INDIAN SOCIETY OF AGRICULTURAL STATISTICS

REVIEW OF ACTIVITIES FOR THE YEAR 2000

The Indian Society of Agricultural Statistics, a scientific body, was founded on January 03, 1947 for promoting and undertaking research in Statistics and for its application to Agriculture, Animal Husbandry, Fishery, Agricultural Economics and allied fields. The Society was fortunate to have Late Dr. Rajendra Prasad, the then Union Minister of Agriculture, Government of India and later Hon'ble President of India as its Founder President. He continued to guide the Society for sixteen years. The Society had also the privilege of having as its Presidents Shri S.K. Patil, Bharat Ratna Shri C. Subramanian, Shri Jagjivan Ram, Padma Vibhushan Dr. M.S. Swaminathan, Dr. O.P. Gautam, Shri Buta Singh, Dr. N.S. Randhawa, Padma Bhushan Prof. P.V. Sukhatme and Prof. V. L. Chopra. All of them took keen interest in the activities of the Society and were a source of great inspiration. The Society has attained its present status primarily due to the untiring efforts and guidance of its Presidents in the past and Padma Bhushan Dr. R.S. Paroda, the President at present. The farsightedness, overall guidance and unstinting support from the eminent statisticians, Late Prof. P.V. Sukhatme and Late Dr. V.G. Panse, have been fundamental to the growth of the Society.

The Society organizes annually a conference in different parts of the country. The invitations for organizing such conferences are received from State Governments, universities and other research organizations. It provides a wider platform for exchange of ideas. During each annual conference, the Society organizes one or two symposia keeping in view current national interest as well as problems of interest in the region where the conference is organized. The Society brings out a Journal, one volume consisting of three issues (April, August, December) per year, which serves as a media for disseminating research findings on Agricultural Statistics and allied fields. Ad-hoc publications and bulletins are also brought out to help the research workers and students in the field of Agricultural Statistics. It has set up a Research Unit to undertake research on specific problems of current interest in accordance with the guidance provided by a Research Direction Committee. In order to perpetuate the memory of the Founder President Dr. Rajendra Prasad, a memorial lecture is organized during the Conference. The Society has organized 36 Lectures so far and the memorial lecture being organized during this Conference would be 37 in the series. The Society has also been organizing a lecture in memory of Dr. V.G.

Panse, who was the guiding spirit behind the Society and its activities. The Society has so far organized 21 Lectures in his honour. To perpetuate the memory of Prof. P.V. Sukhatme, the Society has instituted from the year 1998 an award called **Prof. P.V. Sukhatme Gold Medal Award** which is given to a well known active scientist who has made significant contribution in Agricultural Statistics and/or allied fields and has keen interest in the activities of the Society. The Society is also organizing Dr. D.N. Lal Memorial Lecture Award from this year. The lecture would be arranged at Indian Agricultural Statistics Research Institute, New Delhi and an eminent scientist/research worker would be invited to deliver the lecture.

The membership of the Society, which is drawn from all parts of India as well as from abroad, during the year was:

Permanent Institutional Members	24
Life Members	486
Ordinary Members (Annual)	6
Student Members (Annual)	4
	520

In addition to regular members, the Society has a number of institutional subscribers to its Journal in India and abroad. The number of subscribers during the year was:

Indian	205
Foreign	13

Thus, the total number of members and subscribers during the year was 738.

One of the important activities of the Society, as mentioned earlier, is the publication of its Journal. It has brought out 53 volumes and has maintained its time schedule. The Hindi Supplement continues to be a special feature of the Journal. The high standard of the Journal has been maintained due to the sincere efforts of the Editorial Board and of the referees. The Society is thankful to them for their keen interest in the activities particularly in the publication of its Journal. With a view to promoting research in Statistics and thereby improving the standard of its Journal, the Society has been awarding prizes for the best papers published in its Journal for every two years period, starting from 1987 in the fields of Design of Experiments, Sampling Theory, Statistical Genetics, Statistical Methodology and Applied Statistics. This time the papers published in the Journal of the Society in Volume 50 (1997), Volume 51 (1998)

and Volume 52 (1999) have been considered for the best paper awards. This is being done because the issue of Volume 51 (2 and 3 combined) 1998 is designated as Prof. P.V. Sukhatme Memorial issue and contains only invited papers from the distinguished statisticians and as such are not entitled for the best paper award. The Executive Council of the Society decided that the following best paper awards in their respective field of specialization may be given.

