

## **REVIEW OF ACTIVITIES OF THE INDIAN SOCIETY OF AGRICULTURAL STATISTICS FOR THE YEAR 1989**

The Indian Society of Agricultural Statistics, a scientific body, was founded on 3rd January, 1947 for promoting and undertaking research in Statistics and for its application to Agriculture, Animal Husbandry, Forestry, Fishery, Agricultural Economics and other allied fields. The Society was fortunate to have Late Dr. Rajendra Prasad, the then Minister of Food and Agriculture, Government of India, as its Founder President. He continued to guide the Society for 16 years. The Society had also the privilege of having as its Presidents Shri S. K. Patil, Shri C. Subramaniam, Shri Jagjivan Ram, Dr. M. S. Swaminathan, Dr. O. P. Gautam and Shri Buta Singh. They took keen interest in the activities of the Society and were a great source of inspiration. The Society has attained its present status due to the untiring efforts and guidance of its Presidents in the past and present and particularly of the eminent statisticians Prof. P. V. Sukhatme and Late Dr. V. G. Panse.

The Society organises annually a Conference in different parts of the country as per invitations received from State Governments, Universities and other Research Organisations. It provides a wider platform for exchange of ideas. During each Annual Conference, the Society organises two symposia keeping in view current national interest as well as problems of interest in the region where the Conference is organised. The Society brings out a Journal, one volume consisting of three issues 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 Late Dr. Rajendra Prasad, a lecture is organised during the Conference. The Society has

organised 25 lectures in the series so far and the Memorial Lecture being organised during this Conference would be 26th in the series.

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	22
Life Members	310
Institutional Members	5
Ordinary Members	130
Student Members	18

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	160
Foreign	40

Thus, the total number of members and subscribers during the year was 685.

One of the important activities of the Society, as mentioned earlier, is the publication of its Journal. It has brought out 41 volumes till 1989 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 sincere efforts of the Editorial Board and of the referees. The Society is thankful to them for their keen interest in the activities of the Society—particularly in the publication of its Journal.

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. This book is in great demand by the students and research workers. Another important publication "Statistical Methods in Animal Sciences" by V. N. Amble brought out by the Society is extremely useful for the 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 which contain a number of invited articles from India and abroad.

The research unit of the society was engaged in carrying out research

relating to quantification of socio-economic indicators on developmental level in different states. As is well known, developmental programmes were taken up in the country in a planned way through various Five-Year Plans with the main objective of alleviation of rural poverty. But, inspite of such planned efforts, the incidence of poverty continues to be very high and the quality of life of the general masses is affected adversely. However, in a large sized federal country like India, there is likely to exist wide disparities in the levels of development and its rate of growth in different regions. It has been the continuous endeavour of scientists and planners to measure the level of development in different regions of the country in order to identify where a given region stands in relation to others. The impact of development can not be captured by a single indicator because it is multi-dimensional in nature. Moreover, individual indicators do not provide an integrated and easily comprehensible picture of reality.

For building up of composite index based on different socio-economic variables, states have been considered as a unit of analysis. The study has been conducted in 17 major states of the country covering about 94% of the total area for the years 1971-72 and 1981-82. Fourteen socio-economic indicators such as agriculture and its productivity, industry and consumption of electricity, educational level, communication and banking facilities, per capita income etc, were included in the study. Various indicators are standardised as they are not directly comparable, and their standardised values are used for computation of pattern of development (Cio) for each state. Composite index of development (Di) is obtained from the pattern of development. The value of composite index will be between zero and one. The value closer to zero indicates *higher level* of development and the value closer to one indicates *lower level* of development. A slippage test using non-parametric technique has been developed to examine whether there is a significant change in the development indices over the two time period.

