

# RAMDEO MISRA

(26 August 1908 – 25 June 1998)

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*Amir*



# RAMDEO MISRA

(1908-1998)

Elected Fellow 1955

## FAMILY BACKGROUND AND EARLY EDUCATION

**R**AMDEO MISRA (known as Father of Ecology in India) was born on August 26, 1908 in Dobhi village of Jaunpur district of eastern Uttar Pradesh. He was married to Sundanda on May 16, 1938. She was daughter of the renowned Sanskrit scholar Pt. Mahamahopadhyaya Ramavatar Sharma, of Patna College, (later Patna University). They had four daughters and a son. The eldest daughter, Nirajana is wife of Dr Prem Nath Tiwari, a Nuclear Scientist who retired as Project Director of Nuclear Research Laboratory, IARI, New Delhi. Their son Amitabh Misra is a mechanical design engineer settled in Ahmedabad, working as an Executive Director of a Private Limited Company. His wife Smt. Usha is a housewife. The second daughter Alka is married to Mr. Ramesh Narayan Pandey, General Manager with Reliance Industries Limited, Gandhinagar. The third daughter, Dr. Gopa Pandey is in Indian Forest Services (1982 batch, M.P. Cadre) and is married to Dr. Virendra Nath Pandey also an IFS officer of the same batch and cadre. They both are posted as Conservator of Forests in Seoni. Both of them are Ph.D. in Botany from B.H.U. The youngest daughter Dr. Jyotsana is Lecturer at N.C.E.R.T., New Delhi, and married to Mr. Ramakant Tiwari who is management professional. There are a number of their grand and great grand children settled in different parts of the country and abroad working in different fields of professions or still studying. Professor Misra had his schooling and university education at Varanasi, one of the oldest centre of learning. After his matriculation from the Central Hindu School in 1925, he got his B.Sc. and M.Sc. degrees of the Banaras Hindu University in 1929 and 1931, respectively. Due to his scholarship and special aptitude in Botany, he always secured first position in the subject at all the examinations during his scholastic career. For securing first position in Botany at the B.Sc. Examination he received the "Madan Mohan Malviya Gold Medal" in 1929. He breathed his last on 26<sup>th</sup> June 1998 at New Delhi.

## PROFESSIONAL CAREER/RESEARCH PROFILE

In the service of his *Alma Mater*, the Banaras Hindu University, young Misra joined as a demonstrator in Botany in 1931. In 1935, he proceeded to the University of Leeds, London, to work for two years on the "Ecology of British Lakes". For his doctoral thesis, Misra worked under the inspiring guidance of the late Professor WH Pearsall, FRS, the ecologist, who initiated him into the discipline of ecology. He worked at the Fresh Water Biological Laboratory, Wray Castle, Ambleside, with a scholarship awarded to him by the British Association for Advancement of Science, and was awarded the Ph.D. degree in 1937. His interesting findings



soon received a prominent place in British scientific journals. Close association with Professor Pearsall made a deep impression in Misra in understanding many concepts that go to make the complex subject of ecology. Returning to India well equipped as a researcher, Misra set about the task of studying many ecosystems and, indeed, he had a maiden field.

In 1939, Dr Misra went to Bhagalpur and there he organized the first department of biology in Bihar and remained there for two years. He then returned to the Banaras Hindu University in 1941 as Assistant Professor of Botany. Back to his campus, he produced monographic works on the ecology of meadows, ravines, low-lying lands and ecotypic differentiations, etc. which no student of ecology could afford to gloss over.

From Banaras, Dr. Misra moved on to Sagar and was the founder of the Department of Botany, University of Saugar, Sagar, M.P., where he was appointed as Reader and Head of the Department in 1946. Within a short of two years he organized the department with competent staff and much equipment and apparatus ready to impart instructions to graduate and undergraduate students. Even the old deserted military barracks, where the department was just housed did not deter him from establishing himself for sustained teaching and research in his chosen field. Thus, in the natural surroundings of Sagar, there gradually emerged the first active "School in Plant Ecology" in India under the leadership of Dr Misra. Varied problems on the ecology of grasslands, forests, lakes and ponds were investigated there, as early as 1949; Autecology of economic forest trees and herbaceous plants and soil dynamics were also subjects of research by the researchers at the school.