(i) Design of Experiments

Robustness of Block Designs Against interchange of Treatments By P.K. Batra, P.R. Sreenath and Rajender Parsad. Volume 50, No. 2, August, 1997. 156-167.

(ii) Sampling Theory

Determining the Optimum Cluster Size By M.G.M. Khan, Nujhat Jahan and M.J. Ahsan. Volume 50, No. 2, August, 1997. 121-129.

(iii) Statistical Methodology

Weighted Least Squares and Non-Linear Regression By B.L.S. Prakasa Rao. Volume 50, No. 2, August, 1997. 182-191.

(iv) Applied Statistics

A Non-Linear Statistical Model for Aphid Population Growth By Prajneshu. Volume 51, No. 1, April, 1998. 73-80.

The country is proud of eminent statisticians who contributed significantly to the cause of Agricultural Statistics in India and abroad. Due to their untiring efforts, Agricultural Statistics in the country stand on a fairly sound footing. The Society is honouring these eminent statisticians by conferring the Sankhyiki Bhushan Award. This year the award is given to two eminent statisticians Prof. C.R. Rao and Shri V.R. Rao. For encouraging the young scientists towards significant research in Agricultural Statistics, the Society has instituted an award ISAS Young Scientist Award in the field of Agricultural Statistics which is given to the deserving candidate.

The 3rd Revised Edition of the book "Sampling Theory of Surveys with Applications" by P.V. Sukhatme, B.V. Sukhatme, Shashikala Sukhatme and C. Asok was brought out during 1984 and all the copies have been sold out. The book was reprinted during 1997. Another important publication "Statistical Methods in Animal Sciences" by Shri V.N. Amble brought out by the Society is extremely useful for research workers in Animal Sciences. Two ad-hoc publications namely, "Contributions in Statistics and Agricultural Sciences" and

"Impact of P.V. Sukhatme on Agricultural Statistics and Nutrition" were brought out by the Society. Prof. P.V. Sukhatme Memorial Volume has been brought out during 1998 by the Society as a part of its Journal, Volume 51, Nos. 2 & 3. These publications contain a number of invited articles from India and abroad.

The Research Unit of the Society was engaged in carrying out research relating to evaluation of socio-economic development of different states of the country. One of the main objectives of India's development programmes has been a progressive reduction in regional disparities in the pace of development. Although resource transfers are being executed to the backward regions through a number of instruments like subsidies and central assistance, it has been observed that the regional disparities in the level of development is not declining over time. It was found in previous studies that entire area of a low developed district is not backward but some parts are well or middle level developed also. Therefore, for giving area-wise specific recommendations, it was thought necessary to examine and evaluate the level of development at a lower level, say tehsil or block levels. This year an attempt has been made to quantify the levels of agricultural development of different tehsils of Uttar Pradesh and classify the tehsils on the basis of their level of crop productivity. The study utilizes the data on yield rates for 10 years from 1985-86 to 1994-95 (7th and 8th Plan Periods) for all 244 tehsils where crop cutting experiments on randomly selected fields were conducted on both rice and wheat crops.

The technique of analysis of variance has been used to estimate the Plan efforts on yield against the background of over all climatic variations. It was found that the Plan efforts in the 8th Plan had made a definite impact in increasing the yield rates of rice and wheat over the 7th Plan average. The increase in the rice productivity was of the order of about 18% whereas wheat productivity had shown an increase of about 10.5% at the State level. The tehsil of Ramnagar of Nainital district was ranked first and the tehsil of Lalitpur of Lalitpur district was ranked last in the productivity of rice crop. For the productivity of wheat crop, the tehsil of Bulandshahar of Bulandshahar district was ranked first and the tehsil of Robertsganj of Sonbhadra district was ranked last. Wide disparities in the rice and wheat productivity were observed among different tehsils and regions. The level of development in rice and wheat productivity was found to be positively associated. The statistical methodologies applied, detailed results and the conclusions emerging from the study will be presented in a separate session during this Conference by Shri S.C. Rai, Ex-Joint Secretary of the Society.