It is found that the composite index varies from 0.37 to 0.89 during 1971-72 and from 0.49 to 0.92 during 1981-82. If we consider the composite index upto 0.60 as high level development, index from 0.61 to 0.75 as middle level development and index greater than 0.75 as low level development, we observe that Punjab, Haryana, Tamil Nadu, Gujarat, Kerala and Maharashtra were highly developed states, West Bengal, Karnataka and Andhra Pradesh were middle level developed states and the states of Uttar Pradesh, Himachal Pradesh, Jammu and Kashmir, Assam, Orissa, Rajasthan, Madhya Pradesh and Bihar were low developed states during 1971-72. During 1981-82, only Haryana and Punjab were in the category of highly developed states, the states of Kerala,

Maharashtra, Tamil Nadu, Gujarat, Karnataka, J and K and Himachal Pradesh were in the category of middle level development and the states of West Bengal, Andhra Pradesh, Uttar Pradesh, Madhya Pradesh, Orissa, Rajasthan, Assam and Bihar were in the low developed category. It was also observed that the level of development in 14 states, out of 17 considered, had deteriorated during 1981-82 over their development index of 1971-72. The following broad conclusions emerge from the study.

- (1) Level of development is significantly different between the two time periods.
- (2) Level of development in almost all the states has gone down during the second period inspite of various developmental programmes initiated to improve the socio-economic structure of the masses.
- (3) All developmental achievements have perhaps been eroded by the rapid growth of population.

A deeper analysis utilising the data at micro level (Districts or Blocks) will throw more lights on the subject as planning needs and priorities are different for different areas.

Computers are making significant impact in almost every activity of our country. In the field of development, planning and decision making, computers have become almost inevitable. Statistical computing is a powerful tool in transformation of data for valid and appropriate inferences. Keeping this in view, a special session on 'Statistical Computing' has been introduced in the annual conference from this year and it will form a regular activity of the society.

The society has initiated a programme for honouring eminent scientists who have contributed significantly in the field of statistics and its applications to Agriculture and allied fields by awarding them a title "*Sankhyiki Bhushan*". This year, the award was presented to Prof. P. V. Sukhatme, Late Dr. V. G. Panse and Late Shri T. P. Abraham on the 15th May 1989 by Shri Hari Krishna Shastri, the then Minister of State for Agricultural Research and Education. On this occasion, a symposium on "Need for Data Base at Lower Level for Agricultural Planning" was organised under the Chairmanship of Prof. P. V. Sukhatme. A large number of scientists participated in the symposium. Various speakers emphasized the necessity of collecting reliable data at Block or Panchayat levels by the statistically trained personnel.

With a view to promote research in Statistics and thereby improve the standard of quality of the journal, the society decided to revive the scheme to award prize for the best articles published in its journal once

in two years. The authors of the papers adjudged best among those published in Vol 39 (1987) and Vol. 40 (1988) in different fields, were awarded prizes in a function organised at New Delhi on the 15th May, 1989. The names of the authors are as follows :

1. *Sampling*

- (1) A. S. Sethi, Guru Nanak Dev University, Amritsar.
- (2) A. K. Srivastava, IASRI, New Delhi.

2. *Design of Experiments*

- (1) S. Huda, King Saud University, Riyadh, Saudi Arabia.

3. *Statistical Genetics*

- (1) R. Shailaja
  - (2) K. C. George
- } Kerala Agricultural University, Trichur.

4. *Statistical Theory and Methodology*

- (1) R. Karan Singh, Lucknow University, Lucknow
- (2) Ajit Chaturvedi, University of Jammu, Jammu.

5. *Applied Statistics*

- (1) B. S. Sharma
  - (2) P. Narain
- } IASRI, New Delhi.

I take this opportunity to congratulate the authors of prize winning papers.

"Dr. V. G. Panse Memorial Lecture" was delivered by Dr. B. R. Murty in a function organised at IASRI, New Delhi on the 8th November 1989. The topic of his lecture was "Biometry in Frontier Sciences" He gave a number of messages to the scientists engaged in the fields of Bio-Technology, Remote Sensing Techniques, Medical Sciences and other allied branches regarding application of simple statistical methods and models. Prof. P. V. Sukhatme presided over the function.