After a period of nine years at Sagar, Dr Misra again returned to Banaras Hindu University in 1955 to occupy the coveted chair of the Head, Botany Department, in which post he continued and retired in 1971. During 1962-64, Professor Misra served the University as Dean, Faculty of Science.

With a steady flow of scientific contributions from himself and his colleagues and the Department of Botany expanded rapidly to become one of the leading centers of botanical studies in this country. Indeed, Professor Misra encouraged researches in other branches as well, particularly in Algology, Mycology and Plant Pathology, Cytology and Physiology. At the Banaras Hindu University, Professor Misra's main research emphasis has been on understanding form, function and factor interactions at all levels of ecological inquiry with a strong experimental bias. In keeping with advances in technology elsewhere and the introduction of controlled environmental conditions for precise ecological measurements, Misra was not slow in appreciating the need for sophistication in instrumentation and he worked for installing a phytotron on a modest scale and got it commissioned.

Under Professor Misra's able guidance in ecological researches more than 50 students secured the Ph.D. degree on various ecological problems including the biological productivity of terrestrial and freshwater communities.

Professor Misra has travelled very widely. After his return from England in 1937, he made another big tour of Europe in 1955. At the invitation of the British Council, Professor



Misra gave a series of lectures in the U.A.R., Italy and England. At Rome in 1955 he represented India at the XII General Assembly of International Union of Biological Sciences, wherever he has gone, his scholarship and affability have been appreciated by all those who came in contact with him.

Professor Misra was Director of Summer Institute in Biology in 1964 and 1967; and of a School in Plant Ecology for University teachers in 1966. He was the Principal Investigator of USA – AL 480 Project on “Ecological Studies of Noxious Weeds, common to India and America which are becoming an increasing problem in the Upper Gangetic Plain”. He was also directing a number of other schemes sponsored by the Council of Scientific and Industrial Research, Government of India and the University Grants Commission. Professor Misra has had long associations with academic bodies of different universities and a number of learned societies in India and abroad.

### FELLOWSHIP OF ACADEMIES AND POSITIONS

#### (a) In India :

- (i) Indian National Science Academy, elected fellow in 1955, Council (1981-1983), Chairman, Terrestrial Productivity and member of Indian National Committee, International Biological Programme (1964-1974) and many other committees of INSA
- (ii) National Academy of Science, India; elected fellow 1953; President, Biology Section, 1954
- (iii) Indian Science Congress: President Botany Section, 1958. Invited lectures on many occasions. 1990 Platinum Jubilee Lecture in Botany
- (iv) Indian Botanical Society, Fellow 1937, Secretary 1949, President 1959, Hon. Fellow 1981. See contributions to botany by Prof. R. Misra In : *J Ind Bot Soc* 46 289-313 (written by SC Pandeya)
- (v) Council of Scientific and Industrial Research: Biological Research Committee 1959-1968, Bhatnagar Award Committee for Biology 1971-1974
- (vi) Indian Botanical Survey of India, Advisory Board 1970-73
- (vii) Government of India: National Committee on Environmental Planning and Co-Ordination and Man and Biosphere Programme National Committee, Vice Chairman 1972-75
- (viii) Government of India: Indian National Committee on Human Environment, 1969-1972. Member
- (ix) National Institute of Ecology, Founder Fellow, 1979
- (x) Uttar Pradesh Committee on Science and Technology and Environment Committee, 1962 to 1975 (for different terms)
- (xi) Governing Council of the Central Himalayan Environment Association, since 1981



- (xii) Governing Body of the Institute of Wildlife, India, 1986-1990
- (xiii) Founder member, Society for Scientific Values, 1986
- (xiv) Patron, Indian Environmental Society

