research projects are in progress: (i) A study of Gooroodas Banerjee and his times, (ii) Nepal's experiment with nation-building.

Researches were completed to prepare designs and programmes on: secondary analysis of family structures; nuclearization of joint family structures; social research on contemporary India; levels of social integration in rural areas; and sociology of education, West Bengal.

The Round Table Discussion on the Sociology of National and Regional Movements was held under the auspices of the Sociology Research Unit, 26-27 October 1973, as preparatory to the forthcoming World Congress of Sociology.

### *Pre-Census Population Studies*

The Pre-Census Population Studies Unit is carrying on the following projects:

*Pre-census population studies:* The work on the analysis of the data presented in the draft *Report on the Population Estimates of India*, Vol. 3. 1811-1820 (with additional material for 1821-1830) submitted to the Registrar-General, India, continued, along with the usual work of compilation of past population data for the period 1801-1810 and 1831-1840. During the year, work on the following items progressed considerably: (a) Construction of decennial population estimates for each region of India for the period 1801-1961; (b) A study of the movement of factors determining a population size; (c) Population changes in Bengal, Bihar and Orissa, 1771-1971 (a technical report was drafted); (d) A note on the changes in the urban characteristics of the eastern region of India and Bangladesh, 1811-1830 and 1872-1971; (e) The population trend of Assam valley, 1814-1961; and (f) A note on Calcutta, a dying city, an outline of population history, 1600-1971.

*A Socio-economic bibliography of India from the remote past up to date:* Some additions were made in the checklist of the bibliographical material in addition to the cataloguing of about 350 publications of the nineteenth century.

*Statistical survey of Gorakhpur, 1814:* Gorakhpur was one of 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.

*Analysis of the quantitative socio-economic information of the nineteenth century to indicate changes up-to-date:* In the course of searches for information in libraries and archives in India and abroad, colourful data which throw a flood of light on the recent past of the country are discovered. Attempts are being made to trace changes up to date in the geographical tract where any significant set of socio-economic information might be available in the early or middle of the nineteenth century in order to strengthen our understanding of the present. Some of the topics on which work has progressed are as follows:

Concept of poverty and hunger in India 1807-1973, a methodological survey and historical analysis; socio-economic changes of village groups in the Punjab and Uttar Pradesh; prices and wages in Bengal, 1700-1971; and evolution of statistical organisation and methodology in Indian socio-economic surveys, 1770-1900.

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*Historical statistical atlas based on the contemporary maps of past surveys:* During the year, micro-film negatives of 86 non-restricted and 62 restricted maps of the surveys conducted during 1826-1830 were released by the Government of India for appropriate use and publication by the Pre-Census Population Studies Unit. These maps cover several tracts from Hisar District (Punjab) to Gorakhpur District (Uttar Pradesh). A sketch of surveyed tracts of the Delhi-Punjab area in 1826-1830 was super-imposed on the 1961 maps to identify the villages for which socio-economic and topographical data were available. Some other district maps were prepared, illustrating the socio-economic data of Buchanan's survey.

### *Family Planning Research*

Research is conducted in measures of family planning communication programme. The programme of work includes (i) Surveys, (ii) Research in family planning, and (iii) Preparation of reports, research papers, communication literature, charts, maps and exhibits.

The activities of the Unit during the year were related to the following new and continuing projects:

#### *Project I: Calcutta City Project.*

*Title of the Study:* A post-CAR Survey: An Evaluation of Communication Action Research (CAR) programme in Calcutta city.

The major object of the study was to assess post knowledge, attitude, practice and fertility levels of the couples. The population consisted mainly of the lower middle class. Nine hundred seventyfive couples maintained active status during the period of survey. The over-all couple fertility rate declined from 160.8 to 125.8 during the programme period and stayed almost constant (125.9) in the post-CAR period.

#### *Project II: Hooghly Fertility Studies II.*

*Title of the Study:* Some demographic measurements in the Hooghly District, West Bengal.

The main object of the study was to estimate some parameters suitable for describing the prevalent demographic situation in the district.

A representative sample of the general population of the district in both the rural and urban sectors was studied. 2,735 couples in the rural areas and 1,093 in the urban areas could be interviewed for the study. The crude birth rate in the district had declined from 40.2 per mille in 1966 to 38.8 per mille in 1968.

*Project III:* A study of abortions in Calcutta city hospitals. The study has been undertaken to explore the socio-economic and demographic characteristics and motivational factors of women undergoing abortion. Data from three hospitals were collected.

All the research papers in connection with the studies conducted on the Communication and Action Research (CAR) programme in Calcutta and Hooghly, have been summarised and will be mimeographed as a booklet.

A bulletin was published containing the growth, development and activities of the CAR centre since its inception.

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The Medical Termination of Pregnancy Act (1971) was translated from English into Bengali and submitted to the Government of India.

### *Linguistic Research*

Study of the phonetic structure of Indian languages, and the application of results (Telugu, Bengali, Hindi, and Sanskrit).

Investigation of problems relating to the structure of meaning (speech sound features in the phonetic structure of Indian languages, behaviour of speech sounds in isolated dictionary entry words, stability of speech sounds).

A statistical approach to linguistic problems (Bengali, Hindi, Telugu, and Serbo-Croatian).

The following seminars were organised by the Linguistic Research Unit:

Seminar on Linguistics, 11-17 January 1974, Indian Statistical Institute, Calcutta.

Seminar on Telugu Phonetics, 20-21 February 1974, Hyderabad (Co-sponsor: Osmania University).

Seminar on Speech Habilitation of Hard-of-Hearing-Children, 22 February, Hyderabad (Co-sponsor: Osmania University).

### *Demography*

Calcutta Fertility Survey 1970.

Socio-economic and demographic correlates of marriage pattern in India, 1961.

Trends and variations in Indian nuptiality: A cohort study.

Examination of birth rates estimated by National Sample Survey and Sample Registration System.

Examination of the progress of family planning programme in India.

### *Planning and Regional Survey*

The research work of the Planning and Regional Survey Unit, New Delhi, covered a wide spectrum spanning quantitative work relating to the structure of the Indian economy to theoretical work on optimum growth. As in earlier years, most of the work built on and continued previous research in areas such as input-output analysis, production functions, consumer demand, international economics, income distribution, regional planning and agricultural economics.

*Project work:* The work was completed on the project, *Exchange Control Liberalization and Economic Development*, undertaken by T. N. Srinivasan jointly with J. N. Bhagwati, Massachusetts Institute of Technology, under a grant from the National Bureau of Economic Research (NBER). The results are to be published in the form of a monograph by the NBER.

The work on "Optimal Fertilizer Demand" undertaken on contract with the Fertilizer Association of India was completed. A summary report was issued in January 1974.

The work on the research project on area development in the Karnal District (Haryana), financed by the Indian Council for Social Science Research (ICSSR), was completed. A report entitled, "Central place hierarchy for a developing region—Karnal area case study" was prepared.

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A study entitled, "Settlement structure and space relations—a study of functional organizations in Karnal district" was completed by A. N. Sharma. He was awarded the M.Phil degree (Jawaharlal Nehru University) on the basis of the study. Preliminary work was carried out on the formulation of a research outline for the study of market towns and spatial development in Haryana.

A one-year project on "The Anatomy of Poverty and Unemployment in Rural India" was initiated by P. K. Bardhan under a grant from the ICSSR.

Under a fellowship from the ICSSR, the work on a book, "Contractual Relations in Indian Agriculture and their Effects on Productivity and Employment" was initiated by A. Rudra from 1 January 1974.

R. R. Bahadur has been working on theoretical and computer simulation studies of how well asymptotic test efficiencies approximate actual efficiencies in samples of finite sizes.

### *Teaching and Research Guidance*

As in earlier years, the Planning and Regional Survey Unit was engaged in teaching for the One-year Evening Course in Statistics. Sixteen students took the final examination of the 1972-73 session in October 1973. A new batch of 40 students was admitted to the 1973-74 session.

Eight students were offered admission to the first-year class of the Two-year Research Course in Economics, and six actually joined. Only one candidate completed successfully the first semester. There are 4 students in the second-year class and 9 students are writing up their thesis proposals.

Some staff members participated in teaching the probationers of the Indian Statistical Service and Indian Economic Service at the request of the Central Statistical Organization and the Institute of Economic Growth.

The supervision of research by some students enrolled in the M. Phil. degree of the Jawaharlal Nehru University was provided by L. S. Bhat, Regional Survey Unit.

P. Mallela gave a series of lectures on "Measure and Probability" with a view to developing a course leading to Asymptotic Distribution Theory with application to econometrics.

Sixteen seminars were organised during the year by the Unit.

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

The Government of India set up a Statistical Quality Control (SQC) Division in 1952 under the technical guidance of the Indian Statistical Institute with the object of: (a) promoting the application and development of SQC methods; and (b) undertaking education, training and research in SQC in the country in order to step up the quality of goods and improve productivity in industry.

The Division which started with barely three specialists serviced at the time six factories with a grant of about Rs. 0.50 lakh. It has now grown to 14 SQC units and project centres established all over the country with about 60 specialists servicing 62 factories including some of the

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key public sector enterprises like steel, electronics, drugs, high pressure boilers and public utilities like Railways and State Transport organisations. Some schools were established to train specialists and workers, technologists, managers etc. in the short-term and specialised courses in SQC and allied techniques. Over 12,500 managers, technologists etc. have been trained so far. The Division has serviced over 1,000 factories, produced about 300 specialists, brought out over 650 popular write-ups, brochures etc. and published over 200 research papers in the field. The Division now earns about 90 per cent of its direct expenditure, and has a special fund for financing some of the development tests.

The Policy Advisory Committee for SQC was reconstituted during the year. The Committee consists of Shri M. S. Pathak (Member, Planning Commission) Chairman, Shri Hiten Bhatta (Chairman, Hindustan Steel Ltd.), Shri V. Krishnamurthy (Chairman & Managing Director, Bharat Heavy Electricals Ltd.), Dr. C. R. Rao (Director & Secretary, Indian Statistical Institute) and Shri S. M. Sundara Raju (Chief, SQC Division, Indian Statistical Institute).

*Service:* The successful completion of the Railway Special Project undertaken by the Division for the railways and the conclusion of the one-year Special Training Assignment for officers of the Hindustan Steel are the highlights of work during the period.

The Railways had entrusted the problem of exploring improvements in operational efficiency in the servicing of goods train at the Shalimar-Madras terminals and undertaking wagon utilisation and improvement studies in Bengal-Bihar coal fields. Conducting trials for projecting demand for wagons for increased coal movements during the Fifth Five Year Plan was yet another exercise. The project commenced in January and concluded in September 1973. Preliminary discussions were held on the report with the Chairman and the members of the Railway Board. Follow-up seminars and discussion meetings have been planned.

The One-year Special Course arranged for officers of the Hindustan Steel Ltd. concluded in September 1973. The 28 officers who were trained are now linking up for in-plant project assignments with the specialist teams of the ISI located in the plants of the Hindustan Steel Ltd. An interesting feature was the in-plant project-studies on a number of problems that the participants had pursued as a part of their training. Even during the training phase, some of the studies had shown scope for impressive improvements in yield, reduced waste and increased productivity, in the steel plants.

A Master Plan was prepared for scheduling production of plates in the plate mill in one of the steel plants. Its implementation has resulted in an increased yield of 3 to 4 per cent in the plate mill.

Intensive project-studies were carried out in the Hindustan Photo Films Ltd. and Indian Drugs and Pharmaceuticals Ltd. The studies had shown distinct scope for improvement in yield and reduction in rejections in the products in the plants.

A number of project studies involving quality systems development were pursued in Rourkela, Alloy and Bhilai Steel Plants, high-pressure boiler and electronics plants. Quality systems manuals have since been developed in each plant.

Arrangements are being made to take up regular service and training of personnel in all plants of Bharat Heavy Electricals Ltd.

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Arrangements are being made to commence work in the coal washeries in order to improve the quality control and lower costs of coal supplied to the steel plants and the power generating plants.

In response to the invitation from the Ministry of Communications, Government of India, proposals are being worked out to institute quality control and operations research studies in the Post and Telegraph and Telephone Departments. A special project is also being undertaken at the Central Bureau of Revenue and Taxes, Government of India, New Delhi.

The introduction of SQC systems was taken up in 18 new plants. Service was continued to 62 plants. Three hundred and nine technical reports were sent to the plants receiving such service.

*Education and Training:* 1591 persons were trained in the in-plant, short-term and other courses. As in earlier years, in-plant training received major attention.

One hundred and seven persons were undergoing professional training at the post-graduate level from schools in Madras, Bombay and Calcutta, for specialisation in quality control and 28 persons were attached to the one year HSL course. Fifty-two persons were undergoing training in the six-month evening certificate course at Bangalore.

The development of SQC management courses was one of the exercises during the period. Ten courses were conducted as exploratory trials and 343 executives and managers etc. were covered. The experience has been encouraging.

A significant feature during the year has been a special programme of training designed to train persons for the quality control departments of the sick textile mills managed by the Kerala State Textile Corporation.

*Promotion:* The staff members participated in 24 seminars and 153 lectures and talks were also given by them.

Moderate promotional efforts were also carried out to extend the frontiers of applications in SQC. Introductory visits were paid to 59 plants and 22 reports on pilot studies and promotional work were sent.

A significant feature of the promotional activities during the year consisted of surveys and studies undertaken in all the plants of the Bharat Heavy Electricals Ltd. in Bhopal, Hyderabad and Hardwar. The proposals for regular service and training have been accepted. Arrangements are being made to take up work in all the plants.

Fiftyone training manuals/technical reports were prepared by SQC Units.

*Research:* 24 papers were produced during the period for publication in journals and presentation at seminars and conventions.

*Other Activities:* The Hindustan Steel Ltd. agreed to play the role of a counterpart in organising an all-India Conference, the first of its kind, to discuss the problems and prospects of quality control and development in steel and allied industries. Rourkela has been chosen as the venue. The General Manager of this steel plant is providing the necessary assistance.

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Special surveys are being launched in some select industry sectors to assess the current status of quality and initiate measures to popularise modern quality systems.

*Visiting Expert:* During his stay of about five months as a visiting expert in the Statistical Quality Control Division, Mr. I. Baba, Head, Baba Consulting Engineers Group, Japan (15 November 1972-15 April 1973) helped in formulating quality systems development in a few selected plants and organised some training sessions at advanced levels of the design of experiments and process optimisations. Mr. Baba offered useful suggestions in a report for exploring avenues to accelerate the growth of SQC in India.

### 2.4. Library and Information Services

The Central Library at Baranagar had a collection of 1,32,068 books and bound journals, 33,226 reprints, monographs, specialised technical reports, besides a large collection of maps, microfilms, microfiches 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 2,685 (2,075 research and other staff members of the Institute, students attached to the Research and Training School, 330 outside student members, 230 sessional members and 50 ordinary members). Two hundred thirty persons were given special permission to use the Library during the period.

*Acquisition:* During the year, the Library received 2,638 current periodicals—887 through subscription, 1,036 on exchange and 715 as gifts. Fifty-three new periodicals were added to the Library, of which 47 were on subscription, three in exchange and three as gifts. The Library continued its exchange arrangements with 164 foreign and 65 Indian institutions and received periodicals and other serials from them in exchange of *Sankhya*, *The Indian Journal of Statistics*.

*Technical Processing:* The Library classified 361 and catalogued 401 books. The revision of book classification and of catalogue cards number 112 and 51 respectively. During the period, 1,124 cards were filed and 83 books added to the collection. The Central Records processed and indexed 1,438 old files, 1,027 newspapers and 3,782 maps.

*Circulation:* Seventeen thousand four hundred eighty books and 17,301 journal parts or volumes were issued for reference and 11,275 books on loan. Ninety-two newspapers, 119 maps and 46 old files were issued for reference. There were inter-Library loan transactions with 11 local and outstation libraries during the period.

*Reference and Bibliographic Services:* The Library compiled and prepared the following on request: (a) Bibliography on Max-Weber, (b) Contributions of Professor P. C. Mahalanobis, (c) Foreign private investments—a reading list, (d) Rural surveys—comparisons and methods: a select list of documents, (e) Documents dealing with truth and statistics, and (f) Indian documentation periodicals in economics.

The short reference questions answered numbered about 819.

*General and Scientific Photography:* During the period, 937 photographs were taken: 3,594 bromide enlargements, 645 reproductions, 385 slides and 178 photostat copies were made and 19 x-ray and roll films were processed.

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*Reprographic Service:* During the period, 8,750 pages of scientific treatises and other reading materials were microfilmed and 6,225 pages of photoprints prepared. 675 Xerox copies were prepared. The Library also extended reprographic service to the Indian National Scientific Documentation Centre, New Delhi, and several other scientific institutions.

*Circulating Library:* The Workers Circulating Library had a collection of 26,138 books and the members numbered 1,870. During the period, the Circulating Library added to its collection 364 books, of which 19 were in English, 264 in Bengali, 37 in Hindi and 44 in Oriya. It issued 43,532 books to its members.

*Documentation and Information Services:* Bibliographies which are being prepared include those on (i) Artificial Rain Making, and (ii) Scientific Publications of the ISI. Some of the existing bibliographies are being revised.

*Translation:* Five German and two Russian documents were translated.

*Research:* During the period, Document-Use-Survey was initiated with the subject group of sociology, demography and family planning as a pilot project to be extended to economics, planning, biological sciences, statistics and mathematics. Another project undertaken was the "Use of documents having cross reference entries given in the classified sequence of the catalogue, to the subject group of sociology-family planning-demography, from other disciplines."

The Information Research and Services Wing was formed in the Library on 15 December 1973 to look after translation, documentation and reprography.

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

*Training:* The nine candidates admitted for training in Documentation and Information Science for 1972-73 completed their formal training. They are working on the Trend Report to qualify for the Associateship in Documentation and Information Science.

Nine candidates were admitted to the Documentation Course (1973-74) which commenced on 15 April 1973.

*Research:* The main subjects of research were: (1) Universe of Subjects, (2) Subject-Fields, (3) Presentation of Ideas, (4) Book Indexing, (5) Social Change and the Library, (6) Role of Information Scientists in Workshops, (7) Planning of Documentation Systems, (8) Intellectual Foundation of an Information Finding System, (9) Classification, (10) Cataloguing, (11) Abstracting, (12) Role of Review Documents in the Diffusion of Knowledge, (13) Product Planning and Information, (14) Computerised Information Finding System, and (15) Obsolescence and Utility Factors of Periodicals.

*Seminars:* The following seminars were organized by the Documentation Research and Training Centre, Bangalore:

1. D.R.T.C. Mid-year Refresher Seminar on Subject Headings, 9-14 August 1973.
2. D.R.T.C. Eleventh Annual Seminar, 11-15 February 1974. The "Planning of Library and Documentation Systems" was the theme of the seminar. The discussions centred round twenty papers and the deliberations were consolidated in the form of sixteen propositions.



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*Publications:* The DRTC continued to collaborate with the Sarada Ranganathan Endowment for Library Science in the publication of the quarterly "Library Science with a Slant to Documentation." The DRTC published the following: (1) DRTC Annual Seminar (11), Volume of papers, pp. 406.

*Papers Contributed:* During the period, the staff of the DRTC contributed 37 papers, some of which were read at conferences.

*Consultancy Service:* The DRTC provided consultancy service to the Central Food and Technological Research Institute, Mysore and the Madras Institute of Development Studies. Several other institutions sought its advice for improving their library services.

*Lectures:* Eighteen visiting scientists gave lectures. The DRTC staff gave talks on 18 subjects under the auspices of outside organisations. The Sarada Ranganathan Endowment for Library Science organised the second series of Dr. S. R. Ranganathan Memorial Lectures during 11-15 February 1974. Eighteen colloquia were also organised by the DRTC.

*Library:* During the period, the Library received 190 books, 7 new periodicals and 43 reports/reprints.

*International Collaboration:* The D.R.T.C. has been actively participating in the following projects of the United Nations Education, Social and Cultural Organisation (UNESCO):

*International Information System on Research in Documentation (ISORID):* With a view to promoting and coordinating research in library science, documentation, information science, archives, etc., the ISORID programme was established by the UNESCO to facilitate the international exchange and transfer of research results in these subject fields. The Indian National Commission for Co-operation with the UNESCO designated the D.R.T.C., Bangalore, in 1973 as the National Information Transfer Centre on research projects in library science and documentation. Reports received from libraries and documentation centres in India and those based on research work in the DRTC have been sent to the UNESCO.

*UNESCO Survey of Bibliographical Services:* At the request of the Indian National Commission for Co-operation with the UNESCO, the DRTC has provided information, lists, and statistics of publications in India, as a contribution to the UNESCO Survey of "Bibliographical Services throughout the World."

*UNISIST Handbook for Scientific and Technical Information and Documentation Services:* As a member of the International Advisory Committee for the Handbook, Professor Neelamghan provided the editors with a number of reports and articles produced by the DRTC and others as material for use in the preparation of the Handbook.

*UNESCO Project on the Comparability of Information Science Degrees:* As a member of the International Advisory Committee of the project, Professor Neelameghan sent notes and information material on degrees in library science courses in India and on the criteria for equivalence of degrees such as those used by the Inter-University Board of India.

*Classification of Documents on Mahatma Gandhi:* A project to classify and index 821

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documents on Mahatma Gandhi in English, available in Indian libraries, was entrusted to the DRTC by the Social Science Documentation Centre, New Delhi. The project has been completed.

### 3. INTERNATIONAL STATISTICAL EDUCATION CENTRE (ISEC), CALCUTTA

The International Statistical Education Centre (ISEC) 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 consisting of the following: *Chairman*: C. R. Rao, *Members*: P. J. Bjerve, G. Goudswaard, E. Lunenberg (ex-officio member representing the International Statistical Institute), B. D. Pandey (Cabinet Secretary, representing the Government of India), D. B. Lahiri and T. J. Rao, *Member-Secretary* (representing the Indian Statistical Institute).

Twenty-two trainees from twelve countries in South and South-East Asia, the Far East and also from the Commonwealth countries of Africa attended the regular courses. Two trainees from Brunei attended a special course in statistics.

The Government of India awarded 14 fellowships for the foreign trainees in the Twenty-seventh Term, under the Technical Co-operation Scheme of the Colombo Plan (10), and the Special Commonwealth African Assistance Plan (SCAAP) (4). There were eight other trainees outside the Colombo Plan and SCAAP for the regular course and two for the special course.

The Twentyseventh Term opened on 1 June 1973. 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 the previous terms, a six-week training in governmental statistics was given at the Central Statistical Organisation, New Delhi, during the period October-November 1973. During the next three months, general lectures were also given on Probability Theory, Vital Statistics and Demography, Sampling Theory, Statistical Distributions, Inference, Advance Statistical Methods, Analysis of Variance and Elements of the Theory of Design of Experiments, Economic Statistics and Economic Planning. During February-March 1974, specialisation courses on an individual basis were given in the following fields: Large Scale Sample Surveys, Economic Planning, Demography, Data Processing and Mathematical Statistics and the Design of Experiments.

In the final examination, all the 22 successful trainees were awarded Certificates of Merit.

Professor Goro Ishii, Department of Mathematics, Osaka City University, Japan, joined the Centre on 10 November 1973 as Visiting Professor and left in April 1974. He delivered a series of lectures on Statistical Inference to the general body of students. He conducted specialisation course on Mathematical Statistics and the Design of Experiments for a selected group of students. Professor Ishii also participated in the research activities of the Indian Statistical Institute and delivered a number of lectures to the staff and students of the Research and Training School.

### 4. CONVOCATIONS

#### 4.1. Eighth Convocation: Indian Statistical Institute

The Indian Statistical Institute held its Eighth Convocation for awarding the B. Stat., M. Stat. and Ph.D. degrees on 31 December 1973. Diplomas were also distributed at the function

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to a large number of candidates in courses in Applied Statistics, Professional Examinations, Statistical Quality Control, and Electronic Computers, etc. National Professor S. N. Bose, F.R.S., President of the Institute, presided. Shri P. N. Haksar, Chairman of the Institute, welcomed the guests. Dr. Amartya Sen, London School of Economics, delivered the Convocation Address, "Dimensions of Unemployment in India." Professor M. Mukherjee, Director, Research and Training School, presented the annual review on research and training. Dr. C. R. Rao, F.R.S., Director and Secretary of the Institute, made the concluding remarks.

The Seventh Convocation of the Institute had been held on 24 January 1970. Successful candidates for four years (1970, 1971, 1972 and 1973) were awarded the diplomas and certificates at the Eighth Convocation. In all, 14 candidates were awarded the Ph.D. degree, 108 the M. Stat. degree by examination, one the M. Stat. degree by thesis and 61 the B. Stat. degree. Fourteen candidates were awarded the diploma in Computer Science, two in Demography, two in Econometrics and Planning, and 173 in Statistical Quality Control.

In the professional examinations, 25 candidates were awarded the Statistician's Diploma, three the Statistician's Field Survey Diploma, 32 the Computer certificate, and four the Statistical Field Survey (Junior) certificate. Eight candidates were awarded the Associateship in Documentation, Bangalore.

In the evening courses, the total numbers of candidates awarded certificates, etc. are shown in brackets:

- (i) Statistical Methods and Applications (154), (ii) Elementary Techniques of Computation (31), (iii) Statistical Computation (23), and (iv) Certificate Course in S.Q.C. and Operations Research (116). Sixtyfive candidates successfully completed the Intensive Course on Programming and Applications of Electronic Computers and 11 candidates the Operation of Punched Card Machines.

### 4.2. Convocation of the International Statistical Education Centre, Calcutta

The International Statistical Education Centre (ISEC) Calcutta, operated jointly by the International Statistical Institute and the Indian Statistical Institute, under the auspices of the UNESCO the Government of India held its annual convocation on 28 March 1974. Certificates of Merit were awarded to 24 trainees from 13 countries who successfully completed the twenty-seventh term of the ISEC (June 1973-March 1974).

Shri Siddhartha Sankar Ray, Chief Minister, West Bengal, presided. Professor M. Mukherjee, Director, Research and Training School, welcomed the guests. Concluding remarks were made by Dr. C. R. Rao, F.R.S., Chairman, Board of Directors, International Statistical Education Centre.

## 5. PROFESSIONAL EXAMINATIONS

All the four open professional examinations were held during 1973: (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 held as usual twice in May and November. Due to poor response from candidates, the Punched Card Machine examinations were not held separately in May, but were held simultaneously with the Statistical Field Survey examination only once in November 1973.

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Eight centres all over India were pressed into service for the professional examinations in 1973. Six of these centres—Bangalore, Bombay, Calcutta, Delhi, Lucknow and Madras—had always some candidates to offer and the centres were all utilised for the examinations in May and November 1973. Giridih was, however, utilised only for the examination in May 1973. The largest number of candidates appeared for the Statistician's Diploma examination and most of them appeared from Calcutta and Delhi. Candidates for the Computer's Certificate examination were practically all confined to the Calcutta Centre.

The details of candidates who registered and appeared for the professional examinations during 1973 are given below:

*Statistician's Diploma Examination:* During 1973, 146 candidates registered (73 in May; 73 in November) for the examinations but 21 candidates (11 in May; 10 in November) failed to appear in any of these papers. Of those who finally appeared, 69 candidates (37 in May; 32 in November) passed in one or more papers.

*Computer's Certificate Examination:* In 1973, 42 candidates registered (24 in May; 18 in November) for the examination. Only 4 candidates (3 in May; 1 in November) failed to appear in any of the papers. Of those who finally appeared, 23 candidates (13 in May; 10 in November) qualified in one or more papers.

*Statistical Field Survey Examination:* The Statistical Field Survey examinations are held only once in November every year. In November 1973, there were no candidates for the S.F.S. Diploma examination. Two candidates registered in November 1973 for the Field Survey Certificate examinations—one for a theoretical paper only in the Junior Certificate and the other in the practical paper of the Senior Certificate examination. Both candidates appeared and passed.

*Punched Card Machine Examination:* The examinations are usually held only once in May every year. In May 1973, however, because of the poor response, no separate examinations were held for any of the papers.

In November 1973, only one candidate registered for two papers of the Punched Card Data Processing Diploma examination. He appeared and passed in both the papers. There was no candidate for the Punched Card Machine Operators' Certificate examinations.

2. *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 for the award of Diplomas and Certificates during 1973 is given below:

*Statistician's Diploma:* Nine candidates (2 in May; 7 in November) qualified.

*Computer's Certificate:* Twelve candidates (9 in May; 3 in November) qualified.

*Statistical Field Survey Examinations:* (i) Junior Certificate, (ii) Senior Certificate, and (iii) Diploma examination: only one candidate qualified in November 1973 for the senior certificate examination and none qualified for the award in the other two examinations.

*Machine Examinations:* (i) Punched Card Machine Operator's Certificate, (ii) Punched Card Data Processing Diploma—no candidate qualified.