The problem of finance for scientific activities and printing of its Journal and other ad-hoc publications could be solved to a certain extent through grants-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 continues to be a Member of the International Statistical Institute and also of the Indian Association for Social Science Institutions. It is also affiliated to the Federation of Indian Societies of Agricultural Sciences Technology (FISAST).

The last (42nd) Annual Conference of the Society was held at Jorhat from 19th to 21st January, 1989 as per invitation received from Assam Agricultural University, Jorhat. The Conference was inaugurated by Shri Deba Kumar Bora, Hon'ble Minister of Agriculture and Irrigation, Assam. The Society is thankful to him for inaugurating the Conference. Dr. N. N. Kakti, Dean, Faculty of Agriculture, Assam Agricultural University, Jorhat welcomed the delegates. Prof. P. K. Bose, Vice President of the Society presided over the function and gave the opening remarks. He also announced the names of eminent scientists who had contributed significantly in the field of Statistics and its application to Agriculture and allied fields and being honoured by the Society during 1989. Prof. Prem Narain, Secretary of the Society presented the Report of the Activities of the Society for the year 1988. The Technical Address "Food-grain Production and Consumption—Targets, Achievements and Data Needs" was given by Shri J. S. Sharma, Sessional President. Dr. P. C. Bora, Vice Chancellor, Assam Agricultural University, Jorhat released the Souvenir on this occasion. Dr. B. K. Bhattacharyya, Organising Secretary, Assam Agricultural University, Jorhat, gave a Vote of Thanks. The "Dr. Rajendra Prasad Memorial Lecture" was delivered by Dr. N. G. P. Rao, Chairman, Agricultural Scientists Recruitment Board, New Delhi. The topic of his lecture was "Perspectives in Agricultural Research and Development in India : Some Issues for Analysis and Data Base". Dr. P. C. Bora, Vice Chancellor, Assam Agricultural University, Jorhat presided over the memorial lecture. There were two symposia organised at the Conference. The Symposium on "Data Base Needs for Environmental Planning" was presided over by Shri J. S. Sarma, Sessional President and the convener of the symposium was Shri M. G. Sardana, Director General, Central Statistical Organisation, New Delhi. As Shri Sardana was not present in the symposium due to some unavoidable reasons, Dr. O. P. Kathuria, Principal Scientist, IASRI, New Delhi convened the session. The second Symposium on "Statistical Techniques in Plantation Crops" was presided over by Shri A. K. Biswas, Head, Department of Statistics and Economics, Tocklai Research Station, Jorhat and convener was Dr. B. K. Bhattacharyya, Professor and Head, Department of Agricultural Statistics, Assam Agricultural University, Jorhat. The detailed summaries of the papers presented at the symposia as well as the recommendations made have been printed in the Journal (Volume 41, No. 2, 1989). As many as 31 technical papers were present-

ed at the Conference. The paper reading sessions were organised by conducting two concurrent sessions on two consecutive days. These sessions were presided over by Prof. Prem Narain and Prof. S. G. Prabhu Ajaonkar. A special session for the discussion on the formation of a forum in statistical computing was arranged under the Chairmanship of Prof. P. K. Bose.

The Society has conveyed its grateful thanks to the Vice-Chancellor, Assam Agricultural University, Jorhat for organising the last Conference and also to the Chair-persons of various sessions as well as to those who spared their valuable time in making the Conference a great success at Jorhat.

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

The railway authorities, as in the past, gave travel concessions to the members of the Society and delegates to the 42nd Annual Conference to enable them to attend the Conference at Jorhat. The Society records its grateful thanks to the railway authorities.

The accounts of the Society for the year ending 31st March, 1989 were audited by a professional auditor appointed by the Society and these are being presented at the General Body Meeting.

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

PREM NARAIN  
*Secretary*  
*ISAS*