**(b) International :**

- (i) World Academy of Art and Science, elected Fellow, 1967
- (ii) Institute de la Vie (Paris) Life member of the world Jury for the award of biennial prize since 1972. Guest speaker at Vienna Conference on life and science, 1979 and at la Martinique (Caribbean, Island) 1985
- (iii) UNESCO : Man & the Biosphere Programme, Vice-Chairman of the International Coordinating Council 1971-75. Leader of the Indian delegation and organizer of the UNESCO-MAB South Asian meeting at Banaras Hindu University 1975. Member of the UNESCO Organising Conference of the Biosphere Committee, 1969-1970
- (iv) United Nations Environment Programme, Senior Consultant for Desertification Conference 1973-75 (Geneva, Nairobi, Delhi, Kabul, Teheran)
- (v) SCOPE (Special Committee on the Problems of the Environment), Organising Committee (Helsinki) 1971; Guest speaker on environmental aspects of land use in semi-arid and arid regions' of Asia, 1973 (Nairobi)
- (vi) International Union of conservation of Nature and Natural Resources; served on Commissions of Education and Ecology for several years in the seventies
- (vii) International Society for Tropical Ecology. Founder Fellow 1956, President 1971-1975, Treasurer 1956-1959, Chairman, International Commission for Training and Research in Resources Ecology, 1967
- (viii) International Biological Programme 1964-1974, Membership of Advisory Committee and Working Group on Terrestrial Productivity (Varna, Rome, Seattle, Paris, Colorado, Warsaw, Varanasi, New Delhi)
- (ix) International Association of Ecologists (INTECOL), Member Organising Committee and Board 1968-1974, (Seattle, Amsterdam, Hague, etc.)
- (x) International Union of Biological Sciences Indian delegate at Rome 1955 and Helsinki 1971
- (xi) British Council 1955, Guest Scientist to Centres of Ecology and Nature Conservancy in UK
- (xii) British Ecological Society, elected member 1936
- (xiii) Reykjavik Conference on the Environmental Future (ICEF) Chairman of the session 'Dangerous Devegetation and Monocultures' 1977 (Iceland)



- (xiv) Smithsonian Institute, Washington DC; Visiting Scientist (USA, Canada and Japan – Centres of ecology)
- (xv) USSR Academy of Science, Institute of Agrochemistry. Felicitated by the Academy of 70<sup>th</sup> Birthday

**(c) Editorial Work :**

Chief Editor - Tropical Ecology (ISTE) 1960-1985

Chief Editor, International Journal of Environmental Science and Ecology (NIE) 1975-1988

Editorial Board – Plant Ecological Researches in India 1971-1979 (2 Vols)

Editorial Board – Journal of the Indian Botanical Society for many years

Co-editor, “Grassland Ecosystems of the World”, Vol. 1, Cambridge Univ. Press, 1979

Advisory Board, “Ecological Abstracts”, London, 1975-85

Advisory Board, “Agro-ecosystems”, Amsterdam, 1975-88

Proceedings of symposium – 1968 ISTE, pp. 800

Proceedings of School on Plant Ecology 1968 (Oxford and IBH)

Indian Journal of History of Sciences, INSA since 1985

**(d) Visiting Fellowships :**

Visiting Professor (Environment and Ecology) British (1955) and American Universities 1971-72 (British Council and Smithsonian Institute of Washington)

Visiting Professor (Environmental Biology) 1979-80 APS University, Rewa, MP

Visiting Scientist (Bioscience) 1980, Saurashtra University, Rajkot, Gujarat

Visiting Advisor (Environmental Science) 1987-88, Jiwaji University, Gwalior, MP

**AWARDS AND HONOURS**

Professor Ramdeo Misra received several awards and honours in recognition of his significant contributions to science such as Malaviya Gold Medal awarded in 1929 by Banaras Hindu University.

Birbal Sahni Gold Medal awarded in 1967 by the Indian Botanical Society for outstanding work in any branch of Botany.