Another important research work on livestock development in India has been done in the Research Unit of the Society during this year. Dr. K.C. Raut, one of the Vice Presidents will present this in the form of a paper on "Some Aspects of Livestock Development in India: A Critical Appraisal" in a separate session during this Conference.

The problem of finance for scientific activities, printing of the Journal and other ad-hoc publications could be solved to a certain extent through grant-in-aid received from the Ministry of Agriculture, Government of India and Indian Council of Agricultural Research. The Society wishes to acknowledge gratefully the financial assistance received from them during the year under report.

The Society is already having the facilities of PC, Laser Printer and Xerox Machine. These facilities have greatly improved the quality of material produced by the Society. E-Mail facility has also been procured in the Society. A Fax Machine has been installed in the Society Office with the generous donation made by Prof. J.S. Rustagi, Vice President of the Society. I take this opportunity to thank him for his kind donation.

The Society continues to be a member of the International Statistical Institute, Netherlands and also of the Indian Association of Social Science Institutions, New Delhi.

The 53rd Annual Conference of the Society was held at St. Joseph's College (Autonomous), Tiruchirappalli (Tamil Nadu) from 02 to 04 December, 1999. Rev. Fr. A. Joseph, S.J., Rector, St. Joseph's College, Trichy lighted the lamp at the Inaugural Function on December 2, 1999. Rev. Dr. S. John Britto, S.J., Principal, St. Joseph's College and Organizing Chairman of the Conference delivered the welcome address. Review of the activities of the Society was presented by Secretary, **ISAS** and Director, IASRI, New Delhi. Dr. S. Kannaiyan, Vice Chancellor, Tamil Nadu Agricultural University, Coimbatore (T.N.) delivered the inaugural address at the Conference. On this occasion Rev. Dr. A. Sebastian, S.J., Secretary, St. Joseph's College, Trichy released a Souvenir. Dr. M.N. Das, Sessional President of the Society delivered the Technical Address on USE OF STATISTICS AND COMPUTER FOR AGRICULTURAL RESEARCH AND DEVELOPMENT. Dr. G. Stephen Vincent, Head, Department of Statistics, St. Jospeh's College, Trichy and the Organizing Secretary of the Conference proposed Vote of Thanks.

Dr. Rajendra Prasad Memorial Lecture was delivered by Dr. B.S. Minhas, Distinguished Scientist Emeritus, Indian Statistical Institute, New Delhi and former Chairman, Governing Board of NSSO, on INDIAN SYSTEM OF CROP

PRODUCTION STATISTICS: WILL THE CRACKS PULL DOWN THE EDIFICE? This lecture was chaired by Dr. N. Markandan, Vice Chancellor, Gandhigram Rural Institute (Deemed University), Gandhigram, Dindigul (TN).

Dr V.G. Panse Memorial Lecture was delivered by Dr. S.N. Mishra, Chairman, Society for Economic & Social Research, Delhi and former Director, Institute of Economic Growth, Delhi on THE STATUS OF LIVESTOCK STATISTICS IN INDIA. This lecture was chaired by Dr. B. Ilango, Vice Chancellor, Bharathiar University, Coimbatore (TN).

During the Conference, two symposia were organized (i) Symposium on APPLICATION OF GEOGRAPHIC INFORMATION SYSTEM FOR AGRICULTURE AND RURAL DEVELOPMENT was presided over by Dr. A. Perumal, Head, Integrated Survey Division, National Remote Sensing Agency, Department of Space, Govt. of India, Hyderabad. Dr. A.K. Srivastava, Joint Director, IASRI, New Delhi and Dr. N. Ramasamy, St. Joseph's College, Symposium on the Convenors. STATISTICAL (ii) METHODOLOGY FOR AGROFORESTRY RESEARCH was presided over by Dr. S. Varadharajan, Director, School of Economics, Coimbatore. Dr. V.K. Sharma, Principal Scientist, Division of Design of Experiments, IASRI, New Delhi and Dr. (Mrs.) Seema Jaggi, Scientist, IASRI, New Delhi were the convenors.