## 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 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.

*1. The following scientists visited the Institute on invitation and worked for fairly long periods during the year 1973-74. The duration of the visit is mentioned within brackets against each name.*

PROFESSOR RUDOLF ALTEVOGT, Head, Department of Physiology and Ecology, University of Munster, Federal Republic of Germany (26 December 1973—24 February 1974) collaborated with the research activities of the Crop Science Unit. He accompanied Professor T. A. Davis to the Andaman Islands to continue the investigations on the coconut robber crab (*Birgus Latro*). A large number of female robber crabs which eluded them during the previous trip were spotted. Their behaviour was studied and activities recorded on movie films. Preserved specimens were also brought to Calcutta for further studies.

MR. IKUO BABA, Visiting Expert in Quality Systems from Japan (15 November 1972—14 April 1973) helped the Statistical Quality Control Division in formulating quality systems development in a few selected plants in different parts of the country and also organised training sessions at advanced levels on the design of experiments and process optimisations. He offered useful suggestions in a report for exploring avenues to accelerate the growth of SQC in India.

DR. R. P. GUPTA, Ohio State University, U.S.A. (arrived 15 December 1973) has been working in the Planning and Regional Survey Unit, New Delhi. He carried out research on Combinatorial Mathematics and Theory of Graphs and also participated in the teaching of the two-year research course in economics.

PROFESSOR GORO ISHII, Department of Mathematics, Osaka City University, Japan (10 November 1973—April 1974) came as the visiting professor for the Twenty-seventh Term, International Statistical Education Centre, Calcutta. He gave a series of lectures on Statistical Inference and conducted a specialisation course on Mathematical Statistics and the Design of Experiments. He also participated in the research activities of the Institute. Lectures: (i) Relationship algebra: commutative case and non-commutative case, (ii) Association algebra and its parametric meeting, (iii) Relationship algebra of PBIBD, and (iv) An example showing the existence of the best statistical procedures when the minimal sufficient statistic is incomplete.

PROFESSOR DJORDJE KOSTIC, Director, Institute for Experimental Phonetics and Speech Pathology, Belgrade, Yugoslavia (13 December 1973-13 March 1974) came on his sixth 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 for Experimental Phonetics and Speech Pathology, Yugoslavia. His visit was arranged during the year under the Fourth Indo-Yugoslav Cultural Exchange Programme.

During his visits to Agartala (Tripura), Calcutta, New Delhi, and Hyderabad, Professor Kostic met eminent linguists, educationists, doctors and government officials, in connexion with his work. In collaboration with Indian scientists, he wrote the following books: (i) A Short Outline

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of Hindi Phonetics, 1974 (in press), (ii) Tests for Articulatory Evaluation of Bengali Speech Sounds, 1974, (iii) Tests for Articulatory Evaluation of Telugu Speech Sounds, 1974, and (iv) Articulatory Evaluation of Speech Sounds—Method and Application, 1974.

Professor Kotic participated in the following: (i) Seminar on problems of hard-of-hearing children and evaluation of speech. Agartala, Tripura, 2-10 January 1974; (ii) Seminar on linguistics and linguistic methods, Calcutta, 11-17 January 1974; (iii) Seminar on Telugu phonetics, Hyderabad, 20-21 February 1974, and (iv) Seminar on speech rehabilitation of hearing-impaired children, Hyderabad, 22 February 1974.

Professor Kotic advised the following organisations on different problems:

- (i) Department of Linguistics, Osmania University, Hyderabad, regarding the installation of laboratory equipment to be used for research in speech pathology.
- (ii) School for Deaf Children run by the Social Welfare Board, Andhra Pradesh, regarding the preliminary collection of data on children in the school, and the testing of hearing ability and speech.

*Lectures:* (i) Language and science today (Calcutta); (ii) Application of phonetics to the speech habilitation of hearing-impaired children, with special emphasis on Indian languages (Delhi); (iii) The hearing-impaired child—classification according to age and onset of hearing loss; phonetic audiometry and selective amplification—a multi-disciplinary approach to speech habilitation of the hearing-impaired child (Delhi); and (iv) Treatment of speech pathological cases, with special emphasis on hearing-impaired children (Hyderabad).

DR. PAMELA L. ROBINSON, Department of Zoology, University College London (7 March 1974—4 April 1974) came in connexion with the integrated programme of research in the Geological Studies Unit. She also had discussions with the scientific workers on their current research work and future programmes.

PROFESSOR AMARTYA SEN, London School of Economics, U.K., delivered the Eighth Convocation Address, "Dimensions of Unemployment in India," at the Indian Statistical Institute on 31 December 1973. *Lectures:* (i) The concept and measurement of poverty; (ii) The so-called fundamental theorem of capital theory (Delhi and Calcutta).

DR. J. N. SRIVASTAVA, Colorado State University, U.S.A. (arrived 1 January 1974) has been conducting research on incomplete multivariate models at the Planning and Regional Survey Unit, New Delhi. *Series of lectures:* Incomplete multivariate models.

DR. JOSEPH TAR, Chief, Major Department of Statistics for Investments and Building Industry, Central Statistical Organisation, Budapest, Hungary (14 November 1973—25 January 1974) came on his second visit under the Indo-Hungarian Cultural Exchange Programme. He visited Bombay, Calcutta, Delhi, Madras and Trivandrum in connexion with his study-cum-lecture tour.

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

DR. H. R. ARAKERI, Vice Chancellor, University of Agricultural Sciences, Bangalore (31 August 1973). *Lecture:* Agricultural research and development in India. (DRTC, Bangalore).

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DR. C. R. BECTOR, University of Manitoba, Canada (9-13 July 1973). *Lecture: Fractional programming.*

DR. P. K. BHATTACHARYA, University of Arizona, USA (4-7 January 1974). *Lecture: (i) Induced-order statistics and regression analysis—another approach to fractile graphical analysis; (ii) Statistical analysis and synthesis of cell images.*

DR. S. N. CHAUDHURI, Specialist in Infant Nutrition, All India Institute of Medical Sciences, Jabalpur (7 November 1973). *Lecture: Malnutrition in India (D.R.T.C., Bangalore).*

PROFESSOR J. V. DESHPANDE, Department of Statistics, University of Punjab. (8 & 22 June 1973). *Lecture: An approach to the goodness of fit problem.*

DR. T. J. DICKSON, Department of Mathematics, University of Western Australia, Wedlands (26-28 February 1974). *Lecture: Some aspects of the geometry of numbers.*

SHRI C. EKAMBARAM, Information and Publicity Officer, Rural Electrification Corporation, New Delhi (10 April 1973). *Lecture: The communication revolution and its challenges. (D.R.T.C., Bangalore).*

PROFESSOR JEAN GIBBONS, Chairman, Department of Statistics and Quantitative Methods, University of Alabama, USA (8 May 1973). *Lecture: (i) Percentile modified rank tests for location and scale; (ii) Two-sided P-values.*

PROFESSOR N. GIRI, University of Montreal, Quebec, Canada (30 July 1973 & 10 August 1973). *Lectures: (i) Alternative derivations of some multivariate distributions; (ii) On the invariant test of hypothesis concerning the covariance matrix of a multivariate normal distribution.*

PROFESSOR DAVID GRIES, Cornell University, USA (11-13 June 1973). *Lecture: Compiler construction.*

DR. SOMESH DAS GUPTA, Department of Mathematics, University of Minneapolis, U.S.A. (5 November 1973). *Lectures: (i) Inequalities on probability contents of convex sets; (ii) Properties of power functions F-G test and some multivariate tests; and (iii) Theories of classification.*

PROFESSOR T. HAYASHI, Department of Economics, Institute of Developing Economies, Tokyo (7-9 February 1974). *Lecture: Social consequence of urbanization in contemporary Japan.*

PROFESSOR H. D. HUSKEY, University of California, USA (23 August 1973). *Lecture: ZIP languages.*

PROFESSOR STANISLAV JILOVEC, Principal Research Worker, Institute of Information Theory and Automation, Czechoslovak Academy of Sciences, Prague (4 & 6 April 1973). *Lectures: (i) Relation between various kinds of consistent estimates; (ii) Utilisation of past experiences in statistical decisions.*

SHRI N. M. KETKAR, Director (Documentation), Indian Council of Social Science Research, Delhi (4 September 1974). *Lecture: Indian Council of Social Science Documentation Centre: its genesis, scope and activities. (D.R.T.C., Bangalore).*

PROFESSOR R. L. KIRK, John Curtin School of Medical Research, Australian National University, Canberra (4 & 8 December 1973). *Lecture: Biology of the Australian aborigines.*

DR. T. KRISHNA KUMAR, Florida State University, USA (14 September 1973). *Lecture: Non-linear estimation of production functions (Planning, Delhi).*

DR. O. V. MALJAROV, Research Scientist, Institute of Oriental Studies, USSR Academy

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of Sciences, Moscow (10 January 1974). *Lecture: Socio-economic aspects of the development of large and small industries in India.*

PROFESSOR J. MATHES, Department of Sociology, University of Bielefeld, Federal Republic of Germany (19-22 August 1973). *Lecture: Recent developments in sociology in Western Germany, specially with respect to the problems of theory construction and methodology.*

DR. ARUNAVA MUKHERJEE, University of South Florida, USA (15 October 1973). *Lecture: Measures on topological semi-groups.*

PROFESSOR MOHI MUKHERJEE, Birla Institute of Technology (5 June 1973). *Lecture: Computer architecture.*

DR. U. S. R. MURTHY, University of Waterloo, Ontario, Canada (15 February 1974—6 March 1974). *Lecture: Matroids and graphs.*

PROFESSOR P. K. PATHAK, University of New Mexico State University, New Mexico (14 November 1973 & 23 November 1973—9 January 1974). *Lectures: Measure-Invariant sets (Delhi and Calcutta).*

DR. N. P. RAO, Director, Defence Institute of Stores Preservation and Packaging, New Delhi (18 August 1973). *Lecture: Trends in modern packaging (DRTC, Bangalore).*

DR. T. SUBBA RAO, University of Manchester, U. K. (16 July 1973). *Lecture: Evolutionary spectral analysis.*

SHRI M. V. R. RAU, Scientist (Information), Central Leather Research Institute, Madras (27 & 28 September 1973). *Lectures: (i) Impact of Ranganathan on international librarianship; (ii) Documentation service in Central Leather Research Institute (D.R.T.C., Bangalore).*

DR. G. RUSHTON, University of Iowa, USA (28 & 29 March 1974). *Lecture: Computer algorithms for locating central facilities.*

PROFESSOR V. SESHADRI, Department of Mathematics, McGill University, Montreal, Canada (17 December 1973). *Seminar: Characterizations and their application to goodness of fit (Planning, Delhi).*

PROFESSOR S. S. SHRIKHANDI, University of Bombay (27-30 April 1974). *Lecture: Embedding of quasi-residential designs.*

DR. Z. SIDAK, Institute of Mathematics, Czechoslovak Academy of Sciences (15 November 1973-7 December 1973). *Seminars: (i) A chain of inequalities for some multivariate distributions; (ii) Application of random walks in non-parametric statistics; (iii) Probability inequalities for normal distributions (Calcutta & Delhi).*

PROFESSOR V. N. SUDAKOV, Steklov Institute of Mathematics, Leningrad, USSR Academy of Sciences, came under the Indo-Soviet Cultural Exchange Programme (24 January 1974-19 February 1974). *Seminars: (i) A geometric approach to the theory of Gaussian processes; (ii) Existence of independent complements of a given pair of statistics and applications (Delhi & Calcutta).*

PROFESSOR P. V. SUKHATME, Gokhale Institute of Politics and Economics, Poona, (28-30 April 1974). *Lecture: The nature of protein malnutrition.*

PROFESSOR S. R. S. VARADHAN, Courant Institute of Mathematical Sciences, New York (18 June & 2 July 1973). *Lecture: Isomorphism theorem on Bernoulli shifts.*

SHRI K. P. VIEWAKARMA, Netherlands School of Economics, Rotterdam (24 July 1973). *Lecture: Application of central theory to macro-economic regulation (Planning, Delhi).*



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MISS INGRID ZIRPEL, Institute of Development Studies, Bochum University, Federal Republic of Germany (28 February 1974). *Lecture: Experiences of student movement in West Germany.*

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

DR. S. N. CHAUDHURI, Chairman and Professor of Biochemistry, Maulana Azad Medical College and Irwin Hospital, New Delhi (20 & 21 June 1973).

DR. PETER DREZGIC, Vice-Chancellor, Novi Sad University, Yugoslavia; delegate to Indian Science Congress (10 January 1974).

DR. JEAN GIBBONS, Department of Statistics, University of Alabama, U.S.A. (10 May 1973).

DR. DAN ALEXANDER GRIGORESCU, Department of Geology, University of Bucharest, Rumania (4-8 May 1973).

PROFESSOR W. KRUSKAL, Department of Statistics, Chicago University, U.S.A.; accompanied by Mrs Norma E. Kruskal (14 & 15 June 1973).

MR. MOHJUDDIN, Chief, Planning Commission, Bangladesh (1 March 1974).

DR. ZORAN PIANIC, Department of Economics, Belgrade University, Yugoslavia; delegate to Indian Science Congress (10 January 1974).

(MISS) MARGA E. SCHMITZ, Director, German Academic Exchange Service, New Delhi (12 December 1973).

MR. MARAT F. YUNUSOV, Vice-Consul, USSR Consulate-General, Calcutta (15 May 1973).

### 7. HONOURS, AWARDS AND SPECIAL ASSIGNMENTS

#### (i) Honours and Awards

Dr. C. R. Rao, Secretary-Director, Indian Statistical Institute, was the recipient of the following honours: (1) Honorary D. Litt. (Delhi University); (2) Fellow, Econometric Society, U.S.A.; (3) President, International Biometric Society, 1974; (4) Vice-President, Indian National Science Academy, 1973-74; (5) President, Indian Econometric Society; (6) Honorary Member, Indian Society of Human Genetics; (7) Patton Foundation Professor at the Indiana University, U.S.A., for the second academic term, 1972-73.

Shri K. Chattopadhyay (*Sociology*) was elected a member, Advisory Committee for Third Educational Survey (1973), Ministry of Education, Government of India.

Shri A. K. Halder (*Computer Science*) became a member of the Technical Advisory Committee of the Registrar General of India.

Professor R. Mukherjee (*Sociology*) was elected a member of: (1) Advisory Board, *Current Sociology*, England; (2) Academic Advisory Committee, Centre for Studies in Social Sciences, Calcutta; and (3) Editorial Board, *International Journal of Critical Sociology*, Department of Sociology, Rajasthan University, Jaipur. He was elected Chairman, Committee on Social Trends, set up by the Indian Council of Social Science Research.

Shri D. S. P. Rao (*National Income*) was awarded a Ph.D. degree of the Indian Statistical Institute.

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### (ii) Special Assignments

Dr. D. K. Bose (*Economic Research*) continued to serve as a part-time member, State Planning Board, Government of West Bengal.

Dr. N. Bhattacharyya (*Economic Research*) was appointed a member of an Expert Committee set up by the Government of West Bengal to examine the working class consumer price index number for the Calcutta Centre. He served on a Technical Committee set up by the Government of West Bengal for finalising the procedures and methodology of the proposed health and socio-economic survey of the entire CMD area.

Dr. S. L. Jain (*Geology*) was appointed an expert member, Union Public Service Commission, New Delhi. He became an external examiner, Banaras Hindu University.

Professor A. Neelamegham (*DRTC*) joined the University of Western Ontario, Canada, as a Visiting Professor in its School of Information and Library Science, for one year from 1 September 1973. He was a member of the Subject-Field Reference Code Working Group, established by the Federation for International Documentation, The Hague, for research on a project for the development of a Broad System of Ordering to serve as a switching language.

Dr. K. S. Parikh (*Planning and Regional Survey*) served as a member of the following committees: (i) National Committee on Environmental Planning and Coordination, Government of India; (ii) Planning Team, New Bombay Project, City and Industrial Development Corporation, Government of Maharashtra. He served as the Chairman, Expert Committee on Cost Reduction in Construction and Low Cost Housing, Government of Kerala.

Dr. S. Sengupta (*Geology*) became an Editorial Advisor for the *Indian Journal of Earth Sciences*.

Dr. S. D. Tendulkar (*Planning and Regional Survey*) examined the problems related to the administration of the Indian Excise Taxation System as a consultant to the Central Excise (Self Removal Procedure) Committee, Government of India.

### 8. CONFERENCES, SCIENTIFIC TOURS AND ASSIGNMENTS ABROAD

Dr. C. R. Rao, Secretary-Director, Indian Statistical Institute, attended the following:

1. International Symposium on Linear Models, Fort Collins, U.S.A. March 1973. He presented a paper on the theory of estimation of parameters in the general Gauss-Markoff model.
2. Statistics Day, Ottawa, April 1973. He gave an invited talk on the characterization of probability distributions through properties of statistics.
3. Meeting of the Directors of International Statistical Training Centres, Szeged, Hungary, 14-17 August 1973. He presented a report on the activities of the International Statistical Education Centre, Calcutta.
4. Thirty-ninth International Statistical Conference, Vienna, 20-29 August 1973. He chaired the session on Multivariate Analysis.
5. Round Table Meeting on the teaching of statistics at the secondary level, Vienna, 30 August 1973—4 September 1973. He presented a paper on the teaching of statistics at the secondary level—an interdisciplinary approach.

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Dr. C. R. Rao gave a seminar course on Characterization of Probability Distributions at the University of Indiana, Bloomington, in the semester (January 1973—May 1973). He gave lectures at the Universities of Purdue, Colorado, Ohio, Washington, New Orleans, Kentucky; at the Smithsonian Institute in Washington, USA, and the Universities of McGill, Ottawa and Waterloo in Canada (April 1973—July 1973). He also delivered lectures at Copenhagen, Goteborg, Budapest and Rome during August-September 1973.

Dr. R. R. Bahadur (*Planning and Regional Survey*) attended the meeting of the International Statistical Institute, Vienna, in August 1973, as a delegate of the Institute of Mathematical Statistics. He also attended the Symposium on Asymptotic Methods in Statistics at the Charles University, Prague, in September 1973 and read a paper. He attended the annual meeting of the Institute of Mathematical Statistics, New York, in December 1973. He is President of the Institute for 1974.

Dr. P. K. Bardhan (*Planning and Regional Survey*) attended the first session, Seminar on Redistribution with Growth, organized by the World Bank and the Institute of Development Studies of Sussex at Bellagio, Italy, in April 1973. He presented a paper. He also attended the second session of the seminar held at Sussex, England, in September 1973.

Dr. A. Basu (*Anthropometry*) visited the Institute of Ethnography and Anthropology, Moscow, for six weeks. He left India on 20 March 1974.

Dr. D. K. Bose (*Economic Research*) attended the second session, Indo-Hungarian Colloquium, Budapest, Hungary, 8-13 October 1973, and presented a paper.

Shri R. L. Brahmacharya (*Embryology*) went to the USSR for one month in August 1973 and visited the laboratories of Spirin, Neyfakh in Moscow and the Institute of Genetics and Cytology, Siberia. In all the three places, he delivered several lectures on molecular embryology of invertebrates.

Sri B. Chakraborty (*Demography*) participated in the Fourth Summer Seminar on Population, conducted by the East-West Population Institute, Honolulu, in collaboration with the Korean Institute for Family Planning, 9 July 1973-11 August 1973. He left India on 6 July 1973 and returned on 16 August 1973.

Professor T. A. Davis (*Crop Science*) visited Alaska and some other centres in the USA and Canada to collect data on the possible association of latitude with asymmetry in plants and animals. Considerable original data were collected on the subject with the help of the U.S. Naval Arctic Research Laboratory, Point Barrow, Alaska. Data on palms and other plants were collected from centres in California, Texas, New Orleans, Florida, Alabama, Maryland, New York City, Boston (U.S.A.); Quebec (Canada), Algiers (Algeria), Osaka and Tokyo (Japan). The tour, sponsored by the U.S. Educational Foundation, was continued from 24 March 1973 to 10 June 1973.

Professor Davis went on a short tour (5 September 1973—2 November 1973) in the Federal Republic of Germany, as a guest of the German Academy. He visited the following: (i) Zoological Institute, Munster, where the work on the Robber Crab was continued; (ii) Science Film Institute, Göttingen, where a movie film on the behaviour of the Coconut Crab is being processed; (iii) Natural History Museums and zoos in the following cities to study the asymmetry in animals, particularly in the reindeer: Karlsruhe, Munich, Berlin (West), Hamburg and London. Several

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lectures were delivered by him at universities and research centres during the two visits abroad.

Dr. K. C. Malhotra (*Anthropometry*) participated in the Ninth International Congress of Anthropological and Ethnological Sciences, Chicago, U.S.A., 28 August 1973—8 September 1973, and contributed papers.

Professor M. Mukherjee (*National Income*) attended a meeting of the Working Group on Statistics of the Distribution of Income, Consumption and Accumulation called by the ECAFE, Bangkok, 16 to 21 July 1973 and presented a paper. He attended the Thirteenth General Conference, International Association for Research in Income and Wealth, Balatonfured, Hungary, 31 August 1973-3 September 1973. He organized the session on Economic Accounting for Developing Countries at the conference.

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

- (i) Twenty-ninth World Congress of Orientalists Seminar, Paris, 16-23 July 1973. He presented a paper.
- (ii) Ninth World Congress of Political Science Seminar, Montreal, Canada, 19-26 August 1973. He presented a paper.
- (iii) Ninth International Congress of Anthropological and Ethnological Sciences Seminar, Chicago, U.S.A., 28 August 1973-8 September 1973. He presented a paper.
- (iv) The UNESCO and ISA Symposium on Sociology and Social Development in Asia, Tokyo, 16-22 October 1973. He presented a paper.

Dr. M. G. Nadkarni (*Mathematics-Statistics*) visited Hungary during September-November 1973 under the Indo-Hungarian Cultural Exchange Programme. He spent the first week of November in Szeged and the remaining weeks in Budapest. He gave talks at the Institute of Mathematics at Budapest and Szeged.

Professor A. Neelameghan (*D.R.T.C.*) attended the meetings of the Committee, Federation for International Documentation/Subject-field Reference Code, (FID/SRC), The Hague, 6-8 June 1973. As Chairman of the FID/CR, he attended its meetings on 4 and 5 June 1973. The FID/CR Secretariat is now functioning in the DRTC, Bangalore.

Professor Neelameghan visited the School of Information Studies, Syracuse University, New York, and gave three lectures. He also lectured at the University of Rhode Island, School of Library Science, U.S.A.

Professor Neelameghan participated in the first meeting of the UNISIST (World Science Information System) Advisory Committee in Paris, 4-8 February 1974. He was appointed Chairman of the Ad-hoc Working Group to review the composition and terms of reference of the Ad-hoc Committee on Education and Training Policy and Programmes.

Dr. K. S. Parikh (*Planning and Regional Survey*) attended the Conference on Economic Aspects of Population Growth held under the auspices of the International Economic Association in Valereux, France, 3-8 September 1973. He presented a paper. During 10-12 October 1973, he attended a conference on Economic Policy and Planning in Developing Countries organized by the Korea Development Institute and Harvard University's Development Advisory Service. He served as chairman of one of the sessions.

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Shri M. V. Raman (*Demography*) attended the meeting of the Sub-committee on Comparative Fertility Analysis, International Union for the Scientific Study of Population, Brussels, Belgium, 7-9 May 1973. He left India on 4 May 1973 and returned on 11 May 1973. He also participated in the Seminar on Demographic Research in relation to International Migration sponsored by the Committee for International Co-ordination of National Research in Demography, Buenos Aires, Argentine, 5-11 March 1974. He was a rapporteur for one session. He left India on 2 March 1974 and returned on 15 March 1974.

Dr. T. N. Srinivasan (*Planning and Regional Survey*) left Delhi on 3 September 1973 for Vienna at the invitation of the Institute of Applied Systems Analysis to consult Professor Alan Manne and other staff of the Institute on Research relating to the Energy Sector. He later attended the final meeting of the contributors to the volume, *Survey of Planning Models and their Applications*, to be published by the Development Research Centre of the World Bank. He contributed the chapter on Foreign Trade Sector in Planning Models. This meeting was held at the Institute of Development Studies, University of Sussex, England, during 6-9 September 1973. While in Sussex, he was invited to open the discussion on the volume, "Redistribution with Growth" at the Second Seminar on Redistribution with Growth.

### *Assignments Abroad*

Dr. D. Basu (*Mathematics-Statistics*) returned to the Institute in July 1973 after completing a two-year appointment as Professor of Mathematical Statistics at the University of Manchester, England. He gave talks at the Universities of Manchester, Sheffield, Warwick and London. He participated in a Symposium on Statistical Inference at the Institute of Mathematics of Aarhus University, Denmark, in May 1973 and presented a paper.

Dr. L. S. Bhat (*Planning and Regional Survey*) was invited by the ECAFE, Bangkok, to work as a consultant for two months from 13 August 1973. During this period, he prepared a paper for discussion at the United Nations Study Tour on Regional Development organized by the ECAFE. He left for Bangkok on 13 August 1973 and returned to India on 12 October 1973.

Shri Prafulla Chakraborti (*Sociology*) left in October 1973 to take up the "Post-graduate Diploma Course: 1973-74: Urbanization in Developing Countries", in the Centre for Urban Studies, University College, London.

Dr. T. Krishnan (*Mathematics-Statistics*) returned on 4 February 1974 after completing a two-year appointment at the University of Western Australia.

Dr. A. Maitra (*International Statistical Education Centre*) returned on 1 March 1974 after completing a one-year appointment at the Department of Statistics, University of California, Berkeley, U.S.A., in 1972-73 as Associate Professor and a six-month appointment at the Computation Centre, Polish Academy of Sciences, Warsaw, as a visiting professor.

Shri Surendra Munshi (*Sociology*) went to the Faculty of Sociology, University of Bielefeld, Federal Republic of Germany (1 November 1971-10 June 1973) as a visiting member of the faculty.

## 9. CONFERENCES AND SCIENTIFIC ASSIGNMENTS IN INDIA

Dr. C. R. Rao, Secretary-Director, Indian Statistical Institute, attended the Thirteenth Conference, Indian Econometric Society, Ahmedabad, 10-12 January 1974. He gave the presidential address on "Some thoughts on the regression technique and prediction."

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Dr. A. Basu, Dr. K. C. Malhotra and Shri B. N. Mukherjee (*Anthropometry*) attended the following and read papers:

- (i) Sixty-first session, Indian Science Congress, Nagpur, 3-8 January 1974.
- (ii) First National Conference of Human Genetics, Bombay, 14-16 February 1974.

Dr. L. S. Bhat (*Planning & Regional Survey*) participated in the Summer Institute in Geography organised by the Bombay University under the auspices of the University Grants Commission during 29 May—6 June 1973. He gave a course of lectures on settlement hierarchy, theories in geography, regionalization; field work in geography, data compilation and problems of scale. He participated in the training programme organized by the National Training Centre of the Indian Agricultural Research Institute, New Delhi, on 13 July 1973. Dr. Bhat attended the Third Meeting of the Committee on Regional Accounts held at the Central Statistical Organisation, New Delhi, during 22-23 November 1973. He gave a talk and participated in a Seminar on Investment Planning and Project Evaluation organised jointly by the State Planning Institute, Uttar Pradesh, and the Institute of Economic Growth, New Delhi, on 1 December 1973.

Shri G. Bhattacharyya (*DRTC*) participated in the Seminar on Information Storage and Retrieval Systems, Secunderabad, 3-4 September 1970. He presented a paper.

Dr. N. Bhattacharyya (*Economic Research*) presented a paper at the National Seminar on Inventory Management, Jamshedpur, 14-15 October 1973.

Dr. D. K. Bose (*Economic Research*) participated in a seminar on "Power for industrial reconstruction of West Bengal", Calcutta, 5 May 1973. He took part in the seminar on "Indo-American Trade and Calcutta Port", Calcutta, 21-22 April 1973.

Shri G. S. Chatterjee (*National Income*) attended the Second Seminar on the Data Base of the Indian Economy, Poona, 9-11 June 1973, and chaired a session. He attended the Ninth Conference, Indian Association for Research in National Income and Wealth, Ootacamund, 28-31 January 1974, and presented a paper.

Dr. V. K. Chetty (*Planning and Regional Survey*) attended the Thirteenth Conference, Indian Econometric Society, Ahmedabad, 10-12 January 1974, and presented a paper.

Shri D. Chowdhury (*Computer Science*) attended the Site Engineers meeting of the H-400 Computer Installations, September 1973, Bangalore.

Shri B. N. Das (*Planning and Regional Survey*) participated in the Seventh Regional Science Seminar, New Delhi, 6 September 1973, held under the auspices of the Centre for the Study of Regional Development, Jawaharlal Nehru University.

Dr. D. Dasgupta (*Planning and Regional Survey*) attended the Thirteenth Conference, Indian Econometric Society, Ahmedabad, 10-12 January 1974, and presented a paper.

Shri B. Dey (*National Income*) attended the Ninth Conference, Indian Association for Research in National Income and Wealth, Ootacamund, 28-31 January 1974, and presented a paper.

Shri M. A. Gopinath and Shri S. Sotharama (*DRTC*) participated in the Fifteenth Convention of the Indian Standards Institution, Coimbatore, 18-20 December 1973. They presented papers.