Jawaharlal Nehru Gold Medal awarded in 1974 by Madhya Pradesh Vigyan Academy for outstanding work in Science.

Bronze Medal awarded by the International Society for Tropical Ecology in 1979 for promoting the growth of the society.



Sanjay Gandhi Award for Environment and Ecology, 1984.

Sadasivan Endowment Lecture of INSA award, 1985.

Malaviya Memorial foundation Award for Senior Scientis. Banaras Hindu University, 1986.

Swami Pranavanand Saraswati Award, 1986 (Environment and Ecology) University Grants Commission.

Platinum Jubilee Lectureship Award, 1990. Indian Science Congress Association.

### COMMEMORATIVE PUBLICATIONS AND MEDALS

The Indian Botanical Society published the 60<sup>th</sup> birthday commemorative issue of the Journal of the Indian Botanical Society in 1967, Vol. 46 No. 4

Indian Ecologists published in 1978 a commemorative volume on Professor Misra's 70<sup>th</sup> birthday entitled 'Glimpses of Ecology' with invited articles from all over the world. Int. Scientific Publishers, Jaipur, p.592

International Society for Tropical Ecology instituted Founder's (Prof. R. Misra) Medal in 1979 at Kuala Lumpur to be awarded to an outstanding tropical ecologist of the world every four years

The Indian Environmental Society instituted 'Ramdeo Misra Gold Medal' in Environmental Sciences' in 1980 for outstanding contribution in the field of environmental science. The first medal was awarded to Michael Royston of Geneva. Other recipients are: Dr MS Swaminathan, Dr MK Tolc (UNEP) Dr TN Khoshoo, Dhillon Ripley, (Washington), Dr Helmut Lieth (W. Germany).

### RESEARCH GUIDANCE

Sixty students obtained Ph.D. degree under Professor Misra's guidance besides many more having taken M.Sc. degree and Diploma in Resources Ecology. He organized a large number of Summer Institutes for college teachers and Seminars on Environment. A rough estimate of turn out of Doctorate students through three generations within India, puts the number of 500 in Ecology emanating from Misra School. Professor Misra has published more than one hundred research papers and original books on Ecology and Environment. He donated his Personal Library to the Department of Botany, Banaras Hindu University, Varanasi and the Jiwaji University, Gwalior.

### ACKNOWLEDGEMENTS

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The writer has the proud privilege to be the first doctoral student of Professor Misra and the very first PhD in Ecology in India, obtained in 1953.

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- 1965 (With KANUNGO MS) Biology Section IV (pp. 103-500) Plant and Animal Physiology: National Council of Educational Research and Training. New Delhi
- 1966 Ecology Work Book (250 pp) Oxford and IBH Publishing Co. Calcutta
- 1968 (With DAS RR) Proceedings of the School on Plant Ecology Oxford and IBH Publishing Co. Calcutta
- 1969 *Vanaspati Swalkhaur unke Rahesyodghatan* (being the translation of Sir JC Bose's Plant Auto-graph and their revelations) 300 Hindi Samiti, UP Govt.
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- 1977 Tropical and subtropical Grasslands in Grassland of the World. Cambridge University Press London as editor

### (B) General Articles:

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- 1949 Basic concepts of Ecology *Bull Bot Soc Sagar University* 1 13-14
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- *Vanaspati Paristhiki aur Ubdhit Sampatti Ki Suvyavastha* (Presidential Address) to Science-Section of the Madhya Pradeshik Hindi Sahitya Sammelan, Jagdalpur
- 1954 The March of Vegetation. Extramural Lecture No.2 Saugar University Hitavada (20<sup>th</sup> Nov. – Mar. –Sept. A-B)
- 1954 (With PURI GS) The place of ecological research in the Botanical Survey of India *Sci & Cult* 20 111
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- 1963 Ecology in the Services of Man Banaras Hindu University Extension Lecture
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- 1970 Save the tropical ecosystems (*INTECOL Bulletin*) **2** 29-32
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### (C) Research Articles :

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