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## BOOK REVIEWS

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**Insights of Outstanding Farmers** – International Rice Research Institute, Manila, Philippines, 1985, pp. 114. Price: US \$8.30.

On the occasion of the 25th Anniversary of the International Rice Research Institute, 14 outstanding farmers from 10 nations were chosen and honoured for their achievements in scientific rice farming. Of the 14, two were from Japan, one each from South Korea, China, Thailand, Malaysia, Philippines, Vietnam and Bangladesh, two from Indonesia and three from India. Of them, two were women farmers. All the fourteen were interviewed very closely for their cultural background, farming experience, innovative approach, leadership among fellow farmers, etc. They were also questioned on the difficulties of rice-farming and suggestions for the future lines of work for promoting scientific rice cultivation. The persons who interviewed the farmers and who compiled the information in the form of this booklet have done very well in screening the information and presenting in a meaningful and uniform pattern. While reading through the narration, one is taken to the respective fields of the fourteen farmers in the 10 different countries, the scenerio very well illustrated. The technical input by each of the farmers and economics of their farming systems have been well brought-out. There is certain uniformity in diversity. Every one of the farmers has put in hard work both physically and intellectually, to achieve the honours from IRRI and from other national and international agencies.

The problems identified by each of the farmers for future lines of research work are very valuable, coming as they are from the specialist farmers with rich practical experience. These are of very great values for the researcher and I trust IRRI will take the required follow-up action.

The last Chapter on "Insights" brings out a critical analysis of the outcome of this exercise by the International Rice Research Institute. It is suggested that this booklet be translated into as many languages as possible and made available to the rice-farmers of the world.

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**International Rice Research Institute** – Annual Report for 1984, Los Banos, Laguna, Philippines, 1985, pp. 504. Price: US \$38.30.

This is the 23rd report of the Institute covering the Calendar year 1984. The report starts with an excellent brief on 'Research highlights', bringing out in about six pages the aims and objectives, the salient achievements and the immediate goals in carrying the research results to the extension workers and farmers. The main report covers thirteen branches of Genetic Evaluation and Utilization (GEU) programme, three branches of Control and Management of Pests, Irrigation Water Management, eight branches of Soil and Crop Management and five other major areas of rice production technology. The related areas of Training, Cooperative Research, Information, Publications, Meetings and Seminars are also covered in about thirty pages. The statement on the finances of the Institute is also impressive.

A perusal of the report clearly indicates the work expansions which have taken place, both in quantity and quality, at the Institute. The Genetic Resources Programme has been given the great importance which it deserves. All the programmes under GEU are multi-disciplinary, multi-national and multi-locational. The presentation of the results is most logical and precise. In compiling and presenting the data the persons responsible have done a commendable job. Certain new areas of research have been given importance in the report. For example, the scientific basis for rice ratooning, nutritional value and aroma of rice grains, cross resistance to insect pests, allelo-chemicals, genetics of insect pests and bio-chemical, physiological and agronomic bases for drought tolerance are well covered. One of the most impressive Chapters in the report is on 'GEU in respect of Adverse Soil-Tolerance' which covers many aspects of screening programmes to obtain suitable genetic material for varying soil conditions and chemical stresses. One of the approaches is to utilize tissue culture technique for improving some selected varieties. The Chapter on 'Innovative Breeding Methods' brings out some new approaches in Plant Physiology and Plant Breeding. These lines of work seem to be very promising. The major achievement of IRRI over the past two decades is in organizing and implementing large scale international research programmes such as

testing of rice strains in the nursery, upland, rainfed area, deep waters and adverse soil conditions etc. These studies involve extraordinary leadership qualities among the scientists of IRRI who have to work in close collaboration with scientists of different nations, cultures and backgrounds, in different parts of the world. Their achievements in this regard are highly commendable.

The Chapters on 'Control and Management of Rice Pests' viz., Diseases, Insects and Weeds, though of usual pattern, bring out certain new approaches. For example, selection of varieties of upland rice for suppression of weeds is a worthy area of approach. Management of Irrigation Water and Soil and Fertilizer Nitrogen are very important and more work needs to be done in this regard. Considering that the economics of rice production in future would depend on more efficient agronomic practices and soil and crop management techniques, with a locations specific approach, more work needs to be done on economic assessment of the returns of each of the inputs. The Chapters on 'Transfer of Technology', 'Systems Approach', 'Socio-economic Constraints' and 'Multiple Cropping Systems' seem to be receiving increasing attention of the scientists at IRRI. These are very welcome trends. More needs to be done in popularising the agricultural machineries developed for rice culture at the Institute. Due acknowledgements have been made of the contributions made by collaborating institutions in different parts of the world and also the financial contributions provided by various nations and agencies.