In the symposium on APPLICATION OF GEOGRAPHIC INFORMATION SYSTEM FOR AGRICULTURE AND RURAL DEVELOPMENT, the following recommendations were made:

- GIS should be used along with satellite data for sustainable development programmes. Areas of applications, where Remote Sensing and Geographic Information System may be effectively used, should be identified. Some such areas are land use statistics, soil survey mappings, natural resource management, command area and watershed management, disaster management, forestry and crop forecasting etc.
- GIS should be used for micro level planning, particularly for implementing
 and monitoring of rural development programmes. Data needs and their
 availability at smaller area levels should be identified and ensured,
 particularly in relation to micro level planning for agricultural and rural
 development.
- There is need to develop efficient spatial sampling procedures particularly in the context of RS and GIS applications.
- Duplication of efforts should be avoided in the development of any GIS system. For this purpose, information sharing mechanism should be developed.

- The district wise database integrated with GIS should be developed in the country for balanced regional rural development. Creation, maintenance and sharing of the data archives for agricultural and rural development is an essential requirement for proper utilization of GIS as a powerful tool.
- There is a need for taking up a study integrating the aspects of small area statistics, remote sensing and GIS applications for agricultural and rural development. This study should be taken at a pilot level in few selected districts.

In the symposium on STATISTICAL METHODOLOGY FOR AGROFORESTRY RESEARCH, the following recommendations were made:

- Efforts should be made to develop strong interaction between All India Co-ordinated Research Project on Agroforestry and IASRI.
- Monographs/manuals should be prepared on the Statistical Methodologies related to Agroforestry for the benefit of the agroforestry research workers.
- There is need to develop efficient designs for agroforestry experiments and modelling of Agroforestry systems.

The detailed summaries of the papers presented at both the symposia as well as recommendations made were published in the Journal of the Society, Volume 53, No. 1, April, 2000.

Research activities of the Society for the year 1999 was presented by Shri S.C. Rai, Ex-Joint Secretary of the Society and chaired by Dr. M.N. Das, Sessional President.

During the Conference four concurrent sessions were organized for presentation of contributed papers. The contributed paper reading sessions were chaired by Dr. A.K. Srivastava, Jt. Director, IASRI, New Delhi; Dr. K.N. Ponnuswamy, Prof. & Head, Department of Statistics, University of Madras, Chennai; Dr. G. Nageswara Rao, Prof. & Head, Department of Statistics & Mathematics, Acharya N.G. Ranga Agricultural University, Hyderabad and Dr. P.R. Sreenath, Ex-Head of Division of Design of Experiments, IASRI, New Delhi. Thirty seven research papers were presented by the delegates during these sessions. The abstracts of these papers have been published in the Journal of the Society, Volume 53, No. 1, April, 2000.

The Society has conveyed its grateful thanks to the Principal, St. Joseph's College (Autonomous), Tiruchirappalli for organizing the last Conference and also to the chairmen of various sessions as well as to those who spared their valuable time in making the Conference a great success at Tiruchirappalli.

The Society provided financial assistance to deserving research workers and students to enable them to attend the Conference at Tiruchirappalli for presenting their papers.

The railway authorities as in the past, gave travel concessions to the members of the Society and delegates to the 53rd Annual Conference to enable them to attend the Conference at Tiruchirappalli. The Society records its grateful thanks to the railway authorities.

The accounts of the Society for the year ending 31 March, 2000 were audited by a professional auditor and will be presented at the General Body Meeting.

The work of the Society during the year was made possible through the advice and help of the members of the Executive Council of the Society, Editorial Board and the Research Direction Committee. The burden of the entire secretariat of the Society has been willingly borne by my colleagues Dr. V.K. Bhatia, Dr. A.K. Srivastava, Shri R.S. Khatri, Dr. Shivtar Singh and Shri S.C. Rai. In the end I wish to thank the staff of the Society for their devoted work.

S.D. SHARMA Secretary, ISAS

INDIAN SOCIETY OF AGRICULTURAL STATISTICS Library Avenue, Pusa, New Delhi

Balance Sheet as on 31st March, 2000

Previous Year	LIABILITIES		Current Year
8,00,000.00	Corpus Money		6,00,000.00
	GENERAL RESERVE		
	Balance as per last balance sheet Add: Trf. to Corpus Fund	373,810.39 200,000.00 350,082.39	
	Add: Excess of Income over Expenditure	23,949.31	597,759.70
	PUBLICATION RESERVE		
253,707.00	Balance as per last balance sheet Add: Sale of old volumes of Journal	253,707.00 47,189.00	300,896.00
	D.N. Lal Memorial Award		50,000.00
	CAPITAL RESERVE (Life Membership fee)		
280,190.00	Balance as per last balance sheet Add: Additions during the year	280,190.00 42,186.00	322,376.00
	SECURED LOAN Loan Against FDR		37,500.00
	ADVANCES		
32,167.00	Advance Subscription for Journal (Vol. 53)		32,837.00
	EXPENSES PAYABLE		
2,000.00	Audit Fee	2,100.00	2,100.00
1,700.00	Establishment Charges	_	
1,743,574.39			1,943,468.70