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Shri A. K. Haldar (*Computer Science*) attended the (i) Seventh Annual Inter-State Conference on Sample Registration, 16-18 August 1973, New Delhi, (ii) First Meeting of the Technical Advisory Committee set up by the office of the Registrar-General of India, 29 December 1973, New Delhi.

Shri R. N. Kar (*Planning and Regional Survey*) attended the Thirteenth Conference, Indian Econometric Society, Ahmedabad, 10-12 January 1974 and presented a paper.

Shri Taresh Maitra and Shri R. K. Lahiri (*Economic Research*) presented a joint paper at the Second Seminar on the Data Base of the Indian Economy, Poona, 9-11 June 1973. Dr. N. Bhattacharyya also contributed a joint paper with Shri G. S. Chatterjee.

Dr. K. C. Malhotra (*Anthropometry and Human Genetics*) gave the inaugural address at the Anthropological Association, Tirupati University, Andhra Pradesh. He also gave seminars at the Linguistic Society of India, (Poona), Western Regional Center and S. P. College, Poona. He attended the Workshop on Social Stratification and Language Behaviour, Simla, and presented a paper.

Shri S. Matai (*Leaf Protein*) attended the Regional Seminar on Noxious Vegetation in Tropics and Sub-Tropics, New Delhi, 12-17 December 1973. He presented a paper.

Shrimati Alokannanda Mitter (*Linguistic Research*) participated in the following:

(i) Seminar on problems of hard-of-hearing children and evaluation of speech, Agartala, Tripura, 2-10 January 1974; (ii) Seminar on linguistics and linguistic methods, Calcutta, 11-17 January 1974; (iii) Seminar on Telugu phonetics, Hyderabad, 20-21 February 1974; and (iv) Seminar on speech rehabilitation of hearing-impaired children, Hyderabad, 22 February 1974. She presented papers.

Professor S. K. Mitra (*Electronics*) presided over a session of the National Seminar on Inventory Management, Jamshepur, 14-15 October 1973.

Professor M. Mukherjee (*National Income*) presided over the Ninth Annual Conference, Indian Association for Research in National Income and Wealth, Ootacamund, 28-31 January 1974.

As the Chairman of the Committee on Regional Accounts, Department of Statistics, Government of India, he and some other members of the committee met the Planning Commission and some officers of the Finance Department, Government of Tamil Nadu, at Madras on 2 February. They also met the Finance Minister and some officers of the Planning and Finance Departments, Government of Karnataka, at Bangalore on 5 February 1974.

Professor Mukherjee attended the meeting of the Committee on Regional Accounts, New Delhi, 23-24 November 1973.

He attended the meetings of the Advisory Committee on National Income and the Executive Committee, Indian Association for Research in National Income and Wealth, September 1973, New Delhi.

Professor R. Mukherjee (*Sociology*) visited New Delhi and Bangalore during 12-24 March 1974 to attend: (i) Seminar on Social Trends organised by the Indian Council for Social Science

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Research, (ii) Seminar of the University Grants Commission, (iii) Christian Institute for Study of Religion and Society.

Professor A. Neelamegham (*DRTC*) participated in the Regional Seminar on Approach to Science and Technology Plan, New Delhi, 21-23 May 1973. He was the rapporteur for the panel on National Science Information System.

Dr. P. R. Pal (*Biochemistry*) participated in the multi-disciplinary Seminar on Mental Illness and Drug Therapy, Calcutta, 23-24 March 1974.

Dr. K. S. Parikh (*Planning and Regional Survey*) attended the Thirteenth Conference, Indian Econometric Society, Ahmedabad, 10-12 January 1974, and presented a paper. He participated in a panel discussion on "Technology Forecast for the Eighties" at the IEEE Annual Convention, Bombay, 1 February 1974.

Dr. E. M. Paul, Dr. A. B. Raha, Dr. A. Ramachandra Rao and Shri K. Sikdar (*Mathematics-Statistics*) participated in the Thirty-ninth Annual Conference, Indian Mathematical Society, 28-30 December 1973, Jadavpur.

Shri C. V. Subbarao (*Library*) attended the session on "Book Production Standards". Ninth Indian Standards Convention, Coimbatore, 17-22 December 1973. He presented a paper.

Sri. Bina Roy (*National Income*) attended the Ninth Conference, Indian Association for Research in National Income and Wealth, Ootacamund, 28-31 January 1974 and presented a paper.

Dr. J. Roy (*Computer Science*) participated in the following:

- (i) Meeting of the Third Working Group, Finger Print Computerisation Committee, 17-18 August 1973, New Delhi.
- (ii) Meeting of the representatives of H-400 Computer Installations, 17 September 1973, New Delhi.
- (iii) Seminar on Survey Research Methodology, October 1973, New Delhi.
- (iv) Indian Science Congress Session, January 1974, Nagpur. He presented a paper.

Shri M. R. Saluja (*Planning and Regional Survey*) attended the Second Seminar on the Data Base of the Indian Economy organized by the Indian Econometric Society in collaboration with the Gokhale Institute of Politics and Economics, Poona, 9-11 June 1973. He presented a paper.

Sri. K. Saradamoni (*Planning and Regional Survey*) attended the Thirteenth Conference, Indian Econometric Society, Ahmedabad, 10-12 January 1974, and presented a paper.

Shri B. N. Sarkar (*Demography*) participated in a symposium organized jointly by the Sections of Statistics and Veterinary Science, at the Sixty-first session, Indian Science Congress, Nagpur, 3-9 January 1974. He presented a paper.

Dr. (Miss) A. Sen Gupta (*Family Planning*) attended a Seminar of Demographers organized by the Department of Family Planning, Government of India, New Delhi, 15-17 February 1973.

Dr. S. Sengupta (*Geology*) attended the Workshop on Quaternary Geology organized by the Geological Survey of India in August 1973. He gave a talk.



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Several staff members of the Economic Research Unit took part in the Symposium on Problems of West Bengal Economy and Planning organized by the Centre for Studies in Social Science, Calcutta, 24-27 February 1974. Four papers were presented by them.

### 10. PUBLICATIONS

The following items were published during the year:

*Sankhyā: The Indian Journal of Statistics*, the official organ of the Indian Statistical Institute:

Series A, Volume 35, Parts 2, 3 and 4; Series B, Volume 35, Parts 2, 3 and 4.

The Research and Training School issued 87 technical reports during the period, of which 41 were in the Mathematics-Statistics group and 47 were on other subjects.

The following mimeographed priced publications were brought out:

- (i) Sufficiency in some undominated statistical structures—*H. Morimoto*.
- (ii) Measures on Topological Semi-groups—*A. Mukherjee*.

### 11. SOCIETY TYPE ACTIVITIES: BRANCHES

#### 11.1 Mysore State Branch: Executive Committee

The office-bearers and members of the Executive Committee for the year 1973-74 were elected in August 1973.

*Membership:* There were 51 members at the end of the year (Life members: 10; Institutional members: 5; and ordinary members: 36).

*Examination:* The following examinations of the Indian Statistical Institute were held at the Bangalore Centre:

The selection tests for admission to the B. Stat., M. Stat. and advanced studies and also the research courses in economics. 22 July 1973.

The professional examinations in statistics—Statistician's Diploma, etc. May and November 1973.

#### *Survey and Seminars*

*Survey of Electronics Industries in the Bangalore Metropolitan Area:* The survey, conducted at the invitation of the Karnataka State Financial Corporation, involved the current status of production of electronics goods in the Bangalore area in the small-scale sector, its growth prospects and financial implication.

*Survey on Printing Industry in Bangalore City:* A survey of the printing industry in Bangalore City conducted by the Market Research and Information Service Wing of the Branch covered the existing facilities in Bangalore for printing of different items like balance sheets, diaries, books, etc., apart for general work and the potential demand.

*Survey of Living and Working Conditions of Students of Bangalore University:* This survey involving 40,000 students (Bangalore University) has been completed and the report is being prepared.

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*Seminar on Electronics Industry in Bangalore:* Over 200 delegates representing producers, consumers, bankers, government departments, scientists and technologists attended the Seminar on Electronics Industry held on 20 October 1973 under the joint auspices of the Mysore State Financial Corporation, Small Industries Service Institute and the Mysore State Branch. The Seminar was based on the report on the electronics industry (small-scale sector) prepared by the Branch. Professor M. G. K. Menon, Chairman, Electronics Commission, gave the key-note address and Shri S. M. Krishna, Minister for Industries, Mysore State, inaugurated the Seminar.

The Seminar recommended assistance in the supply of raw material, documentation, reduction of varieties and the constitution of a technical cell by financial institutions. It also advocated a quicker disposal of loan applications, the liberalisation of working capital advances and training in SQC, specially for electronics industries in the small-scale sector.

### 11.2 Bombay Branch

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

*New Course:* A new course on "Decision-making Techniques for Administration" for Government officers in Maharashtra State was started on 29 April 1974. Thirty Under Secretaries, Deputy Secretaries and Deputy Directors are attending the course.

*Admission Tests:* The Bombay Branch conducted eight admission tests on behalf of the Psychometry Research and Service Unit, Research and Training School, Indian Statistical Institute. Among the organisations for which admission tests were held may be mentioned the Indian Institute of Management, Calcutta, Hindusthan Aircrafts Ltd., Bangalore, and the Food Corporation of India, Sindri.

## 12. EIGHTIETH BIRTH ANNIVERSARY OF PROFESSOR P. C. MAHALANOBIS

The eightieth birth anniversary of the late Professor P. C. Mahalanobis was celebrated at the Indian Statistical Institute, Baranagar, on 29 June 1973.

National Professor Satyendranath Bose, F.R.S., who presided at a meeting held on the occasion, recalled the significant contribution to statistics and national planning made by Professor P. C. Mahalanobis. He was no ivory tower intellectual; in his life there was a harmonious blending of theory and practice. Recalling the humble beginning of the Indian Statistical Institute in the early nineteen thirties, Professor Bose said that few could imagine then that such a unique multi-disciplinary Institute could be built in less than three decades where students and research scientists from all over the world would come to study and work. Man is not immortal but his achievement is and the Institute, which he had built almost singlehanded against heavy odds, was an inheritance to be nurtured by the present generation of Indian scientists. The Indian Statistical Institute, Professor Bose concluded, would ever bear eloquent testimony to this great Indian.

Dr. Rama Chaudhuri, Vice-Chancellor, Rabindra Bharati University, paid glowing tributes to the memory of Professor P. C. Mahalanobis.

Recordings of some of Professor Mahalanobis's speeches on the role of statistics and recitations of Tagore's poems were played on the occasion.

An exhibition, depicting Professor Mahalanobis's life and work, was organized at "Annapali", the residence of the late Professor. The items in the exhibition included his scientific and

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literary publications, manuscripts, and letters from eminent persons like Rabindranath, Albert Einstein, Jawaharlal Nehru, C. V. Raman, Jamini Roy, Brojen Seal, Bertrand Russel, Neils Bohr, Sigmund Freud and Ronald A. Fisher. The exhibition reflected Mahalanobis's fruitful endeavour in the field of science and culture for more than five decades.

Exhibitions on the research activities of the Institute were also organised on the occasion in the different research units (in statistics and natural and social sciences) of the Institute. A symposium on Professor Mahalanobis's contribution to science and culture was held under the Chairmanship of Dr. R. K. Mukherjee.

### 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. (Hon.) (Calcutta University and ISI), Bar-at-Law, (Former President, 1945-1964) (for a term of 5 years with effect from November 1969); 2. Shri K. P. S. Menon\*\*, I.C.S. (Retired) (for a term of 5 years with effect from November 1971); 3. Shri S. C. Roy\*\*, M.A., B.L., Director, NICCO of India Ltd., Calcutta (for a term of 5 years with effect from November 1972).

*Vice-Presidents:* 1. Shri Vishnu Sahay, I.C.S., (Retired), Ex-Governor of Assam and NEFA; 2. Shri S. Dutt, I.C.S. (Retired), Indian Ambassador to Bangladesh.

### THE COUNCIL

*Chairman:* Shri P. N. Haksar, M.Sc., Bar-at-Law, I.F.S. (Retired).

*Vice-Chairmen:* 1. Shri Ajit Dasgupta (Calcutta area); 2. Dr. Jagjit Singh, Chairman and Managing Director, Indian Drugs & Pharmaceuticals Ltd. (Delhi area).

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

*Secretary:* Dr. C. R. Rao, M.A., Ph.D., Sc.D. (Cantab.), F.N.A., F.R.S.

*\*\*\*Joint Secretaries:* 1. Dr. D. Dutta Majumdar, Professor, Electronics Division (Calcutta); 2. Dr. K. S. Parikh, Professor, Planning Unit, Indian Statistical Institute, New Delhi (Delhi).

### MEMBERS OF COUNCIL

1. Dr. B. P. Adhikari, Dr.es.Sc. (Paris), Professor, Indian Statistical Institute, 2. Dr. Debabrata Basu, Research Professor, Indian Statistical Institute, 3. Dr. Deb Kumar Bose, Professor, Indian Statistical Institute, 4. Dr. P. K. Bose, M.Sc., Ph.D., Pro-Vice Chancellor, Calcutta University, 5. Dr. T. A. Davis, Professor, Indian Statistical Institute, 6. Dr. S. W.

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\*Died on 4 February 1974.

\*\*Former Chairmen.

\*\*\*Election in these offices kept in abeyance in terms of the decision of Annual General Meeting of 31 October 1973, and elected later in the Adjourned Annual General Meeting held on 30 March 1974.

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Dharmadhikari, M.Sc., Ph.D. (California), Department of Statistics, M.S. University of Baroda, 7. Dr. Ambarish Ghosh, Dr.es.Sc., (Aix-Merzeilles), Professor, Indian Statistical Institute, 8. Shrimati Nirmal Kumari Mahalanobis, 9. Dr. Ashok Mitra, Ph.D., National Fellow, Indian Council of Social Science Research, 10. Dr. T. V. Hanurav, Dean of Studies, Indian Statistical Institute, 11. Dr. V. S. Huzurbazar, Professor and Head, Department of Mathematics and Statistics, University of Poona, 12. Shri S. Naqvi, Gokhale Institute of Politics and Economics, Poona, 13. Dr. J. Roy, Professor, Indian Statistical Institute, 14. Professor S. S. Srihande, Ph.D. Head of the Department of Mathematics, University of Bombay, 15. Dr. T. N. Srinivasan, Ph.D., Indian Statistical Institute, 16. Shri S. M. Sundara Raju, M.Sc., Chief, SQC Division, Indian Statistical Institute.

*Government nominees on the Council (Rule 6.1(b) (f)):* 1. Cabinet Secretary, Cabinet Secretariat, Government of India (Shri B. D. Pandey, I.C.S., or his representative); 2. Joint Secretary, Ministry of Finance, Department of Expenditure, Government of India (Shri S. K. Ghosh); 3. Director, Central Statistical Organisation and ex-officio Joint Secretary, Department of Statistics (Shri V. R. Rao).

*Co-opted Members (Rule 6.1(c)):* Professor Moni Mukherjee, Director, Research and Training School, Indian Statistical Institute.

*Ex-officio Members (Rule 6.1(d)) Secretary of each local branch:* 1. *Secretary, Bombay Branch:* Professor P. N. Phutane; 2. *Secretary, Kerala Branch:* Dr. (Miss) A. George; 3. *Secretary, Mysore State Branch:* Professor Srinagabhushana.

### *Additional Vice-Chairmen*

1. *Chairman, Bombay Branch:* Shri S. K. Wankhede; 2. *Chairman, Kerala Branch:* Professor Samuel Mathai; 3. *Chairman, Mysore State Branch:* Shri H. C. Ramanna.

### MEMBERS OF GOVERNING BODY OF THE RESEARCH AND TRAINING SCHOOL: 1973-74

1. Shri P. N. Haksar, Chairman (*ex-officio*); 2. Dr. C. R. Rao, Secretary (*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 (*Federation of Indian Chambers of Commerce and Industry*); 6. Shri V. R. Rao, Director, Central Statistical Organisation (*Government of India*); 7. Shri S. K. Ghosh, Joint Secretary, Ministry of Finance, Financial Adviser to the Department of Statistics (*Government of India*); 8. Shri V. V. Divetia, Adviser, Department of Statistics, Reserve Bank of India (*Reserve Bank of India*); 9. Dr. V. S. Huzurbazar, Professor and Head, Department of Mathematics and Statistics, University of Poona (*Inter-University Board of India and Ceylon*); 10. Dr. P. V. Sukhatme (*Indian National Science Academy*); 11. Dr. D. Basu; 12. Dr. T. V. Hanurav; 13. Dr. B. P. Adhikari; 14. Dr. A. B. Chowdhury, M.B.B.S., D.Phil., F.A.M.S., F.N.I., Director, School of Tropical Medicine; 15. Dr. J. C. Ray, M.D., F.N.A.; 16. Dr. B. R. Seshachar, D.Sc., F.N.A., President, Indian National Science Academy (*Council of the Indian Statistical Institute*).

### LIST OF MEMBERS OF DIFFERENT COMMITTEES (FOR A TERM OF ONE YEAR FROM 30 DECEMBER 1973)

#### 1. Finance Committee of the Governing Body

1. Chairman of the Institute (*ex-officio*); 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 R.T.S.; 4. & 5. Two representatives of the Government of India (Shri V. R. Rao and Shri S. K. Ghosh); 6. Representative of Reserve Bank of India on the Government Body (Shri V. V. Divatia); 7. & 8. Two representatives to be elected by Governing Body from amongst themselves (Dr. A. B. Chowdhuri and Shri A. K. Ganguli).

2. *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. Treasurer of the Institute (*ex-officio*) (Dr. P. K. Bose); 5. Dr. Jagjit Singh; 6. Dr. B. P. Adhikari; 7. Dr. Bhabatosh Dutta; 8. Shri S. C. Roy, Honorary Vice-President of the Institute; 9. Dr. J. Roy; 10. Shri S. M. Sundara Raju; 11. and 12. Two representatives nominated by the Government of India—Secretary, Department of Statistics, and Joint Secretary, Ministry of Finance; and 13. Chief Accounts Officer (*ex-officio*), *non-member Secretary*.

3. *Examinations Committee of the Institute*: (For a term of one year from 29 Desember 1973): 1. Dr. P. K. Bose, Pro-Vice Chancellor, University of Calcutta; 2. Dr. V. S. Huzurbazar, Professor and Head, Department of Mathematics and Statistics, University of Poona; 3. Dr. J. Roy; 4. Professor D. D. Joshi, Professor of Statistics, Institute of Social Sciences, University of Agra; 5. Shri V. R. Rao, Director, Central Statistical Organisation, Government of India, New Delhi; and 6. Shri S. Raja Rao, Director, National Sample Survey Organisation (Survey Design and Data Processing), Calcutta. Two representatives of the Governing Body; 7. Dean of Studies, Research and Training School, and 8. Shri S. Sengupta, *Member-Secretary*.

4. *Journal Committee of the Institute*

(i) *Committee for Sankhyā, Series A*

1. Dr. R. R. Bahadur; 2. D. Basu; 3. Dr. V. S. Huzurbazar; 4. Dr. K. R. Parthasarathi; 5. Dr. S. S. Srikhande and 6. Dr. Maloy Ghosh.

*Co-editors*: Dr. Maloy Ghosh and Dr. K. R. Parthasarathi.

(ii) *Committee for Sankhyā, Series B*

1. Dr. T. V. Hanurav; 2. Dr. Sujit Kumar Mitra; 3. Shri K. G. Ramamurthi; 4. Dr. J. Roy and 5. Dr. Maloy Ghosh.

*Co-editors*: Dr. Maloy Ghosh and Dr. Sujit Kumar Mitra.

*Advisers for Sankhyā, Series A and B*

1. Dr. R. R. Bahadur; 2. Dr. D. Basu; 3. Dr. V. S. Huzurbazar; 4. Dr. S. S. Srikhande; 5. Shri K. G. Ramamurthi; 6. Dr. J. Roy and 7. Dr. J. Sethuraman.

(iii) *Committee for Sankhyā, Series C—Parts 2 and 4 (Quantitative Economics)*

1. Professor V. M. Dandekar; 2. Dr. L. Hurwicz; 3. Dr. N. S. Iyengar; 4. Dr. B. S. Minhas; 5. Professor M. Mukherjee; 6. Dr. A. Rudra; 7. Dr. T. N. Srinivasan; and 8. Dr. P. K. Bardhan.

*Co-editors*: Dr. T. N. Srinivasan and Dr. P. K. Bardhan.

*Advisers*: 1. Professor V. M. Dandekar; 2. Dr. L. Hurwicz; 3. Dr. N. S. Iyengar; 4. Dr. B. S. Minhas; 5. Professor M. Mukherjee, and 6. Dr. A. Rudra.

## INDIAN STATISTICAL INSTITUTE

(*fr*) *Committee for Sankhyā, Series C, Parts 1 and 3 (Sample Survey, Theory and Practice)*

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## Annexure 2: List of Scientific Papers Published

### A. MATHEMATICS AND STATISTICS

- P1 GHOSH, M. (with Sen, P. K.) (1973): A law of iterated logarithm for one sample rank order statistics and an application. *Ann. Stat.*, 1, 567-568.
- P2 — (1973): Nonparametric procedures for symmetric location parameter populations. *Ann. Stat.*, 1, 773-779.
- P3 — (with Sen, P. K.) (1973): A Chernoff-Savage representation of rank order statistics for stationary  $\theta$ -mixing processes. *Sankhyā, A*, 35, 153-172.
- P4 — (with Sen, P. K.) (1973): Asymptotic properties of some sequential nonparametric estimators in some multivariate models. *Proc. 3rd International Symposium on Multivariate Analysis*, 299-316.

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- P5 KRISHNAN, T. (1973): On linear combination of binary item scores. *Psychometrika*, 38, 291-304.
- P6 RAO, C. R. (1974): *Linear Statistical Inference and its Applications*. Second Ed. John Wiley, New York.
- P7 — (with Kagen, A. M. and Linnik, Yu. V.) (1974): Characterisation Problems of Mathematical Statistics. John Wiley, New York.
- P8 — (1973): Unified theory of least squares. *Communications in Statistics*, 1, 1-8.
- P9 — (1973): Some combinatorial problems of arrays and applications to design of experiments. *A Survey of Combinatorial Theory and Applications*. (North Holland), Chapter 29, 349-360.
- P10 — (1975): Representation of best linear unbiased estimators in the Gauss-Markoff model with a singular dispersion matrix. *Jour. Multivariate Analysis*, 3, 276-292.
- P11 — (with Mitra, S. K.) (1973): Theory and application of constrained inverse matrices. *SIAM Jour. App. Math.*, 24, 473-488.
- P12 — (with Kagen, A. M., and Linnik, Yu. V.) (1973): Extension of Darmois-Skitovich theorem to functions of random variables satisfying an addition theorem. *Communications in Statistics*, 1, 471-474.
- P13 — (with Rao, D. C., and Chakravorthy, R.) (1973): The Generalized Wright's model. *Genetic Structure of Populations*, 55-59. Ed. Morton. Univ. Press, Hawaii.
- P14 RAO, K. P. S. B. (with Rao, M. B., and Rao, C. R.) (1973): Charges on Boolean algebras and almost discrete spaces. *Mathematika*.
- P15 — (with Rao, M. B.) (1973): Cardinalities of Banach spaces. *Jour. Ind. Math. Soc.*, 37, 347-349.
- P16 — (with Rao, M. B., and Rao, S. B.) (1973): A generalization of Birkhoff's theorem on matrices. *Matrix and Tensor Quart.*, 23.
- P17 RAO, P. S. S. N. V. P. (1973): On generalized inverses of doubly stochastic matrices. *Sankhyā*, A, 35, 103-105.
- P18 SUBRAMANIAN, R. (1973): On a generalization of martingales dues to Blake. *Pac. Jour. Math.*, 48, 275-278.
- P19 — (1973): On a conjecture on singular martingales. *Jour. Math. Ana. App.*, 43, 455-458.

B. ANTHROPOMETRY AND HUMAN GENETICS

- P20 BASU, A. (1973): Marriage distance among the Santals. *Jour. Biosoc. Sc. (Lond.)*, 5, 3, 367-376.
- P21 — (with Ghosh, A. K., Biswas, S. K., and Ghosh, R.) (1973): *Physical anthropology and its extending horizons*. S. S. Sarkar Memorial Volume.
- P22 DAS, S. R. (with Mukherjee, B. N. and Das, S. K.) (1971): Genetic variants of lactate dehydrogenase in India. *Jour. Indian Anthropol. Soc.*, 6, 135-144.
- P23 — (with Mukherjee, B. N., Das, S. K. and Malhotra, K. C.) (1972): Four types of genetic variants of LDH found in India. *Hum. Hered.*, 22, 264-270.

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- P24 DAS, S. R. (with Mukherjee, B. N. and Das, S. K.) (1973): Caste variation on the distribution of placental alkaline phosphatase gene among the Hindus of West Bengal. *Am. Hum. Biol.*, London, 1, 13-20.
- P25 — (with Das, S. K. and Dawan, C. S.) (1973): Haemoglobin Barts in Bengali Hindu case studied in Calcutta. *Hum. Hered.*, 23, 381-385.
- P26 — (1973): Test for incomplete penetrance of the dominant allele in the heterozygotes in the unifactorial autosomal diallelic inheritance. *Jour. India. Anthrop. Soc.*, 8, 1-12.
- P27 MALHOTRA, K. C. (with Bhanu, B. V.) (1973): *A t d* angle among the Izhavas of Kerala. *L. Anthropologi*, 19, 332-339.
- P28 MUKHERJEE, B. N. (with Das, S. K. and Kellerman, G.) (1974): Study of some serum group systems in the Mahishyas and the Muslims of 24 Parganas district, West Bengal. *Humangenetik*, 21, 27-32.
- P29 — (with Das, S. K.) (1972): A direct filter paper technique of blood collection for starch gel electrophoretic study of LDH variants. *Jour. Indian Anthrop. Soc.*, 7, 167-170.
- P30 — (with Das, S. K. and Dash Sharma, P.) (1973): Study of LDH variants amongst the Mundas in Ranchi District, Bihar, India. *Humangenetik*, 19, 285-287.
- P31 — (1973): An estimation of RH-negative incidence in the Bengali Hindus. *Jour. Indian Anthrop. Soc.*, 8, 77-82.
- P32 PAKRASI, K. (with Halder, A. and Basumallick, T.) (1973): Biosocial characteristics of the mentally disordered: an exploratory study. *Ind. Jour. Soc. Work.* (Bombay), 34, 1, 75-88.
- P33 — (1973): On methods of infanticide in India. *Bull. Socio-Economic Research Inst.* (Calcutta), 5, 1 & 2 (1971), 58-63.
- P34 — (with Halder, A.) (1973): The sex ratio at birth in India by parity and region. *Acta Medica Auxologica* (Italy), 5, 1, 41-55.
- P35 — (with Halder, A.) (1973): Interval between age at marriage and first birth. *Social Biology*, 20, 1, 103-110.
- P36 ROY, MONOMI (with Das, S. R., and Chatui, S. S.) (1973): Blood group genetic survey among the Kaora caste of 24 Parganas district in West Bengal. *Jour. Indian Anthrop. Soc.*, 8, 83-86.

#### C. BIOMETRY

- P37 BOSE, TAPAS (1973): Effects by beryllium sulfate on the embryonic development and rhythmic pattern of subsequent R N A synthesis in *Lymanaea* sp. *Ind. Jour. Exptl. Biol.*, 11, 538.
- P38 DAS, B. C. (1973): Linked cross-sectional study of age related changes in human blood chemistry, haematology and circulatory function. *Indian Jour. Gerontology*, IV, 1 & 2, 24.
- P39 — (with Sharma, J. Sakuntalala) (1973): Age-related trends in the blood chemistry and haematology of the Indian carp (*Catla-Catla*). *Indian Jour. Gerontology*, 4, 3 & 4, 53.
- P40 — (1973): Effect of density on sudeuol of Indian fresh water carp during the first two weeks of life. *Aquaculture*, 1, 199-212.

#### D. CROP SCIENCE

- P41 DAVIS, T. A. (1973): Avian biology: a review. *Forma et Functio* 6: 383.



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- P42 DAVIS, T. A. (1974): Further notes on asymmetry of reindeer antlers. *Forma et Functio*, 7.
- P43 — (with Ghosh, S. S. and Ghose, M.) (1973): Morphology and anatomy of juvenile *elaeis guineensis* (Arecaceae). *B. M. Jährl Commemoration volume*.
- P44 — (with Mathai, A. M.) (1974): Constructing the sunflower head. *Mathematical Bio-science*, 20.
- P45 — (1974): Selection of nesting trees and the frequency of nest visits by Baya weaver bird. *Jour. Bombay Nat. Hist. Soc.*, 71.
- P46 — (with Ghose, M.) (1973): Ontogeny and structure of stomata in *Coccoloba nucifera* L. *Jour. Indian Bot. Soc.*, 52.