The report is a very useful compilation of the research works going on in different branches of rice in different centres all over the world. It has depth and quality. In recent years, there have been rapid expansions of the activities of IRRI covering many closely and even distantly related areas of research and in this process the quality aspect of research should not be overlooked.

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**Satellite Story** by P. R. Pisharoty (Published by Madras Science Foundation, Madras 600 028) pp. 71. Price Rs. 35/-

Since the beginning of space age on 4th October 1957 by the successful launch of first man made Satellite Sputnik by USSR, satellites have become an essential part of human life. Whether it be communication satellites, weather satellites, navigation satellites or scientific satellites for studying the earth, moon, planets, sun and stars, these man made objects have become the symbols of rapid advancement of a new technology at the service of mankind. India is one among the very few developing countries to harness the benefits of uses of outer space for telecommunication, TV broadcasting, weather monitoring and resources survey. The Indian programme is completing 25 years by 1988. It is apt that a book on "Satellite Story" written by Prof. Pisharoty, a renowned space scientist of India has been brought out by Madras Science Foundation jointly with Bharatiya Vidya Bhavan for the benefit of Indian children studying at our high schools. In a very lucid style Prof. Pisharoty unveils the mathematics of satellites which serves as the basis for various types of orbits and their attainment. Prof. Pisharoty being an outstanding meteorologist, a comprehensive treatment of meteorological satellites follows. The use of polar orbiting and geostationary meteorological satellites are clearly brought out. The section on Military satellites highlights the uses and value of Military observation satellites, anti-satellite weapons and space weapons. The section on communication satellites traces the evolution of INTELSAT, domestic systems like INSAT-1 and amateur communication satellites as well. The section on earth resources satellites brings out the basic principles of remote sensing in simple language describing the use of satellite imagery from LANDSAT in India, aerial photographic surveys, the Indian experimental earth observation satellites Bhaskara-1 and 2 and the ongoing Indian Remote Sensing Satellite IRS. Then there is a section on how satellites can be effectively used in Geodesy – the science of determining the precise shape and the size or dimensions of the earth by means of laser and radar tracking. A section on Navigational satellite illustrates how TRANSIT and Global Positioning satellites of USA or the USSR Navigational Satellites systems come to help in navigation and traffic control. The section on space science satellites traces the impact of satellites in space science field – whether it is mapping the radiation belts, magnetic fields and particles, study

of stars and planets going beyond the confines and constraints of earth's atmosphere. Prof. Pisharoty also highlights in conclusion the fact that space technology and science hold the key to unlocking the secrets of origin of universe and its evolution, origin of life and search for extraterrestrial intelligence as well as tapping large amounts of energy by satellite power stations. Of course in his characteristic way, he has also pointed out the perils of misuse of this technology for destruction and war mongering.

The young school children for whom this book is addressed will find it extremely interesting and educative at the same time. It is almost certain that this book will have widest circle of young readers. It may even be worth considering by Madras Science Foundation and Bharatiya Vidya Bhavan to bring out the same book in Indian languages to take the story of satellites to a still wider circle of young children all over India.

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**Water Resources System Planning: Some case studies for India**— M. C. Chaturvedi and P. Rogers (Editors) (Indian Academy of Sciences, Bangalore 560 080) 1985, pp. 385, Price: Rs. 50.

Water is one of our neglected natural resources. It is so common that few have bothered to get a clearer

understanding of the problems connected with its development. Systematic study of some of the major river basins in India has only recently been taken up and the present volume under review includes several of such studies. In the introductory paper, Mahesh Chaturvedi and Peter Rogers furnish the background of system analysis studies and follow it up by three general papers on: water resources of Indian—an overview; Water in India's development; and the Ganga—Brahmaputra—Berak Basin. Two papers deal with the decentralized planning for the Ganga Basin. The case of the Upper Cauvery Basin has been taken up by Vedula to outline a plan for optimal irrigation. Groundwater resources have also merited attention. There are two studies on integrated ground and surface water development and on storage of surface flows through groundwater recharge. Study of Bhakra reservoir operation, the Beas—Sutlej system, The Rajasthan Canal, the utilization of the Damodar river waters, planning for Suvarnarekha river, are some of the other aspects considered. The volume has an author and subject index to facilitate easy reference. It is well got up and very well printed and forms a valuable addition to our limited literature on Water Resources of India.

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