Previous Year	ASSETS		Current Year
84,715.00	FIXED ASSETS (As per Schedule)	•	80,411.25
	CASH AND BANK BALANCES		
4,298.13	Cash in Hand	58.38	
	State Bank of India, Parliament Street S/B Syndicate Bank, Pusa, New Delhi S/B	2,117.64 59,410.98	61,587.00
	FIXED DEPOSITS		
237,744.00	State Bank of India, Parliament Street, New Delhi	237,744.00	
550,783.00	Syndicate Bank, Pusa, New Delhi	650,783.00	
	With other companies (as per list) Accrued Interest of Fixed Deposits	21,000.00 250,963.00	1,160,490.00
	AMOUNT RECOVERABLE/RECEIVABLE		
- /	Grant receivable from ICAR Tax deducted at source	28,750.00 11,403.00	40,153.00
	STOCK IN HAND		
	Journal (Token value) Symposia Volume (Token value)	1.00 1.00	
104,761.31	Published Books	99,882.92	90,884.92
	DEFICIENCY A/C (JOURNAL)		
15,630.89	630.89 Balance as per last balance sheet 15,630.8 Add: Deficit for the year 18,887.0		34,517.89
	DEFICIT OF RESEARCH UNIT		
394,833.64	Balance as per last balance sheet Add: Addition during the year	394,833.64 _71,591.00	466,424.64
1,743,574.39			1,943,468.70

Place: New Delhi 110001 Dated: 13th Nov., 2000

As per our Report of even date for C.S. Bhatnagar & Co., Chartered Accountants

Sd/-

(G.S. Bhatnagar)

INDIAN SOCIETY OF AGRICULTURAL STATISTICS Library Avenue, Pusa, New Delhi

Income & Expenditure Account for the year ending 31st March, 2000

Previous Year	EXPENDITURE		Current Year	
49,092.00	To Annual Conference	49,014.00		
40,000.00	Less: Grant for Conference			
9,092.00				
	To Salaries		3,016.00	
	To Postage & Telephone		8,730.75	
846.75	To Printing & Stationery		946.00	
226.50	To Bank Charges		200.00	
2,000.00	To Audit Fee		2,100.00	
3,547.50	To Executive Meeting Expenses		4,244.00	
594.00	To General Expenses		595.00	
10,107.00	To Subscription to ISI, Netherlands			
2,330.00	To Computer Repair & Maintenance			
26,443.00	To Printing of Symposia Proceedings			
534.00	To Conveyance		723.00	
2,259.00	To Photo Copy Machine Maintenance		2,2923.00	
28.238.00	To Depreciation on Assets		26,803.75	
	To Excess of Income over Exp. C/o to Gen. Res.		23,949.31	
118,909.25			1,23,244.81	
	INCOME			
1.330.00	By Ordinary Membership Fee	660.00		
	By Sessional Membership Fee	210.00		
	By Student Membership Fee	1,370.00		
	By Donation	4,227.00	6,467.00	
87.00	By Interest on Saving Bank		91.20	
	By Interest on Fixed Deposits		109,650.00	
	By Surplus on Published Books		3,706.61	
	By Misc. Income		3,185.00	
	By Sale of Symposia Books		145.00	
118,909.25			123,244.81	

Place:

New Delhi 110001

Dated: 13th Nov., 2000

As per our Report of even date

for C.S. Bhatnagar & Co., Chartered Accountants

Sd/-

(G.S. Bhatnagar)

Income & Expenditure Account (Journal) for the year ending 31st March, 2000

Previous Year	EXPENDITURE	Current Year
1.00	To Opening Stock (Token Value)	1.00
96,046.50	To Printing Charges (Journal) Vol. 51	80,920.00
3,983.00	To Staff Salaries	6,034.00
1,693.50	To Printing & Stationery	1,892.00
13,540.50	To Postage Expenses	14,699.99
789.00	To Packing Material	_
116,053.50		103,546.00