E. DEMOGRAPHY

- P47 MALAKER, C. R. (1973): Construction of nuptiality tables for the single population in India, 1901-31. *Demography*, 10, 525-535.
- P48 PAKRASI, K. (with Malaker, C. R.) (1973): Interval between age at marriage and first birth in India. *Social Biology*, 20, 103-110.
- P49 RAMAN, M. V. (with Sen Gupta, B.) (1973): A note on classification of districts of West Bengal according to health status. *Indian Jour. Public Health*, 17, 9-15.
- P50 SEN GUPTA, B. (1973): The birth table and its construction for Belgium. *Jour. American Stat. Assoc.*, 68, 341, 44-45.

F. DOCUMENTATION AND LIBRARY SCIENCE

- P51 BHATTACHARYYA, G. (1973): Towards an integrated theory of notational language. *Library science with a slant to documentation*, 10; Paper U.
- P52 — (1973): A critique of the "General Principles" in AACR. *Library science with a slant to documentation*, 10; Paper W.
- P53 — (1974): Subject headings up to the middle of 19th century: a generalised view. *Library science with a slant to documentation*, 11; Paper F.
- P54 — (1974): A general theory of subject headings. *Library science with a slant to documentation*, 11; Paper E.
- P55 GOPINATH, M. A. (1973): Colon classification for macro documents in chemistry. *Library science with a slant to documentation*, 10; Paper Y.
- P56 — (1974): Standards for use in the planning of library and documentation systems: Comparative data from India, UK, USA, Canada. *Eleventh DRTC Annual Seminar*. Paper E.
- P57 — (1973): Guiding principles for the choice of index terms for the subject index of a book: a facet analysis approach. *Fifteenth ISI Convention*. Coimbatore.
- P58 — (with Seetharama, S.) (1974): Technology transfer mechanisms: A study of inter-national and national agencies. *Library science with a slant to documentation*, 11; Paper G.
- P59 NIZLAMEGHAN, A. (1973): Basic subject. *Library science with a slant to documentation*, 10; Paper F.

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- P60 NERLAMBHAM, A. (1973): Primary basic subject by fission. *Library science with a slant to documentation*, Paper G.
- P61 — (1973): Primary basic subject by distillation. *Library science with a slant to documentation*, 10; Paper H.
- P62 — (1973): Primary basic subject by fusion. *Library science with a slant to documentation*, Paper J.
- P63 — (1973): Primary basic subject by clustering. *Library science with a slant to documentation*, 10; Paper K.
- P64 — (1973): Non-primary basic subject. *Library science with a slant to documentation*, 10; Paper L.
- P65 — (1973): Agglomerate basic subject. *Library science with a slant to documentation*, 10; Paper M.
- P66 — (1973): Basic subjects and their arrangement: A summary. *Library science with a slant to documentation*, 10; Paper B.
- P67 — (1973): Basic subject: A selected bibliography. *Library science with a slant to documentation*, 10; Paper Q.
- P68 — (1973): Doctoral candidates: Orientation in the use of documents and documentation service: Report on a work. *Library science with a slant to documentation*, 10; Paper X.
- P69 — (1974): Systems approach to the study of subject heading. *Library science with a slant to documentation*, 11; Paper D.
- P70 — (1974): Interdisciplinary research and classification problems: a case study. *Library science with a slant to documentation*, 11; Paper A.
- P71 — (1973): Guiding principles for presentation of ideas in technical writing: a system approach. *Fifteenth ISI Convention*. Coimbatore.
- P72 — (with Seetharama, S.) (1973): Colon classification for macro-documents in mathematics. *Library science with a slant to documentation*, 10; Paper R.
- P73 — (with Gopinath, M. A.) (1973): Speciator of kind 2: with special reference to social sciences. *Library science with a slant to documentation*, 10; Paper T.
- P74 — (with Gopinath, M. A.) (1974): Planning an integrated National Information System for communication of ideas: Some factors and features: A system approach. *Eleventh DRIC Annual Seminar*, Paper A.
- P75 — (with Gopinath, M. A. and Seetharama, S.) (1973): Colon classification, edition 7: Schedule of basic subjects. *Library science with a slant to documentation*, Paper F.
- P76 — (with Seetharama, S. and Gopinath, M. A.) (1973): Planning of library and documentation systems: A model plan for central and regional units of a system. *Library science with a slant to documentation*, 10; Paper 28.
- P77 — (1973): Planning of library and documentation systems: A model plan for central and regional units of a system. *Eleventh DRIC Annual Seminar*. Paper G.
- P78 RAVICHANDRA RAO, I. K. (1973): Obsolescence and utility factors of periodical publications: a case study. *Library science with a slant to documentation*, 10; Paper S.

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- P79 RAWCHANDRA RAO, I. K. (1974): Planning and costing of a local abstracting periodical. *DRTC Annu alEleventh Seminar*. Paper C.
- P80 SUBBA RAO, C. V. (1973): Ranganathan—an intimate view. *Herald Library Science*, 12, 149-156.
- P81 — (1973): Dr. Ranganathan—the patriarch of library science. *IASLIC Bulletin*, 18, 43-50.
- P82 — (1973): Standards for reference books, a case study of Indian Management Directory, 1969. *Ninth Indian Standards Convention*. Session 3, Book Production Standards, Paper B4, 13 pages.

G. ELECTRONICS, COMPUTERS AND COMMUNICATION SCIENCE

- P83 BHATTACHARYYA, P. (with Ghosh, A.) (1972): On the boundary layer inside the conical surface of a hydrocyclone. *Bull. Calcutta Math. Soc.*, 4.
- P84 DAS, J. (1974): A study on effect of temperature on magnetic memory core parameters. *Indian Jour. Physics*, 48, 1.
- P85 DUTTA MAJUMDER, D. (with Datta, A. K. and Ganguli, N.) (1973): Some studies on acoustic features of human speech in relation to Hindi speech sounds. *Indian Jour. Physics*, 47, 10.
- P86 — (with Das, J.) (1973): Ferrite core memory system for non-destructive readout operation. *Electronic Engineering*, 45, 542, London.
- P87 — (with Das, J.) (1974): A comparative study of magnetic memories in relation to thin films. *Proc. IX Annual CSI Conf.*, Madras.
- P88 — (1974): A note on the problem of thin film memory design. *Proc. IX Annual CSI Conf.*, Madras.
- P89 — (with Das, J. and Chatterjee, N.): On the properties of error correcting codes for improving computers' memory reliability. *IETE Journal*, 253-258, Delhi.
- P90 — (with Kumar, A.) (1973): Computer implementation of digital techniques and spectral estimation. *IETE Journal*, 19, 10, October, 576-581.

H. EMBRYOLOGY

- P91 BRAHMACHARY, R. L. (with De, Anjana) (1973): PHA induced inhibition of DNA synthesis and cleavage in *Limnaea* eggs. *Cell Differentiation*, 2, 151.
- P92 — (1973): Mol-embryol of invertebrates. *Acad. Press*, 10.

I. GEOLOGY

- P93 CHATTERJEE, S. (1974): A rhynchosaur from the Upper Triassic Maleri Formation of India. *Philosophical Trans. Royal Soc.*, London. B. 267, 884, 209-261.
- P94 — (with Roychowdhury, T.) (1974): Triassic Gondwana vertebrates from India. *Indian Jour. Earth Sciences*, 1 (1): 96-112.
- P95 JAIN, S. L. (1974): *Indocoelacanthus robustus* n. gen., n. sp. (Coelacanthidae, Lower Jurassic), the first fossil coelacanth from India. *Jour. Paleontology* (U.S.A.), 48(1): 49-62.

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J. LEAF PROTEIN

- P96 MATAI, S. (with Bagchi, D. K. and Chanda, S.) (1973): Optimal seed rate and fertilizer dose for maximum yield of extracted protein from the leaves of mustard (*Brassica nigra* Koch) and turnip (*Brassica rapa* L.). *Indian Jour. Agric. Sci.*, 43(2); 165-169.
- P97 — (with Bagchi, D. K.) (1974): Some promising legumes for leaf protein extraction. *Science and Culture*, 40, January, 34-37.

K. PLANNING, ECONOMIC STATISTICS AND ECONOMETRICS

- P98 BARDHAN, P. K. (1973): On costs of foreign borrowing. *American Economic Review*.
- P99 — (1973): Variation in agricultural wages. *Economic and Political Weekly*.
- P100 BHAT, L. S. (1973): Regional development—some dimensions of the concept with special reference to planning in India. *Indian Jour. Regional Science*.
- P101 BHATTACHARYA, N. (with Chatterjee, A. K.) (1974): Some economic aspects of jute industry workers in greater Calcutta. *Bull. Socio-Economic Research Institute, Calcutta*, (1971) 5, 1-2, 64-69.
- P102 BOSE, D. K. (with Bose, S.) (1972): An algorithm for computing the von-Neumann balanced growth path. *Econometrica*, 40, 4, 763-766.
- P103 — (1973): Plan implementation: problems and prospects for the Fifth Plan. Madras Institute of Development Studies. 152.
- P104 CHATTERJEE, A. K. (with Dutt, K. and Dasgupta, R.) (1973): Bangladesh Economy: a analytical study. People's Publishing House, 267.
- P105 — (1973): Productivity in selected manufacturing industries, 1946-1965. *Economic and Political Weekly*, VIII, 47, Review of Management, November 24, 107-116.
- P106 DAS, B. N. (with Sarkar, A. K.) (1972): Rural area development: Karnal area—a case study. *Indian Jour. Regional Science*, IV, 2.
- P107 JAIN, L. R. (with Iyengar, N. S.) (1973): Projection of household expenditure in India. *Jour. Agricultural Economics*.
- P108 — (1973): On comparing levels of living in different regions. *Economic and Political Weekly*.
- P109 — (with Tendulkar, S. D.) (1973): Analysis of occupational differences in consumer expenditure pattern. *Sankhyā*, B, 35, 2.
- P110 LAHIRI, R. K. (1973): Scrap the new strategy. *Econ.*, 3, 4, 6-7.
- P111 MAITRA, T. (1973): Use of statistics in economic research. *A Guide to Research in Economics*. 123-147. Madras Institute of Development Studies.
- P112 MAITY, P. (with Sengupta R.) (1973): A note on the possibility of decentralisation in a model of allocation of resources. *Management Science*, 19, 1459-1461.
- P113 — (1973): Factor price equalisation theorem in linear programming. *Jour. International Economics*, 3, 367-378.
- P114 MALLELA, P. (with Nagesh, Revankar) (1972): The power of an F-test in the context of a structural equation. *Econometrica*.

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- P115 MUKHERJEE, M. (1973): Sources of growth of the Indian economy. *Sankhya*, 35, 2, B, 133-140, dedicated to the memory of Professor P. C. Mahalanobis.
- P116 — (1972): Prasant Chandra Mahalanobis. *Indian Jour. Labour Economics*, XV, 1-2, 14-32.
- P117 — (1973): On Mahalanobis models. *SCIMA, Jour. Management Science and Applied Cybernetics*, 2, 3, 144-149.
- P118 — (with Bhattacharya N., and Chatterjee, G. S.) (1973): Poverty in India: measurement and amelioration. *Commerce, Economic Studies X, 25 years of Independence—A Survey of Indian Economy*, 211-236.
- P119 — (with Rao, D. S. P.) (1973): On consistent inter-group comparisons of purchasing power of money. *Review of Income & Wealth*, XIX, 35-48.
- P120 — (with Bhattacharyya, N. and Chatterjee, G. S.) (1974): Poverty in India: measurement and amelioration. Commerce Publications Division, 73.
- P121 PAL, M. N. (1973): Regional studies and research for consistent and optimal plan formation: the need for a right kind of orientation. *Indian Jour. Regional Science*, V, 1-23.
- P122 — (1974): Regional information, regional statistics and regional planning in India. "Regional Information and Regional Planning"—Kuklinski. A. (ed.), 6 UNRISD/MOUTON Regional Planning Series, The Hague, 291-385.
- P123 — (with Chattopadhyay, R. N.) (1972): Some comparative studies on the construction of composite regional indices. *Indian Jour. Regional Science*, IV, 132-142.
- P124 PARIKH, K. S. (1973): More than rhetoric. Special Issue on Mass Transport. *Seminar*.
- P125 — (1973): Transport policy: perspective and prescription. *Round Table*.
- P126 SARADAMONI, K. (1974): Harijans, poverty and inequality. *Mainstream*.
- P127 — (1973): Positive role for joint sector. *Industrial and Engineering Annual*.
- P128 — (1973): Agrestic slavery in Kerala in the nineteenth century. *Indian Economic and Social History Review*.
- P129 — (1973): Harijans fight for dignity. *Mainstream, Annual Number*.
- P130 SRINIVASAM, T. N. (with Bhagwati, Jagdish) (1973): The general equilibrium theory of effective protection and resource allocation. *Jour. International Economics*, August.
- P131 — (1973): Tax evasion: a model. *Jour. Public Economics*, 2, 339-346.
- P132 TENDULKAR, S. D. (1974): Planning for growth, redistribution and self-reliance in the Fifth Five Year Plan published in two parts in *Economic and Political Weekly*.
- P133 — (1974): Draft Fifth Plan and the removal of poverty. *Economic and Political Weekly*.

L. PSYCHOMETRY

- P134 BANERJEE, S. N. (1973): A study of projective patterns of some physically handicapped children. *Behaviorometric*, 3, 1, 33-36.
- P135 BASUMALLIK, TAPAN (with Banerjee, Debabrata and Banerjee, Srilekha) (1973): A study in the attitudes of unemployed worker. *Bull. Socio-economic Research Institute*, 5, 56-57.

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- P136 BHATTACHARYA, K. P. (with Chatterjee, S., and Mukherjee, M.) (1973): The effect of change of activity in repetitive work. *Psychological Studies*, 18, 1, 47-49.
- P137 CHATTERJEE, S. (with Mukherjee, M., Ganguly, D. and Ghosh, D.) (1972): An investigation into the validity of scientific knowledge and aptitude test. *Manas*, 19, 2, 131-139.
- P138 — (with Mukherjee, M., Ramchandran, A.) (1973): Prediction of scholastic achievement in two major streams of study. *Indian Jour. Psychology*, 10, 2, 70-74.
- P139 MUKHERJEE, M. (with Mitra, S. K. (1972): Relation between certain biographical aspects, aptitude and achievement in technical stream—An experimental investigation. *Behavior-metric*, 2, 2, 70-76.
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- P141 — (with Chakraborty, S. N. and Hassan, M. K.) (1973): Effect of sex, urbanisation and caste upon authoritarianism. *Educational and Psychological Research Jour.*, 1, 1, 6-10.

### M. SOCIOLOGY

- P142 BUSWAS, Suhas Kumar et al (eds.) (1973): Physical anthropology and its extending horizons. S. S. Sarkar Memorial Volume; Calcutta, Orient Longmans & Co.
- P143 CHAKRABARTI, PRAFULLA (1973): Some observations on the pilgrims and their pilgrimage: a case study on Tarakaswar, West Bengal. *Human Events*, Calcutta, 7, 17-29.
- P144 MUKHERJEE, RAMKRISHNA (1973): What is to be done? *Econ* (Forum of Economic Studies), West Bengal, 3, 2, 8-13.
- P145 — (1973): On the mode of social research. *Indian Jour. Sociology*, New Delhi, 3 (1 & 2), 55-68.
- P146 — (1973): Indian sociology: historical development and present problems. *Sociological Bulletin*, New Delhi, 22, 1, 29-58.
- P147 — (1973): Sociology and 'developing societies': some observations (with special reference to India). *International Jour. Contemporary Sociology* (USA), 9, 2-3, 132-147.
- P148 — (1973): Family planning in social and economic development. *Demography India*, New Delhi, 2 (1), 121-130.
- P149 — : The social background of Bangladesh, *Internationalism and Revolution in South Asia*. Gogh, Kathleen and Sharma, Hari P. eds., USA, 399-418.
- P150 — (1974): Nation-building and state-formation in Bangladesh, Kothari, R. ed., *State and Nation-Building: A Third World Perspective*. New Delhi, Orient Longmans & Co.

### N. STATISTICAL QUALITY CONTROL

- P151 CHAKRABORTY, T. K.: Vendor quality development. *BSP Journal*, Special Number of 11th Metallurgists Day.
- P152 PILLAI, K. SANKARA (1973). Increasing loom-shed efficiency through SQC techniques. *Indian Textile Jour.*, 169-173.
- P153 SAPRE, M. N.: Heuristic programming: Management in Government. *Jour. Dept. of Personnel & Adm. Reforms*, Government of India, 142-151.

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- P154 SREENVASAN, N. S. (with Setty, C. A.): Quality programme: a view point for management. *Special Commemorative Souvenir*, Indian Association for Quality & Reliability, Hyderabad Branch.
- P155 — (1973): Quality control—some view points, special supplement. *Deccan Chronicle*, Indian Association for Quality & Reliability, Hyderabad Branch.
- P156 — (1973): Case studies on practice of QC. *QR Link*.
- P157 — (with Setty, C. A.) (1974): Case studies on practice of QC. *OR. Jour. Indian Assocn., Quality & Reliability*, Bangalore.
- P158 — (with Setty, C. A.) (1974): Organising for quality. *Defence Manager Jour.*, Institute of Defence Management, Hyderabad.

O. THEORETICAL PHYSICS

- P159 BANDHYOPADHYAY, P. (1973): On a unified theory of electromagnetism and weak interaction. *International Jour. Theoretical Physics* (U.K.), 8, 323.
- P160 — (with Raychaudhuri, P.) (1973): Weak interaction and the self-consistent theory. *Lettere al Nuovo Cimento*, 1, 9.
- P161 — (1973): Dual parton model, PCAC and the Goldberger-Trieman Relation. *Particles and Nuclei* (USA).
- P162 — (with Raychaudhuri, P. and De, S. S.) (1973): Dual parton model and the process in the forward and backward regions. *Particles and Nuclei* (USA).
- P163 — (with Raychaudhuri, P. and De, S. S.) (1973): Dual parton model and the photo-production of pseudoscalar and vector mesons in the high energy region. *Ann. Physics* (USA), 80, 142.
- P164 — (with Palari, K. and Das, A.) (1973): Dual parton model and the deep inelastic neutrino-nucleon scattering. *Lettere al Cimento*.

### PART III

#### Statement of Accounts and Auditors' Report for the Year 1973-74

#### AUDITORS' REPORT

We report that we have audited the Balance Sheet as at 31st March, 1974, of

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

signed by us under reference to this report and the Income & 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 Survey which is a Government organisation.

The separation took place with effect from 1st June, 1972.

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 & Expenditure Account for the year ended 31st March, 1974 and the Balance Sheet as at that date will not give a true and fair view to the extent to this unworked out position.

#### BALANCE SHEET

##### 1. Fixed Assets

(a) Asset Registers were not maintained for Land Development, Buildings, Overbridges, Sheds and Structures, H. T. Electricity and HTEI for UNTAA. Register for land though maintained did not give in many cases the value 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 accounts. Registers for other Fixed Assets, though maintained, leave much scope for improvement as such:

- (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 officer concerned regarding the existence and condition of the movable assets as at 31st March, 1974 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. However, it is understood that the Institute is having a quantitative list of Furnitures and Equipments in possession of NSSO, Administrative Officer and Assistant Secretary of the Institute by his office memo under C4136 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 Sheet 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 the removal of deficiencies in the maintenance of Asset Registers. Though the suggestion of the Committee were adopted by the Council, the same does not appear to have been carried out since then. The matter should be looked into immediately and all necessary steps should be taken by the Institute.

(d) Land: In respect of the following lands, Possession Certificate for Items I-IX and Grant Certificate for Item 'X' were produced before us for the purpose of verification.

No Deed of Purchase or Deed of Lease duly stamped and registered was produced before us. As suggested by the previous auditors, 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 properties, viz.,

- (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,
- (vii) 202, Barrackpore Trunk Road,
- (viii) in "Village Makatpur,"
- (ix) Farm Land,
- (x) Bangalore.

## INDIAN STATISTICAL INSTITUTE

(e) *Buildings: (i) Preliminary expenses for New Construction at Baranagar (Item B 1.6 in Schedule I) 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 (Fee for the sanctioned plan for construction at 202, 203 and 205, B. T. Road) . . . . .	Rs. 1,540/-
	<u>Rs. 39,040/-</u>

The above amount has been shown as Preliminary expenses for construction of Building but the same should have been shown under Suspense account as suggested by the previous auditor. Since there has been no change in the facts and circumstances from the previous year, we also hold that the amount should have been transferred to Suspense account.

(f) *Sheds and Structures: (i) The written down values of sheds and structures: Rs. 67,537.54 P on 203, Barrackpore Trunk Road and 153, Gopal Lal Tagore Road do not give a true and fair view as at 31st March, 1974 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 were not, however, explained to us this year also.*

(ii) The Sheds and Structures situated at 5, R. N. Tagore Road (written down value as 31.3.74, Rs. 2,01,791.18 P) have been constructed for UNTAA Workshop on the land possessed under Rent Requisition Order.

(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 wherein the valuation of two items do not bear any amount and reported as "not known."

(h) *Soviet Printing Machine: Soviet Printing Machine (Item 'L' of Schedule I of the Institute) was received by the Institute as gift from Soviet Academy of Sciences and taken into the Books of Accounts at a value of Rs. 18,66,696.58 P 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 utilizing some items at the present moment.*

(i) *Construction at Baranagore, Library Building (Item B 1-6 in Schedule I): Rs. 76,880/- being the cost of Iron & Steel purchased during the year is still lying in stock. The above amount has been shown as addition to library building (vide Schedule I) during the year. But no construction of Library Building appears to have taken place during the year.*

In our opinion the amount should have been shown in store of Iron and Steel and not as an addition to fixed assets.

2. *Rental of Telephone under OYT Scheme (Item 2 of the Institute's Balance Sheet, Assets side)*

The last year balance of the above account was Rs. 66,631.67 P. During the year, the said

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amount has been charged off to revenue according to the direction of the Government of India, Ministry of Planning, Department of Statistics, in their letter No. G25014/1/71-NSS-1 dated 13.11.72.

3. *Investment:*

The Scripts in respect of investment of the different funds under the Institute are standing in the name of Institute.

4. 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 I) Rs. 7,62,329.27 P (Item 3 on Assets side of the Institute's Balance Sheet).

The above amount has been brought forward from last year. No development has taken place in spite of elaborate observation made by the previous auditor on the above Joint Project. A confirmation letter dated 28.2.75 was produced to us from Sri S. K. Mitra, Secretary, ISIJU Joint Computer Project Committee wherein Shri Mitra confirmed that "position remains the same as on 31.3.74."

In our opinion the Institute should take immediate action in this matter considering the amount involved in the project.

5. *Recoverable Capital Outlay:*

In spite of observations made by the previous auditors with regard to second paragraph on the above subject, no adjustment appears to have been made in the accounts.

In course of our verification on the above, it was observed that an extract from the proceedings of the meeting of the Committee of Administration held on the 11th November, 1974 signed by Shri A. Mahalanobis shows that the said committee has decided to adjust Rs. 8,615.29 P (net) as follows:—

	Rs.	P.
Balance remained unpaid by Dr. B.C. Das	..	14,615.29
Less: Paid by Dr. B. C. Das	..	6,000.00
		<u>8,615.29</u>
Less: Expenditure incurred in repairs, renovation, etc., at Gooptu Nivas during the years 1958-59 to 1967-68 and sanctioned by Administrative Committee	..	5,685.05
Amount to be recovered from Dr. B. C. Das	..	2,930.24

6. Amount claimed/to be claimed from the Government of India (Item Nos. 4.1, .2, .3 of the assets side of the Institute's Balance Sheet).

In the absence of relevant sanction or acceptance from the Government in respect of claims, we are not in a position to form any opinion as to the extent to which claims made by the Institute will be accepted by the Government in future.

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7. Amount recoverable from the Government of Mysore in respect of Bangalore Land requisitioned back by the Government of Mysore: Rs. 29,325/- (Item 6 of the assets side of the Institute's Balance Sheet).

The position of the said account remains as before as it was in the last year. There is a difference of Rs. 62/- arising out of the confirmation given by the Deputy Commissioner, Bangalore District, and balance standing in the Institute's book which is still unadjusted. The Institute in its letter (vide letter No. C3879/BL dated 22.3.74) has reminded the Deputy Commissioner of Bangalore District to arrange for immediate repayment of the said balance. But still, to date of our report, the refund has not been received as reported.

In our opinion action should be taken in this regard.

8. Grant receivable from the Government of India on account of Plan Expenditure (Item 7.1 of the assets side of the Institute's Balance Sheet).

Total amount has been sanctioned of Rs. 19/- lakhs [vide sanction No. C/18018/1/74-NSS/1(ii)] during the year dated 17th June, 1974 and the amount received against the said grant of Rs. 16/- lakhs, balance of Rs. 3/- lakhs has been shown as "Plan Revenue Receivable", authenticity of which could not be verified by us in the absence of payments made by the Government specifically ear-marked.

9. 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.)

a) Classification of stores has been made broadly into two categories for the purpose of physical verification.

i) Iron & Steel materials, cement and bricks,

ii) Other building materials.

No physical verification was done as regards the first category is concerned during the year under audit. Hence, under the circumstances, it will be appreciated that the position on 31.3.74 could not be verified by us.

The physical verification of the second category was made after the close of the year, the result of which showed a net loss (shortage) of Rs. 11,680.81 P during the year which has been shown in the Balance Sheet under the head "Effect of physical verification of building materials" (Item 11 of the assets side of the Institute's Balance Sheet) and has not been written off in the Income & Expenditure Account.

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

Though stores have been shown in the Institute's Balance Sheet as well as in the Balance Sheet of the Development Fund II but no separate register for stores has been maintained. As reported by the previous auditor, segregation of the stores between these two funds made by the Institute's officials on the basis which could not be satisfactorily explained to us.

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b) Iron & Steel for Rs. 76,880/-

The above has been purchased during the year and lying in the campus of the Institute up to the date of our report and has been shown in the building account.

The above purchase has not been entered in the stores ledger like other purchases of materials which in our opinion should have been passed through the stores ledger.

10. Loans & Advances: (Item 9 of the assets side of the Institute's Balance sheet)

2. Festival advance to workers Rs. 6,656.75 P: No detailed list of the said account has been produced to us for which we could not verify the said account.

3. Advance to Suppliers and Contractors—Rs. 1,14,395.55 P.

4. Suspense & Other Advances—Rs. 4,89,962/-

5. Educational Relief & Other Loans—Rs. 2,69,202.42 P.

6. Security Deposit—Rs. 23,897.07 P.

7. Sundry Debtors (partly recoverable)—Rs. 60,605.30 P.

With regard to item .3, no personal ledger has been maintained and in the absence of which we could not verify all of the above balances for how long they are outstanding.

With regard to item .4, our observations are as follows:—

1. There is practically no control over suspense accounts as the account has not been reconciled from time to time with the main ledger.

2. The opening balances of the said account could not be verified in absence of audited detailed list.

3. There are various accounts including those of visiting professors from abroad which are lying unadjusted for several years. We give below some examples:—

P. Polk	DR	Rs. 5,421.00 P
V. Udampal	CR	Rs. 183.36 P
Prof. A. Razanov	CR	Rs. 100.00 P
Hans Hwe Oho	CR	Rs. 350.00 P
Kohai Okato	DR	Rs. 200.00 P

No action appears to have been taken during the year under review for adjusting the above balances. Investigation should be made in this regard.

4. It is also observed that some of the balances are still appearing unadjusted in the name of some persons who have already expired.

5. Some of the advances given to suppliers against the supply of goods remain unadjusted for a long time. We give below some examples:—

**INDIAN STATISTICAL INSTITUTE**

<i>Year of advance</i>	<i>Name of the parties</i>	<i>Amount</i>
1968-69	M/s Godrej & Boyce Mfg. Co. (P) Ltd.	Rs. 20,885.11 P
1970-71	M/s Walford Transport Ltd.	Rs. 4,974.15 P

6. Two balances have been appearing unadjusted in the names of two banks which are given below:—

<i>Year</i>	<i>Name of the bank</i>	<i>Balance</i>
1963-64	United Bank of India, Baranagore	DR. Rs. 1,616.99 P
1967-68	State Bank of India	CR. Rs. 1,000.00 P

With regard to item .5, we could not verify the said account in the absence of detailed list along with the confirmation from the parties concerned.

While observing item .6, no Security Deposit receipts were made available for our verification. In this connection it has been reported that the rented house at 9B, Esplanade East has already been vacated by the Institute but Security Deposit lying with the landlords of Rs. 5,931.36 p. has neither been realised nor any follow-up action has been taken.

With regard to item .7, we could not verify the said account in the absence of confirmation letters from the parties concerned and personal ledger of said account. In this connection, we would like to note that a major part of the said is owed by Gun & Shell Factory for a pretty long time. But no action appears to have been taken during the year under audit to recover the dues from the said factory. Moreover, quite a large number of balances comprising very small amounts have been lying unadjusted for a long time.