Previous Year	INCOME	Current Year
93,082.00	By Sale & Subscription of Vol. 52	84,658.00
1.00	By Closing Stock	1.00
22,970.50	By Excess of Expenditure over Income	18,887.00
116,053.50		103,546.00

Place:

New Delhi 110001

Dated: 13th Nov., 2000

As per our Report of even date

for C.S. Bhatnagar & Co., Chartered Accountants

Sd/-

(G.S. Bhatnagar)

Balance Sheet as on 31st March, 2000

Previous Year	LIABILITIES		Current Year
	IND. SOC. OF AGRI. STATISTICS		
394,833.64	Balance as per last B/sheet	394,833.64	
	Add: Additions during the year	71,591.75	466,424.64
	EXPENSES PAYABLE		
1,000.00	Audit Fee	1,050.00	
4,663.10	P.F. A/C of Sh. Bhiwani Dutt	4,873.60	
16,200.00	Establishment Charges Payable		5,923.60
318,648.99			472,348.24

Previous Year	is Year ASSETS			
4,825.00	Fixed Assets (As per Schedule)		4,408.70	
4,663.10	Deposit with Post Office (P.F. Account) DEFICIT ACCOUNT		4,873.60	
4,07,108.64	Balance as per last balance sheet Add: Deficit for the year ADVANCES	407,108.64 55,957.30	463,065.94	
100.00	To Staff (Satish Kumar)			
416,696.74		•	472,348.24	

Place:

New Delhi 110001

Dated: 13th Nov., 2000

As per our Report of even date

for C.S. Bhatnagar & Co., Chartered Accountants

Sd/-

(G.S. Bhatnagar)

Income & Expenditure Account for the year ending 31st March, 2000

Previous Year	EXPENDITURE	Current Year
1,34,900.00	To Establishment Expenses	92,100.00
846.75	To Printing & Stationery	946.00
1,000.00	To Audit Fee	1,050.00
1,069.00	To Travelling & Conveyance	1,445.00
543.00	To Depreciation on Assets	416.30
1,38,358.75		95,957.30

Previous Year	INCOME	Current Year
40,000.00	By Grant in Aid from Govt. of India, Ministry of Agriculture, Deptt. of Agriculture & Cooperation	40,000.00
98,358.75	By Deficit for the year C/o to Balance Sheet	55,957.30
138,358.75		95,957.30

Place: New Delhi 110001

Dated: 13th Nov., 2000

As per our Report of even date

for C.S. Bhatnagar & Co., Chartered Accountants

Sd/-

(G.S. Bhatnagar)

Schedule of Fixed Assets as on 31st March, 2000

A. SOCIETY

Particulars	Opening Balance	Add. during year	Total (Rs.)	Depreciation Rate	Amount	Balance as on 31.3.1999
Computer	43,959.50		43,959.50	25%	10,989.88	32,969.63
Xerox Machine	40,755.50	_	40,755.50	25%	10,188.88	30,566.63
Fax Machine		22,500.00	22,500.00	25%	5,625.00	16,875.00
	84,715.00	22,500.00	107,215.00		26,803.75	80,411.25

B. RESEARCH UNIT

Particulars	Opening	Add.	W/off	Total	Depreciation		Balance
	Balance	during the year			Rate	Amount	as on 31.3.2K
Furniture & Fixture	503.00			503.00	10%	50.30	452.70
Typewriter	213.00			213.00	25%	53.25	159.75
Calculator	19.00			19.00	25%	4.75	14.25
Lib. books	2,858.00			2,858.00		*****	2,858.00
Elec.Calculator	51.00	_		51.00	25%	12.75	38.25
Room Cooler	189.00	_		189.00	25%	47.25	141.75
Fans	13.00		_	13.00	25%	3.25	9.75
Steel Almirah	106.00			106.00	25%	26.50	79.50
Cycle	873.00			873.00	25%	218.25	654.75
	4,825.00			4,825.00		416.30	4,408.70

Place: New Delhi 110001

Dated:

13 Nov., 2000

As per our Report of even date

for C.S. Bhatnagar & Co., Chartered Accountants

Sd/-

(G.S. Bhatnagar)