**11. Advance for Land (Schedule 13)—Rs. 91,606.25 p.**

**a) Regarding 106 B T Road—Rs. 29,799.38 p.**

This advance is reported to have been paid on 22.1.58. In spite of observations made by the previous auditor on the above advance for land, no refund has been received by the Institute during the period under audit. However, the Institute has sent a solitary reminder to the Collector Land Acquisition on 23.3.74 (vide Assistant Secretary's letter No. 3857 dated 23.3.74). In our opinion, considering the amount lying for a long time, the Institute should take more vigorous steps to get the refund as early as possible.

**b) Re: Buxee Land adjacent to 123, Gopal Lal Tagore Road—Rs. 12,137/-**

The position remains as it was in the last year. In spite of comments made by the previous auditors on the above, no follow-up action has been taken except one reminder has been sent by the Executive Officer in his letter No. C/6317 dated 20.3.73.

**c) Land adjacent to Goopta Nivas—Rs. 5,652/-**

This advance has been lying with the Collector of Land Acquisition Department (N), Aizpore, as early as August, 1960. It appears from the correspondences that no follow-up action, either by personal approach or through letters, has been taken by the Institute since August,

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1970, except one reminder sent on 23.3.74 (vide letter No. C3856). We are unable to understand why the Institute takes such a long time in corresponding with the authority. In our opinion, periodical review should be followed up.

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

This advance relates to May, 1961. Only a reminder during the period under review has been sent on 23.3.74 (vide Assistant Secretary's letter No. C3855 dated 23.3.74).

e) *Re: Land at Madras—Rs. 21,562.50 p.*

The position remains as before. The Director of Technical Education (Construction Unit, Madras) in his letter No. CW/AD3/802/T dated 26.4.73 intimated that Rs. 50,000/- is to be deposited towards the development cost of the land. We are given to understand that the Institute has claimed to the Government of India for the said additional amount of Rs. 50,000/- for acquisition of the said land. Hence, provision for liability on account of development cost of Rs. 50,000/- for the said land has not been provided for in the accounts.

12. *Effect of Physical Verification of Building Materials: Rs. 11,680.81 p.*

The above does not actually represent any asset though displayed on the assets side of the Balance Sheet. In this connection, we refer to our report under 'Store'.

13. *Cash and Bank Balances (Item 12 of the Assets side of the Institute's Balance Sheet)*

Certificates from banks confirming the balances as on 31.3.1974 were not made available to us for verification for the following banks:—

- i) Nath Bank Ltd. (in liquidation)
- ii) State Bank of India (Delhi A)
- iii) State Bank of India (Delhi B)

### GENERAL OBSERVATIONS

It appears from the Schedules VI and VII that the amount shown as Cash balance both in hand and at banks represents the balancing figure, i.e., individual bank account cannot be linked up with individual fund account.

While checking the current account with United Bank of India (C/A No. 324—Durgapur) and the Current Account with the Bank of Baroda, Vilai, with the relevant banker's statement it was found that the said two current accounts have been in operation in the names of Sri R. G. Narasingham and Sri K. K. Banerjee respectively instead of the Institute's own name.

In spite of the observations made by the previous auditor on the above defects no steps appeared to have been taken, i.e., transfer of bank accounts from individual name to Institute's own name during the year.

14. *General Fund (Item 1 of the Liabilities side of the Institute's Balance Sheet)*

Out of the amount of Rs. 1,87,362.28 p. charged in the Income & Expenditure Account as

## INDIAN STATISTICAL INSTITUTE

Expenditure on Books & Journals (Item 12.1 of the Expenditure side of the Income & Expenditure Account of the Institute) and Rs. 1,78,750.75 p. has been capitalised (vide Item H of Schedule F of the Institute) by crediting the General Fund.

15. *Deposits Other Liabilities: Rs. 1,05,804.23 p.* (Item 5.1 of the Institute's Balance Sheet: Liabilities side)

a) In spite of observations made by the previous auditor for incorporating the accounts of the Hospitality Committee in the accounts of the Institute, acither the defects have been rectified nor the credit balance adjusted by suitable adjustment during the year under review. In our opinion steps should be taken in this regard.

b) *Staff Income-tax and Annuity Deposit: Rs. 27,179.83 p.* (Item 5.2 of the Liabilities side of the Institute's Balance Sheet)

The above balance represents the deduction of tax at source from the employees of the Institute which has not been deposited with the appropriate authority in time.

c) *Library and Other Deposits: Rs. 1,07,712.50 p.* (Item 5.3 of the Liabilities side of the Institute's Balance Sheet)

The above balance represents deposits made for library and others by the members and the students lying with the Institute as on the date of the Balance Sheet. In course of our checking the Institute Library it was observed as follows:—

- i) No system of periodical verification of books.
- ii) There is no record of loss of books/withdrawals.
- iii) There is lack of proper co-ordination between library section and the accounts department in case of refund of deposits.

d) *Staff Insurance, Co-operative Society & S.W. Housing Scheme, etc.—Rs. 35,234.76 p* (Item 5.4 of the Liabilities side of the Institute's Balance Sheet)

In the absence of detailed information in relation to the above account, we could not verify the extent of liabilities of the Institute as on the date of the Balance Sheet. The said amount stands as per General Ledger balance.

e) *Other Liabilities—Rs. 27,17,029.01 p.* (Item 5.6 of the Liabilities side of the Institute's Balance Sheet)

The above liabilities stand for goods and services provided to the Institute as on 31.3.1974. The liabilities also include the payments made up to June 1974 for goods and services rendered prior to 31.3.1974.

As regards the liability on account of employees' gratuity, it is reported that the Government of India will henceforth reimburse the actual payment of gratuity to employees. Hence, the provision for gratuity payment has not been provided in the Institute's accounts. However, the Institute could not clarify us as to what happens to the gratuity fund already created.



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While capitalising books and journals the Institute has followed the previous convention which is 95% of the total expenditure incurred in purchasing books, journals, newspapers, bulletins, etc. This convention is not clear to us.

16. *Excess of Expenditure over receipts of miscellaneous projects and activities on behalf of the Government of India and other bodies pending adjustments on settlement claims made to be made (Item 5 of the Assets side of the Institute's Balance Sheet)*

The above amount includes Rs. 3,88,127.93 p from Ministry of Planning, Government of India for National Sample Survey Organisation (last year's balance Rs. 2,13,200.85 p). Confirmation certificates from NSSO were not made available to us confirming the above balance. Hence, we could not check the allocation of expenses incurred on behalf of them in respect of rent, electricity charges, telephone charges, salary, etc.

### 17. *Observations on Different Funds*

#### Supervision Fee Fund:

- (1) No transaction appears to have been taken place during the year.
- (2) Confirmation certificate regarding credit balance standing in the name of ISI Small Scale Industries Experimental Unit of Rs. 14,610.20 p was not made available to us for verification.

#### Electronic Data Processing & Computation Unit:

Sundry Debtors: Rs. 20,745.50 p.

The above balance has been outstanding for a pretty long time. The year-wise break up of debts are as follows:

From 1968-69	..	Rs. 18,640.00 p.
1969-70	..	Rs. 127.00 p.
1970-71	..	Rs. 1,978.50 p.
		<hr/>
		Rs. 20,745.50 p.
		<hr/>

No steps appear to have been taken by the Institute to recover the above debts. In our opinion, immediate steps should be taken in this regard.

## INCOME & EXPENDITURE ACCOUNT

### (i) *Travelling Expenses*

Usually advances are given for travelling and debited to Suspense account. While checking other suspense account, it was observed that several advances were given for travelling expenses which remained unadjusted. Therefore, unless such advances are adjusted within the year the travelling expenses as shown in the Income & Expenditure Account would not reflect a true and fair view of the said expenditure. Moreover the defects pointed out by the previous auditor has not been complied with during the year.

## INDIAN STATISTICAL INSTITUTE

### (ii) *Reimbursement of Medical Expenses*

It was observed, as in last year, that actual bill against which medical advances have been made to employees are not submitted promptly for necessary adjustments. As such medical 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 up to 31st March, 1974 and not paid by that date have been fully provided for or not.

It is noted in this connection that the Committee on auditor's report for 1971-72. Accounts suggested for maintenance of a Register showing serial number of claim, amount of claim, 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 of recording the unpaid bills in the personal ledger. Suggestion may be made in this regard that as soon as a claim is received that the same should also be recorded in the personal ledger maintained by MERU so that a list of outstanding claims can be drawn up from the personal ledger.

BANK CHARGES AND INTEREST: Rs. 15,416.76

(iii) The above includes Rs. 5,000.00 provided to ISI General Provident Fund for utilisation of fund money by the Institute during the year. The detailed information viz. how much money utilised by the Institute, period of utilisation, rate of interest, etc. were not made clear to us in the absence of which we are of opinion that the said interest of Rs. 5,000.00 is provided on an estimated basis and a "token" one. The matter should be looked into.

(iv) In consistence with past practice Stocks of Stationeries and Consumable Stores, Laboratory Stores, Tools and Minor Accessories, cost of Card 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.

### (v) *Re: Statistical Publishing Society:*

In course of our Audit, it has been observed that Expenditure on various heads viz. Electricity, Telephone etc. was incurred by the Institute on behalf of Statistical Publishing Society. Finally certain portion of the expenditure incurred has been debited to Statistical Publishing Society as the Expenditure incurred on behalf of them. In the absence of detailed information regarding the basis of allocation, we could not check the reasonableness of the expenditure and therefore, are not in a position to give our opinion on the same.

(vi) "*Special Payment*" to 48 hours scaled workers of Baranagore Office during the financial year 1973-74. Vide Office Order C 493/PU dated 18th May 1973

Under Secretary to the Government of India, Ministry of Planning, Department of Statistics, vide Sanction No. C-13012/1/74-NSS 1(i) dated 11/17 June, 1972, has sanctioned Rs. 111.81

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lakhs only against Rs. 112.35 lakhs recommended by the Committee, thereby reducing Rs. 0.48 lakhs being the estimated expenditure on payment of Special Pay of Rs. 15/- per month for 48 hours staff. But the Institute as per the Office Order referred to above made an expenditure of Rs. 28,381.78 P. against this although there was no subsequent grant by the Government of India in this regard.

(vi) 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 Sector-wise Income and Expenditure Accounts has not been issued by us.

(vii) 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.

*General:*

(a) The activities of the Institute are gradually increasing. As suggested by the previous auditor regarding installation of internal audit system, in course of our audit, we observe that neither there is any internal control/Audit system in operation nor any co-ordination between accounts department and different branches and sectors of the Institute. This has brought us a serious handicap in performing our audit works. We suggest for immediate installation of Internal Audit System.

(b) As pointed out by the previous auditors the system of budgetary control leaves ample scope for improvement. There is no means of controlling the actual expenditure within the budgeted limits because of the fact that the budget proposals as estimated by the Institute are considered as authorisation for incurring expenditure although the excess of expenditure over income has been piling up years together the claims for which are pending for acceptances from the Govt. for a considerable time (vide Items 4.1 to 4.4 of the Assets side of the Institute's Balance Sheet). It is also observed that grants for specific activities/items are diverted and/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 committees are not consecutively numbered and proceedings are not written on the Minute Book but are typed on separate sheets and pasted on the Minute Book.

12 Waterloo Street,  
First Floor,  
Calcutta-1  
13 March 1975

Sd/- S. N. GUPTA & Co.  
Chartered Accountants

## INDIAN STATISTICAL INSTITUTE

### Annexure I

*Re: Audit of the Trial Balance as at 31st March, 1974, of Indian Statistical Institute, Giridih Branch*

We have audited the Trial Balance as at 31st March, 1974 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 details 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.

#### FIXED ASSETS

##### (a) *Land and Buildings*

The Institute owns the following land and buildings at Giridih:—

- (1) Farm Land
- (2) Rose Villa
- (3) Prakriti Devi Ganguly's Land
- (4) Health Home
- (5) Biroja Kuthi

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

##### (b) *Furniture and Fixtures*

No physical inventory as at 31st March, 1974 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 1974. 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.

#### STOCKS AND STORES IN HAND

On going through the inventories of building materials made on 31st March, 1974 it was

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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 Material	A/C No.	Balance on 31.3.72		Balance on 31.3.73		Balance on 31.3.74	
		Rs.	P.	Rs.	P.	Rs.	P.
(i) Iron and Steel Material	730	14,594.83		14,594.83		14,591.77	
(ii) Bricks and Blocks	732	1,535.48		1,535.48		1,535.48	
(iii) Powder Paints and Varnish	737	989.40		999.35		859.53	
(iv) Stone Chips, Raniganj	746	6,860.02		6,860.02		6,860.02	
(v) Cement and Tiles	746	8,006.54		8,006.54		8,006.54	

The action, if any, taken by the Administration for the early use/disposal of these materials to prevent further loss through damage and deterioration, has not produced any result so far as is noticed from the above comparative Statement up to the date of our audit at the Branch.

*Interest Received on P.F. (Workers)*

Interest received on P.F. (Workers) has been accounted on the basis of loan given for the entire period irrespective of the accounting period.

*Stock of Printing and Stationery*

During the course of our audit it is found that the Stock Ledger is not maintained up to date for which physical verification could not be made.

**RENTED PREMISES**

During the course of checking payment for Rent for 1973-74 (including Municipal Taxes and Ground Rents) for the various premises 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 agreement of the following (some of the agreements, however, expired but not renewed), namely,

- (i) Himani Bhavan
- (ii) Niogi Kuthi
- (iii) R. N. Ghosh's House
- (iv) Khubilal House

Of the remaining fourteen three premises have been given up during the month of March, 1974, another one is vacant and under decision of the Head Office, and about the remaining ten we were told that Rent agreements/Lease if any will be available at Baranagar.

It is however understood that regarding the renewal of Rent/Lease agreement, if any, is being looked into at the Head Office.

## INDIAN STATISTICAL INSTITUTE

### GUEST HOUSE

There are three buildings—Mohua, Salboni and Uttara—at Giridih which are used for Guest House purpose. The 'Mohua' exclusively as guest house, 'Salboni' for guest house-cum-library and Uttara for guest house-cum-outdoor dispensary. It was however noticed (from the numbers of visitors in 1973-74) that the accommodation available for the purpose of guests was far in excess of what was required by the Institute during 1973-74 (number of visitors during 1973-74 was 58 at Uttara, 51 at Salboni and only 17 at Mohua and the number of days stayed 71, 207 and 344 respectively).

### LIBRARY AND READING ROOM

(a) No physical verification list of books as at 31st March 1974 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 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 from the Institute and circulating Library it was noticed on going through the relevant register that only few books in a week are issued from the Institute Library and the same position in 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 the purpose. We suggest the matter be looked into and suitable action taken as early as possible.

### STAFF POSITION

Strength of the staff at Giridih Office consists of 45 permanent and 10 casual employees. The present allocation of staff amongst the various sections does not appear to have been well planned. On scrutiny it was revealed that some of the staffs in certain sections have practically no work in contrast with some sections being over burdened with work, e.g., Officer-in-Charge having no direct assistant under him has to do away with administrative, accounts and correspondence job. Similarly, the assistant looking after the establishment work has to supervise wide range of work in different places at the same time to do the connecting official job himself.

We have checked the cash in hand at Giridih on 4th February 1975 and found the same to be in order.

Sd/- S. N. GUHA & Co.  
*Chartered Accountants*

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Annexure 2

*Re: Audit of Trial Balance as at 31 March 1974, of Indian Statistical Institute, Delhi Branch*

We have audited the Trial Balance as at 31st March 1974, 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 hereunder 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.

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 ISI rented premises, which are now under NSSO occupation. Though separation of NSS from ISI had taken place on 1st June 1972, the Asset/Liability position, of ISI vis-a-vis NSS has not yet been finalised. This will, naturally, lead to complications whilst finalising ISI Balance Sheet as at 31st March, 1974.

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

**FIXED ASSETS**

a) An amount of Rs. 1,16,000/- paid in March 1975 as an advance to Cement Corporation of India was shown under the head Building in the last year's accounts. In fact material came only in the accounting year 1973-74 subsequently on different dates and the said work is not yet completed. It is also seen that an amount of Rs. 37,792.38 is still lying as an advance. This requires the reversal of the said capitalisation and the amount for which the material received to be grouped under Capital Work in Progress and Stock of Material respectively.

*Additions to Buildings—Rs. 8,84,025.99*

b) The work as regards the building is actually in progress and not completed, hence in our opinion the amount should have been shown in the capital work in progress. Moreover, the amount referred to above includes materials at site, stock of cement and stock of iron materials amounting to Rs. 2,67,267.15, Rs. 52,407.65 and Rs. 1,24,389.87 respectively also should have been shown in the materials at site, stock of cement and iron materials leaving the balance actually represents the value of work-in-progress.

**RE: RENT**

The Delhi Office has taken a number of premises on rental basis. Some of the premises were occupied by NSS employees and were subsequently vacated by June 1973. Recovery of rent in respect of these premises has created many problems as a result of which outstanding are lying unrecovered.

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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 ISI is also involved. We had discussed the matter with the Institute Counsel Shri 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 under terminable character the question of making provisions 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 buildings that are 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 Contractors 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.

*House No: Y-22 Hauz Khas:* While checking of Bank (Canara Bank, Delhi Branch), note: (1) Rent for the premises No. Y-22, Hauz Khas, payable to Sri R. N. Chopra amounting to Rs. 3,466.26 for the year 1973-74 was refused by Mr. Chopra since the matter is in dispute for which legal action has been instituted by ISI.

### SUSPENSE ACCOUNT

This has reference to last year's audit report in which immediate attention was drawn to the case of Sri Raj Narain's Suspense account which was rather serious.

The matter was referred to an Inquiry Authority by ISI Administration vide its office order No. D/PU/1155/74 dated July 17, 1974. The Inquiry Authority's findings were subsequently circulated vide office order No. D/PU/2506/74 and action taken accordingly which reads as follows:—

"On the basis of the report of the Inquiry Authority on the charges against Shri Raj Narain Mahato, it is ordered as follows:

- a) Shri Mahato's suspension is revoked. The period of suspension will be treated as period on duty.
- b) Shri Mahato will return to the Institute by 31.10.74 the amount of Rs. 7,515.97 (Rupees seven thousand five hundred fifteen and paise ninetyseven only) that, as determined by the Inquiry Authority, he owes to the Institute as on 31.3.1974.
- c) If Shri Mahato fails to return this amount or a part of it, it will be recovered from his salary at the rate of Rs. 125/- per month. He will be charged interest on the outstanding amount, beginning from 1.11.1974, at the rate chargeable on an equivalent loan from Provident Fund.
- d) Though the Inquiry Authority has found Shri Mahato guilty of grave negligence resulting in financial impropriety of Institute's fund, on humanitarian considerations no disciplinary action is taken against him. However, he is hereby warned and asked to act with greater care in future.



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e) Shri Mahato may, if he so wishes, appeal against this order to the Director, ISI, before 31.10.1974". Sd/- K. S. Parikh, Joint Secretary.

### LIBRARY & READING ROOM

While going through the physical verification of Library books by the authority it was found that books valued Rs. 489.15 were missing and could not be traced yet. In our opinion the above amount should be written off.

### CASH-IN-HAND

We had checked the physical cash on 19th November 1974 which agreed with the balance shown in the Rough Cash Book.

Other Miscellaneous Receipts A/c: 081/00

This includes Rs. 157.15 being the amount adjusted against excess cash found at the time of last year's cash verification.

*Re: Travelling Expenses for attending Conference and Seminar: A/c. 115*

Rs. 7,950.00 shown in this account was actually paid to a travel agent, on 20.3.74 but journey took place in the month of April, 1974, hence it is an advance against travelling and should not be shown in the travelling account.

*Re: Rent Receipts: A/c. 392/95*

Rent paid for the premises occupied by NSSO (Office) during the year amounting to Rs. 78,100.00, but credits against this receivable amount has not been accounted for during the year, which subsequently received and accounted for in April, 1974 for Rs. 71,700.00 only.

### EXPENSES ON VISITING PROFESSORS, FOREIGN SCIENTISTS, FELLOWS & EXPERTS

An amount of Rs. 22,060.00 has been paid to the Reserve Bank of India, being the amount demanded under section 156 of Income-tax Act, 1961 by Income Tax Office Foreign Section, New Delhi, being the arrear Income-tax and interest thereon for expenses incurred by the Institute on account of Visiting Professor J. A. Gallagher for the financial year 1962-63.

Since the above payment is being contested by the Institute before the Appellate Assistant Commissioner of Income-tax, Range 'R', New Delhi, the above amount in our opinion should be booked under Loans and Advances.

### MATERIALS AT SITE

The Institute is paying 80% of value as an advance against the Material at Site as on the date of different running bills brought by Contractors. In the absence of any records at the Work Site it was not possible for us to verify the correctness as to material remaining at site on different dates.

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We suggest that proper records should be maintained for materials brought in and consumed by Contractors. Since the above payment have been made as Secured Advance for which Institute has lien over the Materials at Site.

CAPITAL COMMITMENTS

Contracts remaining to be executed amounting to Rs. 19,77,938.63.

Please let us have your comments at an early date.

Thanking you,

Sd/- S. N. GUHA & Co.  
*Chartered Accountants*

INDIAN STATISTICAL INSTITUTE

BALANCE SHEET

1972-73 Rs. P.	Fund and Liabilities	Rs. P.	Rs. P.
	<b>1. GENERAL FUND</b>		
1,97,79,243.63	As per Schedule VIII enclosed .. .. .		2,03,67,863.28
	<b>2. OTHER FUNDS (EXCLUDING DIRECTOR'S CONTRIBUTION FUND AND INDIAN STATISTICAL INSTITUTE GENERAL PROVIDENT FUND FOR WHICH SEPARATE ACCOUNTS ARE PREPARED)</b>		
	As per separate Balance Sheet enclosed as per contra:		
	.1 Visiting Professors and Fellows Fund .. .. .	113.13	
	.2 Gratuity Fund .. .. .	46,28,787.43	
	.3 Development Fund I .. .. .	1,19,521.94	
	.4 Development Fund II .. .. .	10,93,668.38	
	.5 Supervision Fee Fund .. .. .	2,16,304.87	
	.6 Statistical Quality Control Development Fund .. .. .	13,20,037.41	
		73,78,433.16	
65,01,380.47	.7 Less: Leave Salary Fund .. .. .	87,480.75	72,90,952.41
	<b>3. LOANS FROM OTHER FUNDS:</b>		
28,48,000.00	As per Schedule IX enclosed .. .. .		28,29,000.00
	<b>4. ROCKEFELLER FOUNDATION GRANT:</b>		
	As per contra:		
1,322.29	As per last account .. .. .		1,322.29
	<b>5. DEPOSITS &amp; OTHER LIABILITIES:</b>		
	.1 Hospitality & Housing Committee .. .. .	1,05,804.23	
	.2 Staff Income-tax & Annuity Deposit .. .. .	27,179.83	
	.3 Library & other deposits .. .. .	1,07,712.50	
	.4 Staff Insurance, Cooperative Society, S.W. Housing Scheme etc. ..	35,234.76	
	.5 Director of Health Services for purchasing Census Report through UNESCO .. .. .	3,126.00	
28,68,846.51	.6 Other liabilities .. .. .	27,17,029.01	30,01,864.11
	<b>6. EXCESS OF INCOME OVER EXPENDITURE IN RESPECT OF MISCELLANEOUS PROJECTS AND ACTIVITIES:</b>		
2,24,425.87	As per Schedule X enclosed .. .. .		1,54,380.80
	<b>7. EXCESS OF INCOME OVER EXPENDITURE IN RESPECT OF PLAN REVENUE EXPENDITURE GRANT RECEIVED FROM GOVERNMENT OF INDIA:</b>		
1,52,960.08	As per Schedule XIV enclosed .. .. .		2,43,862.67
3,23,76,178.85	Carried over .. .. .		3,38,89,871.18

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AS AT 31ST MARCH 1974

1972-73 Rs. P.	Property and Assets	Rs. P.	Rs. P.
	1. FIXED ASSETS:		
1,80,74,163.80	As per Schedule I enclosed .. .. .		1,86,62,783.37
66,631.67	2. RENTAL OF TELEPHONE UNDER OYT SCHEME (INCLUDING INSTALLATION CHARGES): .. .. .		—
	3. ADVANCE ON ACCOUNT OF ISIJU EXPENDITURE ON JOINT PROJECT FOR THE CONTRIBUTION OF ELECTRONIC COMPUTERS IN PROGRESS (EXCLUDING VALUE OF FURNITURE, EQUIPMENT ETC. LOANED TO ISIJU WHICH ARE INCLUDED IN SCHEDULE I):		
7,62,329.27	As per last account .. .. .		7,62,329.27
	4. AMOUNT CLAIMED/TO BE CLAIMED FROM GOVERNMENT OF INDIA:		
	1. Amount already claimed but pending acceptance as per Schedule II enclosed .. .. .	55,59,667.40	
	2. Amount to be claimed as per Schedule III enclosed .. .. .	87,480.49	
	3. Amount claimed and rejected (but under correspondence) as per Schedule IV enclosed .. .. .	12,37,137.54	
	4. Excess of expenditure over receipts on account of NSS work during 1959-60 to 1963-64 already claimed:		
76,65,697.31	As per last account .. .. .	8,68,892.37	77,53,177.80
	5. 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 CLAIMS MADE/TO BE MADE:		
8,20,482.45	As per Schedule V enclosed .. .. .		11,79,115.09
	6. 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
	7.1 GRANT RECEIVABLE FROM GOVERNMENT OF INDIA ON ACCOUNT OF PLAN EXPENDITURE (RECEIVED ON 2.4.1974) .. .. .		3,00,000.00
	2 RECEIVABLE FROM GOVERNMENT OF INDIA ON ACCOUNT OF EXCESS ADJUSTMENT AGAINST GRANT FOR FLOOD ADVANCE .. .. .		47,000.00
2,72,938.85	8. STORES (BUILDING MATERIALS ETC.) AT COST (STOCK OF IRON & STEEL & BUILDING MATERIALS OF THE VALUE OF Rs. 1,76,519.74 NOT VERIFIED) .. .. .		3,10,823.98
2,76,91,569.15	Carried over: .. .. .		2,90,44,555.31

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BALANCE SHEET

1972-73 Rs. P.	Fund and Liabilities	Rs. P.	Rs. P.
3,23,76,178.85	Brought forward: .. .. .		3,23,89,877.00
	8. EXCESS OF RECEIPTS OVER EXPENDITURE IN RESPECT OF CAPITAL EXPENDITURE GRANT RECEIVED FROM GOVERNMENT OF INDIA:		
12,48,911.74	As per Schedule XII enclosed .. .. .	12,99,565.77	
	9. AMOUNT DUE TO ELECTRONIC DATA PROCESSING AND COMPUTATION UNIT ON LOAN ACCOUNT		
10,00,000.00	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		
	Donation received: As per last account .. .. .	42,000.00	
19,500.00	Less: amount paid for Bangalore land: As per last account .. .. .	22,500.00	19,500.00
	11. GRANT-IN-AID FOR FLOOD ADVANCE TO STAFF REFUNDABLE TO GOVERNMENT OF INDIA		
	As per last account .. .. .	3,70,000.00	
	Less: adjusted in respect of grant during the year .. .. .	1,50,000.00	
		2,20,000.00	
3,70,000.00	Add: adjusted in excess receivable from Government of India .. .. .	47,000.00	2,67,000.00
	12. EXCESS OF RECEIPTS OVER EXPENDITURE IN RESPECT OF SURVEY RESEARCH CENTRE		
6,54,600.61	As per Balance Sheet of Survey Research Centre enclosed .. .. .		6,49,220.41
	13. EXCESS OF INCOME OVER EXPENDITURE IN RESPECT OF NON-PLAN REVENUE EXPENDITURE		
5,06,859.49	As per Schedule XV enclosed .. .. .	7,55,327.79	
	(Vide Schedule XI)		
	(Contingent liability: Contracts remain to be executed at Delhi amounting to Rs. 19,71,938.63)		
<u>3,61,76,050.69</u>			<u>3,78,80,531.41</u>

- 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 includes balance with International House of Japan, Translation Unit in Tokyo, amounting to Rs. 7,681.49 being Japanese Yen 5,76,504 converted at de-valuation rate of exchange (Rs. 100 = Yen 758 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 1974 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-400 Computer and the utilisation thereof, the details of which have been set out in a separate Balance Sheet as at 31st March 1974.
- (e) Since the Commissioner of Income Tax, West Bengal has given recognition to the Indian Statistical Institute Ganga Provident Fund with effect from 31.8.56 only the Institute is contingently liable in respect of income-tax for non-recognition of the ISI—GPF prior to that date.
- (f) These accounts do not include the grant of 185,000.00 made by the Ford Foundation to the Institute and debentures thereon (except c.i.f. value of certain equipment amounting to Rs. 81,391.50 included in the item J 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 Gupta 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 been rearranged, whenever necessary.

Calcutta,  
13 March 1973

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- S. N. GUPTA & Co  
Chartered Accountants

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AS AT 31ST MARCH 1974—Contd.

1972-73 Rs. P.	Property and Assets	Rs. P.	Rs. P.
	Brought forward:		2,90,44,555.31
2,76,91,569.15	<b>9. LOANS AND ADVANCES:</b>		
	.1 Departmental Imprest .. .. .	4,252.47	
	.2 Festival advance to workers .. .. .	6,656.75	
	.3 Advance to suppliers and contractors .. .. .	1,14,395.55	
	.4 Suspense and other advances .. .. .	4,89,962.00	
	.5 Educational relief and other loans .. .. .	2,69,202.42	
	.6 Security deposit .. .. .	23,897.07	
	.7 Sundry debtors (partly irrecoverable) .. .. .	60,665.30	
		9,68,971.56	
	.8 Advance for land (Schedule XIII) .. .. .	91,606.25	
	.9 Charges pre-paid .. .. .	4,638.75	
14,56,926.61	.10 Marginal deposit for letter of credit .. .. .	995.00	10,66,211.56
	<b>10. NET ASSETS OF OTHER FUNDS: (EXCLUDING DIRECTOR'S CONTRIBUTION FUND AND INDIAN STATISTICAL INSTITUTE GENERAL PROVIDENT FUND FOR WHICH SEPARATE ACCOUNTS ARE PREPARED):</b>		
	As per separate Balance Sheet enclosed: As per contra:		
	.1 Visiting Professors and Fellows Fund .. .. .	113.13	
	.2 Gratuity Fund .. .. .	46,28,787.43	
	.3 Development Fund I .. .. .	1,19,521.94	
	.4 Development Fund II .. .. .	10,93,668.38	
	.5 Supervision Fee Fund .. .. .	2,16,304.87	
	.6 Statistical Quality Control Development Fund .. .. .	15,20,037.41	
		73,78,433.16	
65,01,380.47	.7 Less: Leave salary fund .. .. .	87,480.75	72,90,952.41
	<b>11. EFFECT OF PHYSICAL VERIFICATION OF BUILDING MATERIALS</b> .. .. .		11,680.81
22,997.44	<b>12. CASH BALANCES:</b>		
	.1 In hand: As per Schedule VI enclosed .. .. .	7,208.93	
	.2 At Banks: On Current Accounts:		
	(i) With American Express International Banking Corporation, Calcutta, for Rockefeller Foundation Grant:		
	As per contra .. .. .	1,322.29	
	(ii) With other Banks as per Schedule VII enclosed .. .. .	1,46,600.05	1,47,922.34
	.3 At Banks: On Fixed Deposit Account with U.B.I. Investment of the refund received from Land Acquisition Collector in respect of 102, B.T. Road .. .. .	3,12,000.00	4,67,131.27
5,03,177.02			
<u>3,61,76,050.69</u>			<u>3,78,80,531.36</u>

This is the Balance Sheet referred to in our report of even date.

Sd/- D. DUTTA MANDIRAM  
Joint Secretary

INDIAN STATISTICAL INSTITUTE

		INCOME AND EXPENDITURES ACCOUNT			
1972-73 Plan Rs. P.	1972-73 Non-Plan Rs. P.	Expenditure	Plan Rs. P.	Non-Plan Rs. P.	
12,803.14	48,30,211.89	1. Salary, remuneration to teachers, etc. ..	1,73,658.69	44,32,969.66	
14,154.30	12,25,802.16	.1 Dearness pay .. ..	21,511.00	10,38,127.14	
4,297.17	4,50,378.77	.2 Dearness allowance .. ..	9,637.37	6,61,631.41	
10,397.84	6,97,785.80	.3 House rent allowance .. ..	15,537.70	6,29,900.42	
5,084.96	3,99,415.57	.4 City compensatory allowance .. ..	9,075.89	3,62,183.98	
6,785.63	6,34,959.58	.5 Interim pay .. ..	12,022.00	5,88,070.11	
	4,93,742.50	.6 Employer's contribution to workers provident fund .. ..		4,44,627.45	
	4,76,045.79	.7 Reimbursement of medical expenses ..		3,92,682.70	
	19,137.02	.8 Children's education allowance .. ..		15,901.15	
	21,260.38	.9 Leave travel concession .. ..		16,301.21	
36,587.72	4,50,583.86	2. Travelling expenses .. ..	45,085.39	2,73,301.92	
	3,02,210.04	3. Overtime allowance .. ..		2,34,551.98	
	60,777.12	4. Payment for leave vacancies .. ..		36,307.00	
		5. Visiting Professors, Foreign Scientists, Fellow and Expert .. ..	28,343.59	74,282.71	
39,182.60	85,460.67	6. Scholarship, stipends and other assistance to trainees .. ..	83,134.68	4,04,470.24	
1,02,089.87	3,50,282.71	7. Prizes to workers for initiative .. ..			
	500.00	8. Gratuity payment .. ..		1,18,314.53	
	1,46,221.05	9. Machine tabulation expenses, hire and maintenance of tabulating equipment, punches & verifying machines including services charges etc. and cost of cards and cabinets, stores and stationeries etc. .. ..	1,90,465.83		
3,01,005.28	1,89,717.13	10. Printing and publication .. ..	7,119.10	84,545.82	
3,205.40	29,509.31	11.1 Society type activities (entertainment) and conference expenses etc) .. ..	6,928.35	24,291.41	
5,557.85	13,345.14	.2 Examination expenses .. ..		70,334.08	
179.00	66,751.51	.1 Books & Journals (including cost of binding etc.) .. ..	212.00	1,87,150.28	
25.70	4,02,310.63	.2 Microfilm, photo and audiography expenses .. ..	131.92	9,332.23	
44.00	8,788.23	13. Expenses on Translation Unit in Japan .. ..		114.67	
		14. Repairs, replacement, and maintenance of office equipment, furniture and other accessories .. ..	2,097.30	60,293.19	
3,269.15	92,997.91				
6,45,669.61	1,14,48,194.82	Carried over .. ..	6,04,980.81	1,01,56,885.54	

FORTYSECOND ANNUAL REPORT : 1973-74

FOR THE YEAR ENDED 31ST MARCH 1974

1972-73 Plan Rs. P.	1972-73 Non-Plan Rs. P.	Income	Plan Rs. P.	Non-Plan Rs. P.
		1. Grants-in-aid from Government of India for Non-Project Sectors:		
7,00,000.00	54,75,000.00	.1 Research and Training School ..	5,50,000.00	57,05,000.00
	9,28,000.00	.2 Statistical Quality Control ..		10,25,000.00
	1,78,000.00	.3 International Statistical Education Centre ..		1,92,000.00
	16,05,000.00	.4 National Sample Survey .. ..	—	—
	42,40,000.00	.5 Common Services .. ..		42,65,000.00
	1,50,000.00	2. Grants-in-aid from Government of India in respect of Granuity Payments		
		3. Receipts from non-Government Sources:		
		.1 In respect of SQC:		
		Membership fees, training fees, service charges etc. ..	12,58,972.20	
		LESS: Transferred to Statistical Quality Control Development Fund .. ..	5,58,972.20	7,00,000.00
7,00,000.00				
		.2 In respect of RTS:		
	10,888.81	a) Membership subscription .. ..		11,709.70
	37,257.54	b) Fees for training course and sale proceeds of syllabus etc. .. ..		52,143.81
	11,946.20	c) Examination fees & other receipts ..		10,713.00
	5,204.68	d) Receipts from produce at Giridih ..		7,539.01
	1,35,277.18	e) Service charges for work done by Psychometry, Computer Science Unit etc. .. ..		1,02,855.50
		4. Grants-in-aid for miscellaneous projects:		
	33,100.00	.1 From Ministry of Health & Family Planning, Government of India for Communication Action Research Centre (Family Planning Survey) ..		67,300.00
	28,900.00	.2 From Ministry of Health & Family Planning, Government of India for Demography Research Centre .. ..		68,500.00
7,00,000.00	1,35,38,574.41	Carried over .. ..	5,50,000.00	1,22,07,761.02



## INDIAN STATISTICAL INSTITUTE

1972-73		1972-73		INCOME AND EXPENDITURE ACCOUNT	
Plan	Non-Plan	Expenditure	Plan	Non-Plan	
Rs. P.	Rs. P.		Rs. P.	Rs. P.	
6,45,669.61	1,14,48,194.82	Brought forward: .. ..	6,04,900.81	1,01,56,082.21	
5,797.76	1,86,173.56	15.1 Stationeries and consumable stores .. ..	4,452.62	2,40,858.66	
		.2 Other miscellaneous expenses viz. advertisement, insurance premia, labour charges, coolies, cartage, conveyance and other petty expenses like hot weather contingencies etc. .. ..	7,920.31	1,26,363.95	
6,083.39	1,32,070.67	16. Other non-salary contingencies:			
		.1 Postal and MO charges, air and railway freight, electricity and telephone charges (includes arrear electric duty Rs. 2,57,539.00 and OVT charges of Rs. 66,631.67) .. ..	872.35	8,34,777.11	
1,070.67	6,54,382.06	.2 Audit fees and expenses .. ..		15,000.00	
	17,650.00	.3 Bank charges and interest .. ..		15,416.74	
	41,700.09	17.1 Rent, rates and taxes (including those of field camps and outstation offices) .. ..	722.17	5,54,345.91	
700.00	5,47,862.94	.2 Repairs and/or maintenance of buildings, land, etc. and petty construction .. ..		1,30,000.00	
	2,45,192.86	18. Transport .. ..	12,485.04	1,05,976.61	
12,436.75	1,24,332.03	19. Workers' welfare and amenities (excluding reimbursement of medical expenses) .. ..		8,328.24	
	54,528.42	20. Director's discretionary expenses .. ..			
		21.1 Laboratory stores, tools and minor accessories etc. .. ..	6,047.19	79,197.91	
258.05	47,744.94	.2 Material and other charges for experimental farming and rice research scheme .. ..		13,551.68	
	14,260.90	22. Projects (miscellaneous):			
		.1 Fertiliser optimal demand study projecting fertiliser demand in India (as per Appendix A) .. ..		23,158.55	
47,450.25	47,450.25				
<u>6,72,016.23</u>	<u>1,35,61,543.54</u>	Carried over .. ..	<u>6,37,480.49</u>	<u>1,23,31,788.51</u>	

FORTYSECOND ANNUAL REPORT : 1973-74

FOR THE YEAR ENDED 31st MARCH 1974—Contd.

1972-73 Plan Rs. P.	1972-73 Non-Plan Rs. P.	Income	Plan Rs. P.	Non-Plan Rs. P.
7,00,000.00	1,35,38,574.41	Brought forward .. ..	5,50,000.00	1,22,07,761.02
		5. Miscellaneous receipts:		
		Recovery from Garden Reach Workshop Ltd. on account of materials and tools taken over from the Stores of Development Workshop .. ..		91,531.66
		6. Projects (Miscellaneous):		
		.1 Grant received from Indian Council of Social Science Research in respect of project mentioned in item 22.3 of expenditure side .. .. (as per Appendix C)		13,965.00
—	—	.2 Grant in aid received from Indian Council of Social Science Research in respect of project men- tioned in item 22.4 of expenditure side .. .. (as per Appendix D)	—	13,860.00
—	70,500.00	.3 Recovery from Government of India for house rent of Delhi houses used by NSSO .. ..		—
—	—	.4 Excess of expenditure over income allotted to sectors as per Schedule XI enclosed .. ..	87,480.49	49,721.44
<u>7,00,000.00</u>	<u>1,36,23,039.41</u>	Carried over .. ..	<u>6,37,480.49</u>	<u>1,23,76,839.12</u>

INDIAN STATISTICAL INSTITUTE

INCOME AND EXPENDITURE ACCOUNT

1972-73 Plan	1972-73 Non-Plan	Expenditure	Plan	Non-Plan
Rs. P.	Rs. P.		Rs. P.	Rs. P.
6,72,016.23	1,35,61,543.54	Brought forward .. ..	6,37,480.49	1,23,53,736.8
—	14,270.46	22.2 Project on Exchange Control and Liberalisation (as per Appendix B) .. ..	—	22.2
—	10,204.60	.3 Research Project "Central Place Hierarchy for a Developing Agricultural Region", Karmal Area (as per Appendix C) .. ..	—	15,90.8
—	—	.4 Project Quantitative Analysis of Some Aspects of Indian Agriculture (as per Appendix D) .. ..	—	6,92.8
—	—	.5 Energy Project: (as per Appendix E) .. ..	—	361.34
27,983.77	37,020.81	23. Excess of income over expenditure .. .. allocated to sectors (as per Schedule XI)	—	—
<u>7,00,000.00</u>	<u>1,36,23,039.41</u>		<u>6,37,480.49</u>	<u>1,23,76,837.1</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, the effect of which has been given in the Balance Sheet (vide Schedule V enclosed).
- (c) An amount of Rs. 8,99,289.93 being depreciation on fixed assets has been adjusted in General Fund.
- (d) In accordance with the consistent practice, the costs of cards, cabinets, stationeries and stores etc. have been written off in this account and any stocks in hand as on 31st March 1974 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 cash basis.
- (f) This account excludes Rs. 67,700.00 and Rs. 69,500.00 being grants sanctioned by the Government within its March 1974 on account of Communication Action Research Centre (Family Planning Survey) and Demographic Research respectively, which have been received by the Institute after that date.
- (g) Grant-in-aid of Rs. 5,50,000/- Plan Revenue expenditure includes Rs. 3,00,000/- sanctioned by the Government within 31st March 1974, which has been received by the Institute after that date.

Calcutta,  
13 March, 1975.

Sd/- S. P. MURTHY  
Chief Accounts Officer

FORTYSECOND ANNUAL REPORT : 1973-74

FOR THE YEAR ENDED 31ST MARCH 1974—Contd.

1972-73		1972-73		Income	Plan		Non-Plan	
Plan		Non-Plan			Plan	Non-Plan		
Rs.	P.	Rs.	P.		Rs.	P.	Rs.	P.
7,00,000.00		1,36,23,039.41		Brought forward	6,37,480.49		1,23,76,839.12	

7,00,000.00      1,36,23,039.41

6,37,480.49      1,23,76,839.12

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co.  
Chartered Accountants

## INDIAN STATISTICAL INSTITUTE

### APPENDIX A

#### STATEMENT OF INCOME AND EXPENDITURE DURING THE YEAR ENDED 31ST MARCH, 1974 IN CONNECTION WITH FERTILISER OPTIMAL DEMAND STUDY—PROJECTING FERTILISER DEMAND IN INDIA

Expenditure	Rs. P.	Income	Rs. P.
To Salary and other remuneration ..	5,174.44	By Excess of expenditure over income ..	73,159.58
.. Travelling expenses .. ..	1,827.80		
.. Machine Tabulation expenses ..	63,869.01		
.. Other miscellaneous expenses ..	288.33		
	73,159.58		73,159.58

### APPENDIX B

#### STATEMENT OF INCOME AND EXPENDITURE DURING THE YEAR ENDED 31ST MARCH 1974 IN CONNECTION WITH THE PROJECT ON EXCHANGE CONTROL AND LIBERALISATION

Expenditure	Rs. P.	Income	Rs. P.
To Other miscellaneous expenses ..	222.60	By Excess of expenditure over income ..	222.60
	222.60		222.60

Calcutta,  
12 March, 1974

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co.  
Chartered Accountants

FORTYSECOND ANNUAL REPORT : 1973-74

APPENDIX C

STATEMENT OF INCOME AND EXPENDITURE DURING THE YEAR ENDED 31ST MARCH 1974 IN CONNECTION WITH RESEARCH PROJECT "CENTRAL PLACE HIERARCHY FOR A DEVELOPING AGRICULTURAL REGION", KARNAL AREA

Expenditure	Rs. P.	Income	Rs. P.
To Salary and other remuneration ..	8,116.67	By Grant received from the Indian Council of Social Science Research ..	13,965.00
.. Travelling expenses ..	1,140.76	.. Excess of expenditure over income ..	1,625.80
.. Machine Tabulation expenses ..	3,326.80		
.. Other miscellaneous expenses ..	3,006.57		

15,590.80

15,590.80

Calcutta,  
13 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co.  
Chartered Accountants

# INDIAN STATISTICAL INSTITUTE

## APPENDIX D

STATEMENT OF INCOME AND EXPENDITURE DURING THE YEAR ENDED 31st MARCH 1974 IN CONNECTION WITH  
THE PROJECT QUANTITATIVE ANALYSIS OF SOME ASPECTS OF INDIAN AGRICULTURE

Expenditure	Ra.	P.	Income	Ra.	P.
To Salary and other remuneration ..	460.00		By Grant-in-aid received from Indian Council of Social Science Research ..	11,868.00	
" Fellowship .. .. .	6,045.00				
" Travelling expenses .. .. .	422.40				
" Excess of income over expenditure ..	6,932.60				

13,860.00

13,868.00

Calcutta,  
13 March, 1975

Sd/- S. P. MUKHERJEE  
*Chief Accounts Officer*

Sd/- D. DUTTA MATHURER  
*Joint Secretary*

Sd/- S. N. GUHA & Co.  
*Chartered Accountants*

FORTYSECOND ANNUAL REPORT : 1973-74

APPENDIX B

STATEMENT OF INCOME AND EXPENDITURE DURING THE YEAR ENDED 31ST MARCH 1974 IN CONNECTION WITH THE ENERGY PROJECT UNDERTAKEN ON BEHALF OF THE FORD FOUNDATION

Expenditure	Rs. P.	Income	Rs. P.
To Machine Tabulation expenses ..	339.64	By Excess of expenditure over income ..	361.54
„ Other miscellaneous expenses ..	21.70		

361.34

361.34

Calcutta,  
13 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDAR  
Joint Secretary

Sd/- S. N. GUHA & Co.  
Chartered Accountants



INDIAN STATISTICAL INSTITUTE

SCHEDULE OF FIXED ASSETS

Particulars (1)	Written down value as on 31st March 1973		Deletions/ adjustments made during the year		Value after deletions/ adjustments (col. 3-5)	
	Rs.	P.	Rs.	P.	Rs.	P.
<b>A. Land and Land development:</b>						
<b>1. Calcutta:</b>						
.1 At 153 Gopal Lal Tagore Road (adjoining 203, B. T. Road) ..	65,545.90		—		65,545.90	
.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 156, 160, 165, 166/1 Gopal Lal Tagore Road .. .. .	96,663.71		—		96,663.71	
.5 Development of above land .. .. .	6,618.51		—		6,618.51	
.6 At 206 B.T. Road (including cost of development) [Note (a) below]	21,27,393.79		—		21,27,393.79	
.7 At 202 B.T. Road .. .. .	5,79,104.75		—		5,79,104.75	
<b>2. Giridih:</b>						
.1 Farm land [Note (b) below] .. .. .	9,514.51		—		9,514.51	
.2 Development and fencing etc. .. .. .	29,689.55		—		29,689.55	
.3 Farming development .. .. .	10,682.00		—		10,682.00	
.4 Irrigation and water supply .. .. .	25,610.00		—		25,610.00	
.5 In village 'Makat Pur' Giridih [Note (c) below] .. .. .	1,30,087.90		—		1,30,087.90	
.6 Purchased from Sm. Prakriti Debi 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 .. .. .	29,949.63		—		29,949.63	
4. Baroda .. .. .	27,611.32		—		27,611.32	
5. Bangalore [Note (d) below] .. .. .	22,500.00		—		22,500.00	
6. Hyderabad .. .. .	1,14,385.00		—		1,14,385.00	
Sub-total: (A1-6) .. .. .	58,43,435.15		—		58,43,435.15	

FORTYSECOND ANNUAL REPORT : 1973-74

AS ON 31st MARCH 1974

SCHEDULE I

Depreciation for the year		Net value (col. 4-5.1)	Additions during the year			Written down value as on 31st March 1974
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)
	Ra. P.	Ra. P.	Ra. P.	Ra. P.	Ra. P.	Ra. P.
—	—	65,545.90	—	—	—	65,545.90
—	—	40,524.76	—	—	—	40,524.76
—	—	4,38,915.70	—	—	—	4,38,915.70
—	—	96,663.71	—	—	—	96,663.71
—	—	6,618.51	—	—	—	6,618.51
—	—	21,27,393.79	—	—	—	21,27,393.79
—	—	5,79,104.75	—	—	—	5,79,104.75
—	—	9,514.51	—	—	—	9,514.51
—	—	29,689.55	—	—	—	29,689.55
—	—	10,682.00	—	—	—	10,682.00
—	—	25,610.00	—	—	—	25,610.00
—	—	1,30,087.90	—	—	—	1,30,087.90
—	—	14,000.00	—	—	—	14,000.00
—	—	20,74,638.12	—	—	—	20,74,638.12
—	—	29,949.63	—	—	—	29,949.63
—	—	27,611.32	—	—	—	27,611.32
—	—	22,500.00	—	—	—	22,500.00
—	—	1,14,385.00	—	—	—	1,14,385.00
—	—	58,43,435.15	—	—	—	58,43,435.15

INDIAN STATISTICAL INSTITUTE

SCHEDULE OF FIXED ASSETS

Particulars	Written down	Deletions/	Value after
	value as on 31st March 1973	adjustments made during the year	deletions/ adjustments (col. 2-3)
(1)	(2)	(3)	(4)
	Rs. P.	Rs. P.	Rs. P.
<b>B. Buildings:</b>			
1. Calcutta:			
.1 Partly at 203 B.T. Road and partly at 153 Gopal Lal Tagore Road, (Main building) (Note (c) below) .. .. .	7,95,065.93	—	7,95,065.93
.2 At 153 Gopal Lal Tagore Road .. .. .	10,25,120.85	—	10,25,120.85
.3 At 205 B.T. Road .. .. .	18,16,690.09	—	18,16,690.09
.4 At 206 B.T. Road .. .. .	1,42,841.37	—	1,42,841.37
.5 At 202 B.T. Road .. .. .	53,496.39	—	53,496.39
.6 Construction at Barasagar Library building .. .. .	39,040.00	—	39,040.00
2. Delhi:			
.1 Construction at Delhi .. .. .	1,87,975.00	—	1,87,975.00
.2 Hyderabad—well			
Sub-total: (B1-2) .. .. .	40,60,229.63	—	40,60,229.63
<b>C. Sheds and Structures:</b>			
1. Calcutta:			
.1 203 B.T. Road, and 153 Gopal Lal Tagore Road (Note (c) and (g) below) .. .. .	73,013.56	—	73,013.56
.2 At 205 Barrackpore Trunk Road .. .. .	68,738.34	—	68,738.34
.3 At 156, 160, 165 and 166/1 Gopal Lal Tagore Road .. .. .	37,185.92	—	37,185.92
.4 At 206 Barrackpore Trunk Road .. .. .	6,984.89	—	6,984.89
.5 At 202 Barrackpore Trunk Road .. .. .	2,76,450.50	—	2,76,450.50
.6 At 5 Rabindranath Tagore Road (for UNTAA Workshop situated on rental premises) .. .. .	2,18,152.63	—	2,18,152.63
2. Delhi:			
.1 Partitions, structures etc. at Delhi .. .. .	6,536.42	—	6,536.42
.2 Erection of a Nissan bus .. .. .	937.81	—	937.81
.3 Hut for a Chowkidar .. .. .	1,219.27	—	1,219.27
Sub-total: (C1-2) .. .. .	6,89,219.34	—	6,89,219.34

FORTYSECOND ANNUAL REPORT : 1973-74

as on 31st March 1974

SCHEDULE I

Depreciation for the year		Net value (col. 4-5.1)	Additions during the year			Written down value as on 31st March 1974
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)
	Ra. P.	Ra. P.	Ra. P.	Ra. P.	Ra. P.	Ra. P.
2.5%	19,876.65	7,75,189.28	—	—	—	7,75,189.28
2.5%	25,628.02	9,99,492.83	—	—	—	9,99,492.83
2.5%	45,417.25	17,71,272.84	—	—	—	17,71,272.84
2.5%	3,571.03	1,39,270.34	—	—	—	1,39,270.34
2.5%	1,337.41	52,158.98	—	—	—	52,158.98
2.5%	—	39,040.00	76,880.00†	—	76,330.00	1,15,920.00
—	—	1,87,975.00	8,84,025.99‡	—	8,84,025.99	10,72,000.99
—	—	—	1,650.00	—	1,650.00	1,650.00
—	95,830.36	39,64,399.27	9,62,555.99	—	9,62,555.99	49,26,955.26
7.5%	5,476.02	67,537.54	—	—	—	67,537.54
7.5%	5,155.38	63,582.96	—	—	—	63,582.96
7.5%	2,788.94	34,396.98	—	—	—	34,396.98
7.5%	523.87	6,461.02	—	—	—	6,461.02
7.5%	20,733.79	2,55,716.71	—	—	—	2,55,716.71
7.5%	16,361.45	2,01,791.18	—	—	—	2,01,791.18
7.5%	490.23	6,046.19	—	—	—	6,046.19
7.5%	70.34	867.47	—	—	—	867.47
7.5%	91.45	1,127.82	—	—	—	1,127.82
—	51,691.47	6,37,527.87	—	—	—	6,37,527.87

† Represents cost of steel

‡ Includes cost of steel and cement for Ra. 1,24,389.87 and materials at site for Ra. 2,67,267.51

INDIAN STATISTICAL INSTITUTE

SCHEDULE OF FIXED ASSETS

Particulars	Written down value as on 31st March 1973	Deletions/ adjustments made during the year	Value after deletions/ adjustments (col. 2-3)
(1)	(2)	(3)	(4)
	Rs. P.	Rs. P.	Rs. P.
<b>D. Machinery &amp; Equipment:</b>			
1. Calculating, Punching and other Tabulating Equipment .. .. .	5,20,382.93	—	5,20,382.93
2. Office Machinery and Equipment .. .. .	2,41,614.81	—	2,41,614.81
3. Workshop Machinery and Equipment .. .. .	25,531.59	—	25,531.59
4. Photo and Optical Equipment .. .. .	29,357.09	—	29,357.09
5. Laboratory Equipment .. .. .	5,24,504.35	—	5,24,504.35
6. Construction Equipment .. .. .	12,134.56	—	12,134.56
7. UNTAA Workshop Machinery and Equipment .. .. .	26,671.17	—	26,671.17
8. Electronic Computer (HEC 2M) and other Tabulating Equipment	32,691.20	—	32,691.20
Sub-total: (D1-8) .. .. .	14,12,887.70	—	14,12,887.70
<b>E. Passenger Lift .. .. .</b>	<b>55,086.49</b>	<b>—</b>	<b>55,086.49</b>
<b>F. Electrical Equipment and Installation:</b>			
1. High Tension Electricity .. .. .	61,928.62	—	61,928.62
2. Electrical Equipment and Fittings .. .. .	4,64,443.44	—	4,64,443.44
3. High Tension Electricity for UNTAA Workshop .. .. .	38,146.99	—	38,146.99
Sub-total: (F1-3) .. .. .	5,64,519.05	—	5,64,519.05
<b>G. Furniture &amp; Fittings .. .. .</b>	<b>6,80,248.51</b>	<b>—</b>	<b>6,80,248.51</b>
<b>H. Books and Journals .. .. .</b>	<b>30,72,470.36</b>	<b>—</b>	<b>30,72,470.36</b>

FORTYSECOND ANNUAL REPORT : 1973-74

AS ON 31st MARCH 1974

SCHEDULE I

Depreciation for the year		Net value (col. 4-5.1)	Additions during the year			Written down value as on 31st March 1974
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.
15%	78,057.44	4,42,325.49	24,263.38	—	24,263.38	4,66,588.87
15%	36,242.22	2,05,372.59	56,771.89	—	56,771.89	2,62,144.48
15%	3,829.74	21,701.85	—	—	—	21,701.85
15%	4,403.56	24,933.53	—	—	—	24,933.53
15%	78,675.65	4,45,828.70	28,381.63	—	28,381.63	4,74,210.33
15%	1,820.18	10,314.38	—	—	—	10,314.38
15%	4,000.68	22,670.49	—	—	—	22,670.49
15%	4,903.68	27,787.52	—	—	—	27,787.52
—	2,11,933.15	12,00,954.55	1,09,416.90	—	1,09,416.90	13,10,671.45
10%	5,508.65	49,577.84	—	—	—	49,577.84
10%	6,192.86	55,735.76	—	—	—	55,735.76
10%	46,444.34	4,17,999.10	57,233.78	—	57,233.78	4,75,232.88
10%	3,814.70	34,332.29	—	—	—	34,332.29
—	56,451.90	5,08,067.15	57,233.78	—	57,233.78	5,65,300.93
10%	68,024.85	6,12,223.66	1,992.78	—	1,992.78	6,14,216.44
5%	1,53,623.52	29,18,846.84	—	1,78,750.75	1,78,750.75	30,97,597.59

INDIAN STATISTICAL INSTITUTE

STATEMENTS OF FUND AMOUNTS

Particulars	Written down	Deletions/	Value after
	value as on 31st March 1973	adjustments made during the year	deletions/ adjustments (col. 2-3)
(1)	(2)	(3)	(4)
	Rs. P.	Rs. P.	Rs. P.
L. Motor Cars and Vehicles .. .. .	51,412.09	1,378.22	50,033.87
J. Library Equipment (including equipment procured through Ford Foundation grant and Rockefeller Foundation grant) .. .. .	1,54,220.66	—	1,54,220.66
K. Construction of Overbridge .. .. .	6,387.54	—	6,387.54
L. Soviet Printing Machine .. .. .	13,48,688.28	—	13,48,688.28
M. S.R.C. Equipment .. .. .	1,35,359.00	—	1,35,359.00
Grand Total: .. .. .	1,80,74,163.90	1,378.22	1,80,72,785.58

- NOTES: (a) Excluding Students Hostel etc., situated on a part of premises 206 Barrackpore Trunk Road, the cost of which has been shown in the accounts of Development Fund II. (Item 3.] and note (b) in Development Fund II Fixed Assets Schedule].
- (b) Excluding Rs. 14,661.16 paid out of Supervision Fee Fund and included in the accounts of that Fund (Note (b) in Supervision Fee Fund Balance Sheet).
- (c) Including Rs. 68,894.19 being additional amount paid under protest. An appeal lodged with the Patna High Court by the Institute in this respect is pending.
- (d) Purchased out of non-marked donation received from Statistical Publishing Society. Excluding Rs. 19,425.00 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. 97,556.95 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 Soviet Academy of Sciences, USSR, which has been made over to the Statistical Publishing Society for utilisation as per agreement.
- (g) Includes value of certain partly demolished sheds and structures but of small consequence.
- (h) Out of capital expenditure grant Rs. 13,05,756.97 and out of S.R.C. expenditure grant Rs. 5,280.00.
- (i) No depreciation is computed on additions during the year.

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Calcutta,  
13 March, 1975

FORTYSECOND ANNUAL REPORT : 1973-74

AS ON 31st MARCH 1974

SCHEDULE I

Depreciation for the year		Net value (col. 4-5.1)	Additions during the year			Written down value as on 31st March 1974
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.
20%	10,006.77	40,027.10	1,74,057.52	—	1,74,037.52	2,14,084.62
15%	23,133.10	1,31,087.56	—	—	—	1,31,087.56
7.5%	479.07	3,908.47	—	—	—	5,908.47
15%	2,02,303.24	11,46,385.04	—	—	—	11,46,385.04
15%	20,303.85	1,15,055.15	5,280.00	—	5,280.00	1,20,335.15
—	8,99,289.93 [Note (f) below]	1,71,73,495.65	13,10,536.97 [Note (h) below]	1,78,750.75	14,89,287.72	1,86,62,783.37

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co.  
Chartered Accountants



INDIAN STATISTICAL INSTITUTE

SCHEDULE II

AMOUNT ALREADY CLAIMED FROM GOVERNMENT OF INDIA BUT PENDING ACCEPTANCE AS ON 31st MARCH 1974

Particulars	Rs. P.	Rs. P.	Rs. P.
1. On account of Capital Expenditure:			
Excess of expenditure over receipt of grant:			
1. In respect of 202 Barrackpore Trunk Road, for repair, renovation etc.			
As per last account .. .. .			2,17,703.00
2. On account of Non-Project Sectors:			
Excess of expenditure over income:			
1. Up to 1959-60			
As per last account .. .. .			2,25,723.00
3. On account of NSS Project Sector:			
Excess of expenditure over income:			
1. Up to 1958-59			
As per last account .. .. .			5,44,011.00
4. On account of Revenue (current) Expenditure (excluding Miscellaneous Projects)			
1. Excess of expenditure over income for 1969-70:			
As per last account .. .. .		8,19,545.10	
2. Excess of expenditure over income for 1970-71:			
As per last account .. .. .		12,91,798.05	
3. Excess of expenditure over income for 1971-72:			
As per last account .. .. .		<u>23,71,545.52</u>	44,82,888.67
5. On account of Plan Revenue Expenditure:			
1. Excess of expenditure over income in 1969-70:			
As per last account .. .. .			84,071.16
6. On account of 25th Anniversary of the Institute:			
Excess of expenditure over receipt:			
As per last account .. .. .			<u>4,650.00</u>
			<u>55,59,567.48</u>

Calcutta  
13th March, 1974

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co  
Chartered Accountants

FORTYSECOND ANNUAL REPORT : 1973-74

SCHEDULE III

AMOUNT TO BE CLAIMED FROM GOVERNMENT OF INDIA AS ON 31ST MARCH 1974

Particulars	Rs.	P.
1. On account of Plan Revenue (Current) Expenditure		
Excess of expenditure over income for 1973-74 .. ..	87,480.49	

Calcutta 13th March, 1975	Sd/- S. P. MUKHERJEE <i>Chief Accounts Officer</i>	Sd/- D. DUTTA MAJUMDER <i>Joint Secretary</i>	Sd/- S. N. GUHA & Co. <i>Chartered Accountants</i>
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SCHEDULE IV

AMOUNT CLAIMED FROM GOVERNMENT OF INDIA AND REJECTED (BUT UNDER CORRESPONDENCE) AS ON 31ST MARCH 1974

Particulars	Rs.	P.	Rs.	P.
1. On account of Capital Expenditure:				
Excess of expenditure over receipt of grant:				
1. 1966-67				
As per last account .. .. .			2,06,851.82	
2. On account of Non-Project Sectors:				
Excess of expenditure over income:				
1. 1960-61				
As per last account .. .. .			1,84,517.00	
2. 1962-63 (including UNTAA Sector)				
As per last account .. .. .			3,46,075.00	
3. 1963-64				
As per last account .. .. .			85,273.76	
4. 1964-65				
As per last account .. .. .			<u>2,67,273.77</u>	8,83,139.53
3. On account of Revenue (Current) Expenditure (including Miscellaneous Projects):				
Excess of expenditure over income:				
1. 1967-68				
As per last account .. .. .			50,663.46	
2. 1968-69				
As per last account .. .. .			<u>54,089.33</u>	1,04,752.79
4. On account of loss on sale of stock of building materials:				
1. 1968-69				
As per last account .. .. .			<u>42,393.40</u>	12,37,137.54

Calcutta 13 March, 1975	Sd/- S. P. MUKHERJEE <i>Chief Accounts Officer</i>	Sd/- D. DUTTA MAJUMDER <i>Joint Secretary</i>	Sd/- S. N. GUHA & Co. <i>Chartered Accountants</i>
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## INDIAN STATISTICAL INSTITUTE

### SCHEDULE V

EXCESS OF EXPENDITURE OVER RECEIPTS IN RESPECT OF MISCELLANEOUS PROJECTS AND ACTIVITIES ON BEHALF OF THE GOVERNMENT OF INDIA AND OTHER BODIES AS ON 31ST MARCH 1974

Projects and activities	Net excess of expenditure (+)/ Receipts (-)				
	Up to 31st March 1973		For the year		Up to 31st March 1974
	Rs.	P.	Rs.	P.	
1. On behalf of Government of India:					
1. Research and Planning Committee of the Planning Commission for Sociological Studies .. .. .			+ 23,755.14		23,755.14
2. ISEC Colombo Plan Fellowship:					
As per last account .. .. .			+1,59,879.02		
Expenditure during the year .. .. .				+1,08,933.88	
Sub-total: (1.2) .. .. .			+1,59,879.02	+1,08,933.88	2,68,812.90
				[Note (a) below]	
3. Ministry of Health and Family Planning, Government of India for Communication Action Research Centre (Family Planning Survey):					
As per account .. .. .	1,31,335.74				
Less: Amount received during the year .. .. .	34,700.00		+97,135.74		
Expenditure during the year .. .. .	1,44,956.71			+77,666.71	
Less: Amount received during the year .. .. .	67,300.00				
Sub-total: (1.3) .. .. .			+97,135.74	+77,666.71	1,74,802.45
				[Note (b) below]	
4. Ministry of Health and Family Planning, Government of India for Demographic Studies: As per last account (including Rs. 99,253.69 for Calcutta Fertility Survey work) .. .. .	2,90,676.56				
Less: Amount received during the year .. .. .	40,000.00		+2,50,676.56		
Expenditure during the year .. .. .	1,39,780.57			+71,280.57	
Less: Amount received during the year .. .. .	68,500.00				
Sub-total: (1.4) .. .. .			+2,50,676.56	+71,280.57	3,21,957.13
				[Note (b) below]	
5. Ministry of Planning, Government of India for National Sample Survey Organisation: As per last account .. .. .			+2,13,200.85	+1,74,927.08	3,88,127.93
Expenditure during the year .. .. .				[Note (b) below]	
Sub-total: (1.1 to 1.5) .. .. .			+7,44,647.31	+4,33,808.24	11,77,455.55
				[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 .. .. .			+ 336.94	-336.94	
2. Indian Council of Social Research for Summer Course on Research Methods in Social Sciences, 1971 As per last Account .. .. .			+ 1,298.20		1,298.20
3. Ford Foundation for Energy Project .. .. .			+ 361.34		361.34
Sub-total: (2.1 to 2.3) .. .. .			+ 1,996.48	-336.94	1,659.54
Total: (1-2) .. .. .			+7,46,643.79	+4,32,471.30	11,79,115.09

NOTES: (a) To be claimed from Government of India. (b) The items are vide Schedule XI attached.

Calcutta  
13 March, 1974

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MALHOTRA  
Joint Secretary

Sd/- S. N. GUHA & Co  
Chartered Accountants

FORTYSECONO ANNUAL REPORT : 1973-74

SCHEDULE VI

DETAILS OF CASH IN HAND AS ON 31st MARCH 1974

At the Central Office and other offices of the Institute

	Rs.	P.	Rs.	P.
At Calcutta:				
Central Office .. ..			32,256.24	
At Delhi .. ..			9,140.44	
At Giridih .. ..			811.10	
At Bangalore:				
SQC .. ..	237.08		} 847.32	
DRTC .. ..	431.26			
RTS .. ..	178.98			
At Ernakulam (Kerala) .. ..			1,909.89	
At Madras .. ..			780.23	
At Coimbatore .. ..			159.89	
At Bombay .. ..			4,695.50	
At Baroda .. ..			160.71	
At Bihulal Project .. ..			207.80	
At Tokyo, Japan .. ..			7,681.49	
			<u>58,650.61</u>	

The above amount of Rs. 58,650.61 has been shown in the following Balance Sheets of the Institute and its various funds:

The Institute .. ..	7,208.93
Other Funds:	
Visiting Professors & Fellows Fund	113.13
Leave Salary Fund .. ..	519.25
Gratuity Fund .. ..	2,996.59
Development Fund I .. ..	521.94
Development Fund II .. ..	12,021.01
Supervision Fee Fund .. ..	5,696.96
Director's Contribution Fund .. ..	6,300.23
ISI General Provident Fund .. ..	23,272.57
	<u>51,441.68</u>
	<u>58,650.61</u>

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Calcutta,  
13 March, 1975

Sd/- S. N. GUHA & Co.  
Chartered Accountants

# INDIAN STATISTICAL INSTITUTE

## SCHEDULE VII

### DETAILS OF BANK BALANCE (EXCEPT AMERICAN EXPRESS INTERNATIONAL BANKING CORPORATION, CALCUTTA) AS ON 31ST MARCH 1974

		Rs. P.
State Bank of India, Shambazar 'B' .. .. .	1,45,378.44	
State Bank of India, Delhi 'A' .. .. .	1,672.98	
State Bank of India, Delhi 'B' .. .. .	698.85	
United Bank of India, Dunlop Bridge .. .. .	15,07,807.66	
National Grindlays Bank Ltd. .. .. .	59,152.85	
Reserve Bank of India (P/L A/c) .. .. .	52,929.52	
Nath Bank Ltd. (in liquidation)—doubtful .. .. .	3,836.34	
United Commercial Bank, Giridih .. .. .	493.00	
United Bank of India, Giridih .. .. .	62,949.97	
Canara Bank, Delhi .. .. .	3,58,036.45	
State Bank of India, Bangalore .. .. .	19,807.17	
Bank of Baroda, Bangalore .. .. .	29,945.15	
State Bank of India, Madras .. .. .	28,223.94	
State Bank of Travancore, Ernakulam .. .. .	21,469.29	
Indian Bank, Coimbatore .. .. .	50,513.88	
State Bank of India, Bombay .. .. .	66,367.89	
Bank of Baroda, Baroda .. .. .	24,180.09*	
State Bank of India, Durgapur .. .. .	2,549.99	
United Bank of India, Durgapur .. .. .	1,635.61	
Bank of Baroda, Bhilai .. .. .	16,693.39	
	24,34,342.46	

\*Includes Rs. 6000/- in transit

The above amount of Rs. 24,34,342.46 has been shown in the following Balance Sheets of the Institute and its various funds as follows:

The Institute .. .. .	1,46,600.05	
Electronic Data Processing and Computation Unit .. .. .	72,762.88	
Honeywell H-400 Computer Unit .. .. .	14,942.12	
Statistical Quality Control Development Fund .. .. .	13,20,037.41	
ISI General Provident Fund .. .. .	6,50,000.00	
Gratuity Fund .. .. .	2,30,000.00	
	24,34,342.46	

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDAR  
Joint Secretary

Calcutta,  
13 March, 1975

Sd/- S. N. GUHA & Co  
Chartered Accountants

FORTYSECOND ANNUAL REPORT : 1973-74

SCHEDULE VIII

GENERAL FUND AS ON 31ST MARCH 1974

	Particulars	Rs. P.	Rs. P.	Rs. P.
1.	Opening balance .. .. .			1,97,79,243.63
2.	Add: Assets added during the year			
1.	Capital Expenditure Grant Account:			
	As per Schedule I (Col. 7.0) annexed to the Balance Sheet ..	13,05,256.97		
2.	Survey Research Centre Grant Account:			
	As per Schedule I (Col. 7.0) annexed to the Balance Sheet ..	5,280.00		
3.	Current Expenditure Grant Account:			
	As per Schedule I (Column 7.1) annexed to the Balance Sheet ..	<u>1,78,750.75</u>	14,89,287.72	
3.	Less:			
1.	Sale of Motor Car acquired through Capital Expenditure Grant ..	1,378.12		
2.	Depreciation written off during the year:			
	On Fixed Assets as per Schedule I .. .. .	<u>8,99,289.93</u>	<u>9,00,668.15</u>	5,88,619.57

2,03,67,863.20

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDAR  
Joint Secretary

Calcutta,  
13 March, 1975

Sd/- S. N. GUHA & Co.  
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

SCHEDULE IX

LOAN FROM OTHER FUNDS AS ON 31ST MARCH 1974

Funds	Rs.	P.
As per Balance Sheet of:		
1. Gratuity Fund .. .. .	23,20,000.00	
2. Development Fund I .. .. .	1,19,000.00	
3. Development Fund II .. .. .	3,65,000.00	
4. Supervision Fee Fund .. .. .	1,13,000.00	
	28,17,000.00	
<i>Less: Loan to Leave Salary Fund .. .. .</i>	<i>88,000.00</i>	
<b>Total .. .. .</b>	<b>28,29,000.00</b>	

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Calcutta,  
13 March, 1975

Sd/- S. N. GUHA & Co.  
Chartered Accountants

SCHEDULE X

EXCESS OF INCOME OVER EXPENDITURE IN RESPECT OF MISCELLANEOUS PROJECTS AND ACTIVITIES AS ON 31ST MARCH 1974

Projects and activities	Net excess of receipts (+)/ expenditure (-)		
	Up to 31st March 1973	For the year 1974	Up to 31st March 1974
	Rs. P.	Rs. P.	Rs. P.
1. Estimates of Probabilities of Hospitalisation according to age, sex and diagnosis etc. As per last account .. .. .	+12,466.06	—	12,466.06
2. International Course on Management of Quality Control in collaboration with Dr. J. M. Juran As per last account .. .. .	+17,826.55	—	17,826.55
3. An investigation of age and related changes in the electrophoretic and immunoelectrophoretic components of serum protein. As per last account .. .. .	+97,816.37	—	97,816.37
4. Fertiliser Optimal Demand Study—Projecting Fertiliser Demand in India .. .. .	+74,220.25	-73,159.58	1,060.67
5. Project on Exchange Control & Liberalisation .. .. .	+18,336.24	-222.60	18,113.64
6. Research Project "Central Place Hierarchy for Developing Agricultural Region" Karnal Area .. .. .	+3,760.40	-1,625.80	2,134.60
7. Project on Quantitative Analysis of some aspects of Indian Agriculture .. .. .	—	+6,932.60	6,932.60
<b>Total: .. .. .</b>	<b>+2,24,425.87</b>	<b>68,075.38</b>	<b>1,56,350.49</b>

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Calcutta,  
13 March, 1975

Sd/- S. N. GUHA & Co.  
Chartered Accountants

FORTYSECOND ANNUAL REPORT : 1973-74

SCHEDULE B XI

SECTORWISE BREAK-UP OF INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st MARCH, 1974

Sectors	Grant from Govt. of India and other bodies		Miscellaneous income		Total income		Total expenditure		Excess of income over expenditure (+) or excess of expenditure over income (-)	
	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.
(1)	(2)		(3)		(4)		(5)		(6)	
<b>NON-PLAN</b>										
<b>1. Non-Project Sectors:</b>										
1. Research and Training School	57,05,000.00		2,76,492.68	(a)	59,81,492.68		53,91,554.13		+ 5,81,938.55	
2. Statistical Quality Control	10,25,000.00		7,00,000.00		17,25,000.00		15,73,972.80		+ 1,51,027.20	
3. International Statistical Education Centre	1,92,000.00		—		1,92,000.00		1,25,250.97		+ 66,741.03	
Sub-total (Item 1)	69,22,000.00		9,76,492.68		78,98,492.68		70,92,785.90		+ 8,05,706.78	
2. Common Services	42,65,000.00		—		42,65,000.00		47,28,117.14		- 4,63,117.14	
Total (Non-Project Sectors & Common Services)	1,11,87,000.00		9,76,492.68		1,21,63,492.68		1,18,20,903.04		+ 3,42,589.64	[Note (b)]
<b>3. Miscellaneous Project:</b>										
1. Communication Research Centre	67,300.00		—		67,300.00		1,44,966.71		- 77,666.71	[Note (c)]
2. Demography Research	68,500.00		—		68,500.00		1,39,780.51		- 71,280.51	[Note (c)]
3. Fertilizer Optimal Demand Study Projecting Fertilizer of India							73,159.58		- 73,159.58	[Note (d)]
4. Project on exchange control and liberalisation							222.60		- 222.60	[Note (d)]
5. Research Project "Central Place Hierarchy for a Developing Agricultural Region", Karnal Area	13,965.00				13,965.00		15,590.80		- 1,625.80	[Note (d)]
6. Project Quantitative Analysis of some aspects of Indian Agriculture	13,860.00				13,860.00		6,927.40		+ 6,932.60	[Note (d)]
7. Energy Project							361.34		- 361.34	[Note (e)]
8. National Sample Survey Organisation							1,74,927.08		- 1,74,927.08	[Note (e)]
Sub-total (Item 3)	1,63,625.00		—		1,63,625.00		5,55,936.08		- 3,92,311.08	
Total (Item 1-3)	1,13,50,625.00		9,76,492.68		1,23,27,117.68		1,23,76,839.18		- 49,721.44	
<b>PLAN</b>										
1. Research and Training School & Statistical Quality Control Scheme	5,50,000.00	(f)	—		5,50,000.00		5,55,945.60		- 5,945.60	
Total: (Item 1)	5,50,000.00		—		5,50,000.00		6,37,480.49		- 87,480.49	[Note (e)]
Grand Total:	1,19,00,625.00		9,76,492.68		1,28,77,117.68		1,30,14,319.61		- 1,37,201.93	

NOTES: (a) Includes Rs. 91,531.66 received from Garden Reach Workshop Ltd. on account of materials and tools taken over from the stores of Development Workshop.

(b) The item is vide Schedule XV attached.

(c) The items are vide Schedule V attached.

(d) The items are vide Schedule X attached.

(e) The item is vide Schedule III attached.

(f) Includes Rs. 300,000/- sanctioned by the Government within 31st March 1974, which has been received by the Institute after that date.

(g) Includes Rs. 1,500/- for Calcutta Fertility Survey Work.

Calcutta,  
13 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- S. N. GUHA & Co.  
Chartered Accountants

Sd/- D. DUTTA MAHENDER  
Joint Secretary



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  
1974

Particulars	Rs.	P.	Rs.	P.
1. Excess of receipts over expenditure:				
.1 1967-68 .. .. .	1,058.40			
.2 1969-70 .. .. .	1,175.00			
.3 1970-71 .. .. .	1,33,241.59			
.4 1971-72 .. .. .	2,73,174.78			
.5 1972-73 .. .. .	8,40,263.97			
.6 1973-74 .. .. .	50,594.03		12,99,505.77	

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Calcutta,  
13 March, 1975

Sd/- S. N. GUHA & Co  
Chartered Accountants

SCHEDULE XIII

ADVANCE FOR LAND AS ON 31ST MARCH 1974

Srl. no.	Details of Land and Premises	Amount Rs.	P.
1.	106 Barrackpore Trunk Road .. .. .	29,799.38	
2.	Bustee adjacent to 123 Gopal Lal Tagore Road .. .. .	12,137.00	
3.	Land adjacent to Goopiu Niwas .. .. .	5,652.00	
4.	168 Gopal Lal Tagore Road .. .. .	3,744.03	
	Sub-total: (1 to 4) .. .. .	51,332.41	
5.	Land at 102 Barrackpore Trunk Road: As per last account .. .. .	3,30,564.00	
	Less: Refund received from the Land Acquisition Collector and in- vested .. .. .	3,11,852.66	18,711.34
6.	Land at Madras .. .. .	21,562.50	
	Sub-total: (5 to 6) .. .. .	40,271.84	[Note (a) below]
	Total: .. .. .	91,606.25	

Note: (a) Net from Capital Expenditure Grant received from Government of India.

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Calcutta,  
13 March, 1975

Sd/- S. N. GUHA & Co  
Chartered Accountants

FORTYSECOND ANNUAL REPORT : 1973-74

SCHEDULE XIV

EXCESS OF RECEIPTS OVER EXPENDITURE IN RESPECT OF PLAN REVENUE EXPENDITURE GRANT  
RECEIVED FROM GOVERNMENT OF INDIA  
AS ON 31ST MARCH 1974

Particulars	Rs.	P.	Rs.	P.
1. Excess of receipts over expenditure:				
.1 1970-71 .. .. .			66,701.29	
.2 1971-72 .. .. .			58,275.02	
.3 1972-73: As per last account .. .. .	27,983.77			
Add: Excess debited in respect of Machine tabulation expenses for N.S.S. adjusted ..	90,342.39		1,18,326.16	
			<u>2,43,302.47</u>	

Calcutta,  
13 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co.  
Chartered Accountants

SCHEDULE XV

EXCESS OF RECEIPTS OVER EXPENDITURE IN RESPECT OF NON-PLAN REVENUE  
EXPENDITURE AS ON 31ST MARCH 1974

Particulars	Rs.	P.	Rs.	P.
1. Excess of receipts over expenditure:				
.1 1972-73				
As per last account .. .. .			5,06,859.49	
Less: (i) Adjustment of machine tabulation expenses for N.S.S. charged to Plan Revenue expenditure	90,342.39			
(ii) Excess of receipts over expenditure in respect of gratuity payments transferred to fund account	3,778.95	94,121.34	4,12,738.15	
.2 1973-74 .. .. .			3,42,589.64	
			<u>7,55,327.79</u>	

Calcutta  
13 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co.  
Chartered Accountants

## INDIAN STATISTICAL INSTITUTE

### STATEMENT OF ACCOUNTS OF GRANT RECEIVED FROM THE GOVERNMENT OF INDIA IN RESPECT OF CAPITAL PROJECTS AND EXPENDITURE ETC. FOR THE YEAR ENDED 31ST MARCH 1974

1972-73 Rs. P.	Expenditure	Rs. P.	1972-73 Rs. P.	Income	Rs. P.
	To Additions to Assets during the year:			1. By Grant received from the Government of India for current year's Capital Expenditure ..	13,50,000.00
11,60,386.03	1. As per Schedule I (column 7.0) to the Balance Sheet of Indian Statistical Institute .. ..	13,05,256.97	19,90,000.00	2. Sale proceeds of Motor Cars .. ..	1,310.00
	2. OYT telephone payment during the year ..	—	13,764.00		
8,40,263.97	Excess of receipt over expenditure .. ..	50,594.03			
<u>20,03,764.00</u>		<u>13,55,851.00</u>	<u>20,03,764.00</u>		<u>13,55,851.00</u>

Calcutta  
13 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co  
Chartered Accountants

FORTYSBCOND ANNUAL REPORT : 1973-74

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 1974

1972-73 Rs. P.	Expenditure	Rs. P.	1972-73 Rs. P.	Income	Rs. P.
	1. To Expenditure during the year:			1. By Unspent balances of Grant as per last account	
1,32,031.63	.1 Revenue expenditure ..	—	2,82,841.49		6,54,600.41
	2 Capital Expenditure			2. .. Grant received from Government of India for current year's expenditure ..	—
96,209.25	Equipment ..	5,280.00	6,00,000.00		
			6,00,000.00		
6,54,600.61	2. Excess of receipt over expenditure .. ..	6,49,320.61			
<u>8,82,841.49</u>		<u>6,54,600.61</u>	<u>8,82,841.49</u>		<u>6,54,600.61</u>

Calcutta  
13 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co.  
Chartered Accountants

**INDIAN STATISTICAL INSTITUTE**  
**VISITING PROFESSORS AND FELLOWS FUND**

BALANCE SHEET AS ON 31ST MARCH 1974

1973-74 Rs. P.	Fund and Liabilities	Rs. P.	1973-74 Rs. P.	Property and Assets	Rs. P.
	Fund:			Cash in hand	
113.13	As per last account ..	113.13	113.13	As per Schedule VI to the Institute's Balance Sheet ..	113.13
113.13		113.13	113.13		113.13

*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.

This is the Balance Sheet referred to in our report of even date.

Calcutta 13 March, 1975	Sd/- S. P. MUKHERJEE <i>Chief Accounts Officer</i>	Sd/- D. DUTTA MAJUMDER <i>Joint Secretary</i>	Sd/- S. N. GUHA & Co. <i>Chartered Accountants</i>
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**LEAVE SALARY FUND**

BALANCE SHEET AS AT 31ST MARCH 1974

1973-74 Rs. P.	Fund and Liabilities	Rs. P.	Rs. P.	Property and Assets	Rs. P.	Rs. P.
69,000.00	Amount due to the Institute on loan account as per Schedule IV	88,000.00	68,159.75	1. Deficit:		
				As per last account	68,159.75	
				Add: Leave salary paid during the year ..	19,321.00	87,480.75
				2. Current Assets:		
				Cash in hand:		
				As per Schedule VI to the Institute's Balance Sheet ..		519.25
69,000.00		88,000.00	69,000.00			88,000.00

*Note:* A sum of Rs. 1,32,000/- (excluding interest accrued for six years ended 31st March 1973, which has not been ascertained being liability in respect of leave salary as at 31st March 1974 estimated by the Institute, has not been provided for in these accounts.

This is the Balance Sheet referred to in our report of even date.

Calcutta, 13th March, 1975	Sd/- S. P. MUKHERJEE <i>Chief Accounts Officer</i>	Sd/- D. DUTTA MAJUMDER <i>Joint Secretary</i>	Sd/- S. N. GUHA & Co. <i>Chartered Accountants</i>
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FORTYSECOND ANNUAL REPORT : 1973-74

GRATUITY FUND

BALANCE SHEET AS AT 31st MARCH 1974

1972-73 Fund and Liabilities		1972-73		Property and Assets	
Rs.	P.	Rs.	P.	Rs.	P.
<b>Fund:</b>					
As per last account ..	43,70,578.98			Investment in Government Securities Rs. 5,16,900/- 5½% loan of 1999 (Market value Rs. 5,08,112.70)	
<b>Add:</b>					
(i) Recovery of fund in respect of re-imbursment of Gratuity payments received from Govt. of India for the years 1969-70 to 1971-72 but adjusted in those years	2,29,778.95		5,19,226.05	As per last account ..	5,19,226.05
(ii) Excess of income over expenditure for the year as per Income and Expenditure Account ..	28,429.50	46,28,787.43	14,41,037.89	Current Assets:	
				(i) Amount due from the Institute on loan account:	
				As per Schedule IX to the Institute's Balance Sheet	23,20,000.00
				(ii) Employer's contribution for 1969-70, 1970-71 & 1971-72 receivable from the Institute ..	14,42,030.00
43,70,578.98			85,288.50	Interest accrued on G.P. Notes ..	1,13,710.00
<b>Liabilities:</b>					
191.10	As per last account ..	191.10		Cash in hand:	
			3,217.64	(i) As per Schedule VI to the Institute's Balance Sheet	2,99,000.00
				(ii) Balance with Banks forming part of the Institute Bank Account shown in Schedule VII to the Institute's Balance Sheet ..	2,40,000.00
<u>43,70,770.08</u>		<u>46,28,978.53</u>	<u>43,70,770.08</u>		<u>46,28,976.00</u>

Note: Investment of the fund are held in the name of the Indian Statistical Institute.

This is the Balance Sheet referred to in our report of even date.

Calcutta,  
13 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUPTA & Co.  
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

GRATUITY FUND

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 1974

1972-73 Rs. P.	Expenditure	Ra. P.	1972-73 Rs. P.	Income	Rs. P.
	To Excess of income over expenditure transferred to Fund Account ..	28,429.50		By Interest: .. On G. P. Notes ..	28,429.50
<u>28,429.50</u>		<u>28,429.50</u>	<u>28,429.50</u>		<u>28,429.50</u>

Calcutta,  
13 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co  
Chartered Accountants

DEVELOPMENT FUND I

BALANCE SHEET AS AT 31ST MARCH 1974

1972-73 Rs. P.	Fund and Liabilities	Rs. P.	1972-73 Rs. P.	Property and Assets	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:	
				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>

This is the Balance Sheet referred to in our report of even date.

Calcutta,  
13 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co  
Chartered Accountants

FORTYSECOND ANNUAL REPORT: 1973-74

DEVELOPMENT FUND II

BALANCE SHEET AS AT 31ST MARCH 1974

1973-74 Fund and Liabilities	Rs.	P.	Rs.	P.	1972-73 Property and Assets	Rs.	P.	Rs.	P.
1. Fund:					1. Fixed Assets:				
As per last account	11,01,956.09				As per schedule annexed	5,79,687.68		5,64,404.33	
<i>Less: Excess of expenditure over income for the year as per Income and Expenditure Account</i>	<u>8,287.71</u>		10,93,668.38		2. OYT telephone:				
11,01,956.09					As per last account	5,593.46			
73.93 2. Liabilities			73.93		<i>Less: written off</i>	<u>5,593.46</u>		—	
					3. Investment in Government Securities at cost:				
					Rs. 50,000/- 5½% loan of 2000 (Market value Rs. 48,775/-) ..	50,075.00		50,075.00	
					4. Current Assets:				
					1. Stock of building materials at cost (not verified) ..	93,992.87		93,992.87	
					2. Interest accrued-recoverable ..	5,500.00		8,250.00	
					3. Amount due from the Institute on Loan Account as per Schedule IX to the Institute's Balance Sheet:				
					As per last account	3,65,000.00		3,65,000.00	
					4. Cash in hand:				
					As per Schedule VI to the Institute's Balance Sheet ..	2,181.01		12,021.01	
<u>11,02,030.02</u>			<u>10,93,742.31</u>		<u>11,02,030.02</u>			<u>10,93,742.31</u>	

This is the Balance Sheet referred to in our report of even date.

Calcutta,  
13 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DATTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co.  
Chartered Accountants



INDIAN STATISTICAL INSTITUTE

DEVELOPMENT FUND II

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 1974

1972-73 Rs. P.	Expenditure	Rs. P.	1972-73 Rs. P.	Income	Rs. P.
	To Depreciation:		11,983.00	By Real .. ..	9,608
16,417.38	.. On Fixed Assets ..	15,284.25	2,750.00	.. Interest on Investment ..	1,708
	.. Amount written off:			.. Excess of expenditure over income transferred to Fund Account .. ..	8,217
294.39	OYT telephone advance ..	5,593.46	1,978.77		
<u>16,711.77</u>		<u>20,877.71</u>	<u>16,711.77</u>		<u>20,877</u>

Calcutta,  
13 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA A.C.  
Chartered Accountant

FORTYSECOND ANNUAL REPORT : 1973-74

DEVELOPMENT FUND II

SCHEDULE OF FIXED ASSETS AS ON 31st MARCH 1974

Particulars	Written down value as on 31st March 1973	Depreciation for the year		Net value (col. 2-3.1)
		Rate	Amount	
		Rs. P.	Rs. P.	
(1)	(2)	(3.0)	(3.1)	(4)
<b>I. LAND:</b>				
1. Bidyayan Sarani .. .. .	50,000.00	—	—	50,000.00
2. 169 Gopal Lal Tagore Road, Baranagar .. .. .	1,03,855.00	—	—	1,03,855.00
3. Rose Villa, Giridih .. .. .	1,07,502.72	—	—	1,07,502.72
4. Biraja Kutir, Giridih .. .. .	7,445.19	—	—	7,445.19
5. Takdah Planters' Club, Darjeeling .. .. .	25,996.50	—	—	25,996.50
Sub-total: (1)	2,94,799.41	—	—	2,94,799.41
<b>2. BUILDINGS:</b>				
1. At 169 Gopal Lal Tagore Road, Baranagar .. .. .	20,184.58	2.5%	504.61	19,679.97
2. At Bidyayan Sarani, Baranagar .. .. .	9,713.53	2.5%	242.84	9,470.69
3. Rose Villa, Giridih .. .. .	86,441.97	2.5%	2,161.05	84,280.92
4. Health Home, Giridih (a) .. .. .	11,237.71	2.5%	280.94	10,956.77
Sub-total: (2)	1,27,577.79		3,189.44	1,24,388.35
<b>3. SHEDS AND STRUCTURES:</b>				
1. Students' Hostel etc. at 206 Barrackpore Trunk Road, Baranagar (b) .. .. .	1,12,290.05	7.5%	8,421.75	1,03,868.30
2. 169 Gopal Lal Tagore Road, Baranagar .. .. .	34,888.39	7.5%	2,616.63	32,271.76
3. Post Office at 204 B. T. Road, Baranagar .. .. .	366.87	7.5%	27.52	339.35
4. Bidyayan Sarani, Baranagar .. .. .	953.84	7.5%	71.54	882.30
5. Petty construction at Giridih .. .. .	4,421.23	7.5%	331.59	4,089.64
Sub-total: (3)	1,52,920.38		11,469.03	1,41,451.35
4. INTERNAL TELEPHONE SYSTEM .. .. .	2,522.34	10%	252.23	2,270.11
5. MOTOR CARS .. .. .	1,867.76	20%	373.55	1,494.21
Total: (1-5)	5,79,687.68		15,284.25	5,64,403.43

Note: (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.

Calcutta,  
13 March, 1975

Sd/- S. P. MUKERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co.  
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

SUPERVISION FEE FUND

BALANCE SHEET AS AT 31ST MARCH 1974

1972-73		Fund and Liabilities		1972-73		Property and Assets		Rs. P.		Rs. P.	
Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.
		Fund:				Fixed Assets:					
2,16,304.87		As per last account	..	2,16,304.87		Land:					
		Liabilities:				At Calcutta—					
		Amount due to ISI				203 Barrackpore Trunk					
		Small Scale Industries				Road .. .. .		(a)	97,556.95		
		Experimental Unit:				At Giridih—					
				1,12,218.11		Farm land .. .. .		(b)	14,661.16	1,12,218.11	
14,610.20		As per last accounts	..	14,610.20		Current Assets:					
						Amount due from the Insti-					
						tute on Loan Accounts:					
						As per Schedule IX to the					
						Institute's Balance Sheet				1,13,000.00	
						Cash in hand:					
						As per Schedule VI to the					
						Institute's Balance Sheet				5,696.96	
<u>2,30,915.07</u>				<u>2,30,915.07</u>						<u>2,30,915.07</u>	

Notes: (a) Value of the building on this land is shown in the Fixed Assets Schedule attached to the Institute's Balance Sheet Items B.1.1 and C.1.1 and note (c) Schedule I)

(b) Land at Giridih—Farm land excludes Rs. 9,514.51 paid out of General Fund and included in the account of the Income [Item A.2.1 and note (b) of the Schedule I].

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DEBTA MAJUMDER  
Joint Secretary

This is the Balance Sheet referred to in our report of even date

Calcutta,  
13 March, 1975

Sd/- S. N. GUPTA & Co.  
Chartered Accountants

FORTYSECONd ANNUAL REPORT : 1973-74  
 STATISTICAL QUALITY CONTROL DEVELOPMENT FUND  
 BALANCE SHEET AS AT 31st MARCH 1974

1973-73 Rs. P.	Fund and Liabilities	Rs. P.	Rs. P.	1972-73 Rs. P.	Property and Assets	Rs. P.
	Fund:				Balance with Banks forming part of the Institute's Bank Account as shown in Schedule VIII to the Institute's Balance Sheet	13,20,037.41
	As per last account ..	7,61,065.21		7,61,065.21	..	13,20,037.41
	Add: Excess of SQC receipts over Rs. 7.00 lakhs transferred from Current Expenditure Account ..	5,58,972.20	13,20,037.41			
7,61,065.21			13,20,037.41	7,61,065.21		13,20,037.41

Sd/- S. P. MUKHERJEE  
*Chief Accounts Officer*

Sd/- D. DUTTA MAJUMDER  
*Joint Secretary*

This is the Balance Sheet referred to in our report of even date.

Calcutta,  
 13 March, 1975

Sd/- S. N. GUHA & Co.  
*Chartered Accountants*

INDIAN STATISTICAL INSTITUTE  
ELECTRONIC DATA PROCESSING AND COMPUTATION UNIT  
BALANCE SHEET AS AT 31ST MARCH 1974

1972-73 Rs. P.	Fund & Liabilities	Rs. P.	Rs. P.	1972-73 Rs. P.	Property and Assets	Rs. P.	Rs. P.
	1. Fund:				1. Fixed Assets:		
	As per last account ..	15,00,884.18		13,509.12	As per Schedule annexed ..		12,198.88
	Add: Excess of income over expenditure for the year as per Income and Expenditure Account ..	22,649.09	15,23,533.27	4,00,000.00	2. Fixed deposit with United Bank of India, Dunlop Bridge		4,00,000.00
15,00,884.18					3. Current Assets:		
				20,745.50	.1 Sundry debtors	20,745.50	
				10,00,000.00	.2 Amount due from Institute on Loan Account ..	10,00,000.00	
				3,533.32	.3 Interest accrued on investment	17,866.68	
				63,095.24	.4 Balance with Banks forming part of the Institute Bank Account shown in Schedule VII to the Institute's Balance Sheet	72,762.88	11,11,333.08
15,00,884.18			15,23,533.27	15,00,884.18			15,23,533.08

Sd. S. P. MUKHERJEE  
Chief Accounts Officer

Sd. D. DUTTA MAJUMDER  
Joint Secretary

We have examined the above Balance Sheet of the Indian Statistical Institute Electronic Data Processing and Computation Unit as at 31 March 1974 and the annexed Income and Expenditure Account for the year ended that date with the books and documents maintained by the Institute and produced to us and the information and explanation given and have found them to be in accordance therewith.

Calcutta,  
13 March, 1975

Sd/- S. N. GUHA & Co  
Chartered Accountants

FORTYSECOND ANNUAL REPORT : 1973-74

ELECTRONIC DATA PROCESSING AND COMPUTATION UNIT

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 1974

1972-73 Rs. P.	Expenditure	Rs. P.	1972-73 Rs. P.	Income	Rs. P.
500.00	To Salary and other remuneration		24,441.00	By Interest on investment	.. 24,000.00
	.. Depreciation on Fixed Assets:				
1,501.01	As per Schedule annexed	.. 1,350.91			
2,439.99	.. Excess of Income over Expenditure transferred to Fund Account	.. 22,649.09			
<u>4,441.00</u>		<u>24,000.00</u>	<u>24,441.00</u>		<u>24,000.00</u>

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Calcutta,  
13 March, 1975

Sd/- S. N. GUHA & Co.  
Chartered Accountants

ELECTRONIC DATA PROCESSING AND COMPUTATION UNIT

SCHEDULE OF FIXED ASSETS AS ON 31ST MARCH 1974

Particulars	Written down value as on 31st March 1973	Depreciation for the year		Net value (col. 2-3-1)
		Rate %	Amount	
(1)	(2)	(3)	(3.1)	(4)
	Rs. P.		Rs. P.	Rs. P.
1. Furniture and fittings	7,998.80	10%	799.88	7,198.92
2. Electrical equipment	2,696.90	10%	269.69	2,427.21
3. Office machinery and equipment	1,262.11	10%	126.21	1,135.90
4. Punching equipment	1,551.31	10%	155.13	1,396.18
Total:	13,509.12		1,350.91	12,158.21

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Calcutta,  
13 March, 1975

Sd/- S. N. GUHA & Co.  
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

HONEYWELL H-400 COMPUTER UNIT

BALANCE SHEET AS AT 31ST MARCH 1974

1972-73 Rs. P.	Fund and Liabilities	Rs. P.	1972-73 Rs. P.	Property and Assets	Rs. P.	Rs. P.
	1. Grant-in-aid from Government of India		10,76,235.53	1. Fixed Assets: As per Schedule annexed		8,76,614.06
20,50,000.00	As per last Account	20,50,000.00		2. Excess of expenditure over income: As per last account	9,58,822.35	
			9,58,822.35	Add: for the year	<u>1,99,621.48</u>	11,58,443.83
				3. Balance with Banks forming part of the Institute's Bank Account as shown in Schedule VII to the Institute's Balance Sheet		14,942.12
<u>20,50,000.00</u>		<u>20,50,000.00</u>	<u>20,50,000.00</u>			<u>20,50,000.00</u>

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- D. DUTTA MAJUMDAR  
Joint Secretary

We have examined the above Balance Sheet of the Indian Statistical Institute Honeywell H-400 Computer Unit as at 31st March 1974 and the annexed 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,  
13 March, 1975

Sd/- S. N. GUPTA & Co  
Chartered Accountants

FORTYSECOND ANNUAL REPORT : 1973-74

HONEYWELL H-400 COMPUTER UNIT

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 1974

1972-73 Rs. P.	Expenditure	Rs. P.	1972-73 Rs. P.	Income	Rs. P.
	To Depreciation on Fixed Assets		2,41,530.10	By Excess of expenditure over income	.. .. 1,99,621.48
2,41,530.10	As per Schedule annexed ..	1,99,621.48			

2,41,530.10

1,99,621.48

2,41,530.10

1,99,621.48

Calcutta,  
15 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

Sd/- S. N. GUHA & Co.  
Chartered Accountants

Sd/- D. DUTTA MAJUMDER  
Joint Secretary



INDIAN STATISTICAL INSTITUTE

HONEYWELL H-40  
SCHEDULE OF FIXED ASSETS

Particulars	Value of assets as on 31st March 1973 (prior to depreciation)	Deletion/adjustment up to 31st March 1973	Value after adjustment as on 31st March 1973 (col. 3-1)
(1)	(2)	(3)	(4)
	Rs. P.	Rs. P.	Rs. P.
1. Cost of Honeywell H-400 Computer .. ..	10,29,844.50		
1.1 Customs duty and importation charges .. ..	6,85,743.39		
1.2 Insurance charges .. ..	47,087.22		
Sub-total: (1) .. ..	17,62,675.11	—	17,62,675.11
2. Cost of Motor alternator .. ..	27,297.94		
2.1 Customs duty and importation charges .. ..	10,656.47		
2.2 Insurance charges .. ..	373.63		
Sub-total: (2) .. ..	38,328.04	—	38,328.04
3. Cost of magnetic tape .. ..	41,325.00	(-)-17,291.25	24,033.75
4. Cost of air-conditioning .. ..	1,16,709.75	—	1,16,709.75
5. Cost of electrical installation .. ..	54,786.04	—	54,786.04
4. Cost of construction of floor etc. .. ..	38,525.19	—	38,525.19
	20,52,349.13	(-)-17,291.25	20,35,057.88

Calcutta,  
13 March, 1975

Sd/- S. P. MUKHERJEE  
Chief Accounts Officer

FORTYSECOND ANNUAL REPORT : 1973-74

COMPUTER UNIT  
as on 31st March 1974

Depreciation up to 31st March 1973	Written down value as on 31st March 1973	Depreciation for the year		Net value as on 31st March, 1974
		Rate	Amount	
(5)	(6)	(7.0)	(7.1)	(8)
Rs. P	Rs. P		Rs. P	Rs. P
8,59,910.31	9,02,764.80	20%	1,80,552.96	7,22,211.84
10,386.89	27,941.15	10%	2,794.12	25,147.03
11,728.47	12,305.28	20%	2,461.06	9,844.22
54,568.60	62,141.15	15%	9,321.17	52,819.98
18,584.84	36,201.20	10%	3,620.12	32,584.08
3,643.24	34,881.95	2.5%	872.05	34,009.90
9,58,822.35	10,76,235.53		1,99,621.48	8,76,614.05

Sd/- D. DUTTA MAJUMDER  
Joint Secretary

Sd/- S. N. GUHA & Co.  
Chartered Accountants

## INDIAN STATISTICAL INSTITUTE

S. N. GUHA & Co.  
Chartered Accountants

12, Waterloo Street, First Floor.  
Calcutta

13 March, 1975

### INDIAN STATISTICAL INSTITUTE GENERAL PROVIDENT FUND AUDITORS' REPORT

We report that we have audited the Balance Sheet as at 31st March 1974 of the Indian Statistical Institute General Provident Fund signed by us under reference to this report and relative Income & Expenditure Account for the year ended on that date with the 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. Interim relief paid to workers during 1971 from which deductions were made on account of P.F. and shown separately.

While allocating interest in the Income & Expenditure Account interest for the above has not been separated and credited with the above deductions. But it is reported that while paying the above liability principal amount as well as interest up-to-date shall also be paid to the employees.

2. Liability on account of members' own subscription and employer's contribution i.e. total P.F. dues to employees includes liabilities to employees of Indian Statistical Institute as well as employees of NSSO who were previously employed with ISI now transferred to NSSO. As per Balance Sheet total liabilities on account of Provident Fund have been shown without separating the liabilities to the employees of the ISI itself and NSSO staffs who now do not belong to ISI. In this connection it may be mentioned that NSSO, a Government Organisation, has been separated from ISI and such separation took place on and from 1st June, 1972 but still settlement of P.F. dues have not been determined by ISI and shown separately in the Balance Sheet of Indian Statistical Institute General Provident Fund. In our opinion immediate step should be taken to determine the liability on account of P.F. dues to NSSO.

3. In course of our routine checking the following irregularities were observed:—

- (a) In some cases deductions of loans were not made in equal monthly instalments and in some cases deductions are not made.
- (b) The proceedings of the Board of Trustees meetings are not written on the Minute Book but are type-written and pasted on the Minute Book. In certain cases corrections were made without being initialled.

FORTYSECOND ANNUAL REPORT : 1973-74

- (c) Interest received from Institute for utilization of P.F. money of Rs. 5,000/-.

The above amount has been credited to the Income & Expenditure Account as the interest received from ISI for utilizing P.F. money. In this regard please refer our report on the General Balance Sheet.

- (d) Relief loan to Members

No detailed list of the above account has been produced to us. Hence we could not verify the said account.

- (e) Investment of Rs. 50,000/- on 12-Year National Plan Savings Certificate.

The above certificate matured on 27.8.71 but it was not re-invested after being matured and kept lying with the Post Office. However, an additional interest of Rs. 12,375.00 was received for the uninvested period by the Trustee from the Post Office on 7.10.74 as reported.

- (f) The houses/sites purchased by the employees out of the withdrawals from the fund have not been supported by assignment of deed in favour of the trustees as required in rule 21(f)(i) of the rules of the fund.

- (g) Investments of the Provident Fund stood in the name of ISI have been transferred in the name of Indian Statistical Institute General Provident Fund in April, 1974.

- (h) The closing balances of the Members Ledger could not be verified by us as no list of closing balance was prepared and produced before us.

Sd/- S. N. GUPTA  
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

INDIAN STATISTICAL INSTITUTE

BALANCE SHEET

1972-73 Rs. P.	Fund and Liabilities	Rs. P.	Rs. P.	Rs. P.
	Members' own subscription			
	As per last account .. .. .	68,96,401.52		
	Add: during the year .. .. .	4,51,042.45		
		73,47,443.97		
	Less: refunded during the year .. .. .	1,07,014.54	72,40,429.43	
66,13,000.52	Less: withdrawal to date .. .. .		3,12,023.45	69,28,405.98
	Employer's contribution:			
	As per last account .. .. .		68,96,401.52	
	Add: during the year (including Rs. 10,415.00 in respect of workers on deputation) .. .. .		4,51,042.45	
			73,47,443.97	
68,96,401.52	Less: (i) refunded during the year .. .. .	94,383.03		
	(ii) amount forfeited .. .. .	12,631.51	1,07,014.54	72,40,429.43
	Members' voluntary subscription:			
	As per last account .. .. .		1,20,530.76	
	Add: during the year .. .. .		26,015.13	
			1,46,545.89	
1,20,530.76	Less: refunded during the year .. .. .		37,373.38	1,09,172.51
	Interest payable:			
	(a) On Member's own subscription:			
	As per last account .. .. .		30,06,655.71	
	Add: amount received from a worker on deputation .. .. .		556.77	
			30,07,212.48	
	Less: paid during the year .. .. .		60,685.28	
29,08,460.71	Less: withdrawal to date .. .. .		29,46,527.20	28,35,960.41
	(b) On Employer's contribution:			
	As per last account .. .. .		27,82,929.09	
	Add: amount received from a worker on deputation .. .. .		556.77	
			27,83,485.86	
27,82,929.09	Less: (i) paid during the year .. .. .	55,660.14		
	(ii) amount forfeited .. .. .	761.38	56,421.52	27,27,064.34
	(c) On Members' voluntary subscription:			
	As per last account .. .. .		46,421.92	
	Less: paid during the year .. .. .		22,884.62	23,537.30
34,615.78	Interim relief due to workers .. .. .			34,615.78
33,011.02	Liabilities for tax .. .. .			
23,953.85	Undistributed income including amounts forfeited as per income and expenditure account .. .. .			9,74,315.51
1,94,59,331.17				2,08,73,701.42

Notes: Members' own subscription and employer's contribution include balances due to employees who ceased their employment with the Institute within 31st March 1974, but their accounts remained unsettled at that date.

Calcutta,  
13th March, 1975

Sd/- S. P. MUKHERJEE  
Manager

FORTYSECONDD ANNUAL REPORT : 1973-74

GENERAL PROVIDENT FUND

AS AT 31st MARCH 1974

1972-73	Property and Assets	Rs. P.	Rs. P.	Rs. P.
	Investment at cost:			
	(a) Government Promissory Notes:			
	Rs. 18,65,000/- 1% conversion loan 1946/86 ..		13,00,769.60	
	Rs. 13,00,000/- 4 1/2% loan 1985 .. ..		13,00,000.00	
	Rs. 53,50,000/- 5 1/2% loan 1999 .. ..		53,68,450.00	
	Rs. 20,25,000/- 5 1/2% loan 1992 .. ..		20,47,275.00	
	Rs. 23,00,000/- 5 1/2% loan 2000 .. ..		23,00,450.00	
	Rs. 18,00,000/- 5 1/2% West Bengal loan 1983 ..		18,00,000.00	1,41,19,944.60
	Rs. 1,46,40,000/- (Market value Rs. 1,36,70,987.50)			
	(b) Rs. 50,000/- 12 year National Plan Savings Certificates .. ..		50,000.00	
1,52,19,944.60	(c) Rs. 23,00,000/- five year Postal Time Deposit ..		23,00,000.00	1,64,69,944.60
19,35,342.50	Loan to members .. ..			20,42,750.50
44,959.81	Relief loan to members .. ..			42,819.00
—	Payment to NSSO workers .. ..			3,40,269.43
	Current Assets:			
	Interest accrued:			
6,83,967.25	(a) On Government Promissory Notes (excluding interest accrued but not due) .. ..	5,07,037.84		
32,500.00	(b) On 12 year National Plan Savings Certificates ..	32,500.00		
50,750.00	(c) On 5 year Postal Time Deposit .. ..	1,75,973.77		
70,612.42	(d) On loan to NSSO workers .. ..	70,612.42	7,86,124.03	
2,72,464.00	Income tax recoverable .. ..		4,66,096.00	
	Cash Balance:			
8,448.34	In custody of the Institute (as shown in Schedule VI to the Instiuitic Balance Sheet) .. ..		23,272.57	
	With Banks on Current Account:			
	(i) With State Bank of India, Strand Road ..		20,146.55	
	(ii) With United Bank of India, Dunlop Bridge Branch ..		11,736.04	
	(iii) Postal Savings Bank Account .. ..		20,542.95	
	(iv) With Banks (forming part of the Institute's Bank Account as shown in Schedule VII to the Institute's Balance Sheet) .. ..		6,50,000.00	19,77,918.14
11,40,342.25				
<u>1,94,59,331.17</u>				<u>2,08,73,701.67</u>

Sd/- SUBRATA DEB  
Member  
Board of Trustees

Sd/- RAM DULAL BHATTACHARYYA  
Member  
Board of Trustees

This is the Balance Sheet referred to in our report of even date.

Sd/- S. N. GUHA & Co.  
Chartered Accountants

INDIAN STATISTICAL INSTITUTE

INDIAN STATISTICAL INSTITUTE GENERAL PROVIDENT FUND

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 1974

1973-73 Rs. P.	Expenditure	Rs. P.	1972-73 Rs. P.	Income	Rs. P.	Rs. P.
	To Excess of income over expenditure:			By Interest:		
				(i) On G.P. Notes	7,49,930.84	
				(ii) On Postal Savings Bank Account ..	837.45	
9,92,367.16	.. Carried down ..	9,37,168.78		(iii) On Five Years' Postal Time Deposit ..	1,25,223.77	8,75,992.06
			8,09,593.60			
			30,980.00	(iv) From Institute		5,000.00
			1,51,793.56	(v) On loan given to the members ..		56,178.71
<u>9,92,367.16</u>		<u>9,37,168.78</u>	<u>9,92,367.16</u>			<u>9,37,168.78</u>

.. Interest on:

9,38,780.22	(i) Members' own subscription	—		.. Amount brought forward from last account ..		23,910.85
8,85,922.31	(ii) Employer's contribution	—	8,76,360.73	.. Amount forfeited during the year ..		13,192.89
26,157.63	(iii) Members' voluntary subscription ..	—	6,086.12	.. Excess of income over expenditure brought down ..		9,37,168.78
23,953.85	.. Balance carried over to Balance Sheet ..	9,74,515.52	9,92,367.16			

<u>18,74,814.01</u>	<u>9,74,515.52</u>	<u>18,74,814.01</u>	<u>9,74,815.02</u>
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Sd/- S. P. MUKHERJEE  
Manager

Sd/- SUBRATA DEB  
Member  
Board of Trustees

Sd/- RAM DULAL BHATTACHARYA  
Member  
Board of Trustees

Calcutta,  
13 March, 1975

Sd/- S. N. GUHA & Co.  
Chartered Accountants

*Ex-officio Members (Rule 6.1(d) Secretary of each local branch:* 1. *Secretary, Bombay Branch:* Professor P. N. Phutane; 2. *Secretary, Kerala Branch:* Dr. (Miss) A. George; 3. *Secretary, Mysore State Branch:* Professor Srinagabhushana.

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1. *Chairman, Bombay Branch:* Shri S. K. Wankhede; 2. *Chairman, Kerala Branch:* Professor Samuel Mathai; 3. *Chairman, Mysore State Branch:* Shri H. C. Ramanna.

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##### **1. Finance Committee of the Governing Body**

1. Chairman of the Institute (*ex-officio*); 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 R.T.S.; 4. & 5. Two representatives of the Government of India (Shri V. R. Rao 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. A. B. Chowdhuri and Shri A. K. Ganguli).

##### **2. 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. Treasurer of the Institute (*ex-officio*) (Dr. P. K. Bose); 5. Dr. Jagjit Singh; 6. Dr. B. P. Adhikari; 7. Dr. Bhabatosh Dutta; 8. Shri S. C. Roy, Honorary Vice-President of the Institute; 9. Dr. J. Roy; 10. Shri S. M. Sundara Raju; 11. and 12. Two representatives nominated by the Government of India—Secretary, Department of Statistics, and Joint Secretary, Ministry of Finance; and 13. Chief Accounts Officer (*ex-officio*), non-member Secretary.

3. *Examinations Committee of the Institute:* (For a term of one year from 29 December 1973): 1. Dr. P. K. Bose, Pro-Vice Chancellor, University of Calcutta; 2. Dr. V. S. Huzurbazar, Professor and Head, Department of Mathematics and Statistics, University of Poona; 3. Dr. J. Roy; 4. Professor D. D. Joshi, Professor of Statistics, Institute of Social Sciences, University of Agra; 5. Shri V. R. Rao, Director, Central Statistical Organisation, Government of India, New Delhi; and 6. Shri S. Raja Rao, Director, National Sample Survey Organisation (Survey Design and Data Processing), Calcutta. Two representatives of the Governing Body: 7. Dean of Studies, Research and Training School, and 8. Shri S. Sengupta, Member-Secretary.



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*Co-editors:* Dr. T. N. Srinivasan and Dr. P. K. Bardhan.

*Advisers:* 1. Professor V. M. Dandekar; 2. Dr. L. Hurwicz; 3. Dr. N. S. Iyengar; 4. Dr. B.  
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*Advisers:* 1. Dr. D. Basu; 2. Professor T. Dalenius; 3. Professor M. H. Hansen; 4. Prof-  
essor D. B. Lahiri; 5. Dr. M. N. Murti; 6. Professor Des Raj and 7. Dr. T. V. Hanurav.

*Editor for all the above series:* Dr. C. R. Rao, F.R.S.

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