

## **Management of Emerging Environmental problems for enhancing agricultural productivity**

The green revolution of the mid 1960s had benefited the country immensely. But excessive focus on intensive agricultural growth has resulted in degradation of natural resources. There is also frequent reference to the "fatigue of the green revolution", due to stagnation in yield levels and larger quantity of nutrients required to produce the same yield as in the early 1970's. Over exploitation and mismanagement of natural resources was induced by an under-estimation of the capacity of our farmers and made worse by over-enthusiastic populism. For example, high subsidy on canal waters, electricity, nitrogenous fertilizer among others induced farmers to overexploit soil and water resources without recognizing the dangers inherent in such behaviour. Problems of soil salinity, water logging, declining water table, deteriorating water quality, nutrient mining and acidification of soil are often reported in those regions which witnessed green revolution.

Modern agriculture largely depends on the use of high cost inputs such as chemical fertilizers, pesticides, improved seeds, irrigation and energy intensive farm machinery. The application of such high input technologies has undoubtedly increased the agricultural production but there is growing concern over the adverse effects of the use of chemicals on environmental quality. A large proportion of India's land area shows evidence of continuing degradation, which is seriously affecting the country's productive resource base. This, in turn, is threatening to undermine India's capacity to increase food production and food security. Increasing pressure on the land resources caused by the rapid increasing population is further accelerating the processes of degradation. Thus, environmental pollution is the emerging and great concern in the today's context pertaining to its effect on ecosystem, which is the net effect of projected rise in global population, on the other hand mounting the agricultural pressure on ecosystem. The technological development in agriculture and industry is taken a general criterion of development of any country. Production and productivity of crops in India need to be increased for alleviating the ever-increasing food

insecurity by increase in (1) consumption rates, (2) inequality in food access, and (3) population numbers. The potential for expanding agriculture to new areas is remote, as the country has already come to limits to area, which could be cultivated. Therefore, only productivity needs to be increased. The productivity can be increased in two ways: 1) by increasing the use of inputs like water and nutrients or/and 2) increasing the efficiency of the applied inputs. A mere increase in inputs will however, may have adverse impacts on the environment. Therefore, management strategies have to be developed to improve the efficiency of the inputs and at the same time monitor the environmental impacts of the agricultural practices.

Thus this training programme will help the participants to under such emerging environmental issues along with possible solutions to manage them. The training course will be organized for 8 days w.e.f. 25<sup>th</sup> March to 1<sup>st</sup> April, 2019 at Centre for Environment Science and Climate Resilient Agriculture, ICAR-Indian Agricultural Research Institute (IARI), New Delhi.

### **Objectives**

The objectives of this training programme are: (i) to provide advance training to the state agricultural officers and scientists of ICAR/SAUs/KVKs on understanding of environmental issues and agriculture relationships (ii) To introduce the trainees on advanced and successful concepts, research and demonstrations of environmental issues management in modern agriculture (iii) to provide an opportunity to discuss and exchange ideas/knowledge sharing between the academicians/experts who have made notable contributions in this area.

### **Course Contents**

The course will broadly cover the following topics: (i) Emerging environmental issues in relation with agriculture: Importance, concept and case studies (ii) Role of advanced tools in environmental resource management, (iii) Introduction to advanced research techniques for environmental monitoring (iv) Mitigation techniques for climate change and environmental problems in agriculture (v) Role of bio-recourses and ITKs in environmental resource conservation

### **Travel, Boarding and Lodging**

The boarding, lodging, and TA expenses of the selected participants from the State Departments of Soil conservation, irrigation, Agriculture, Horticulture and others will be met from the funds

provided by the Ministry of Agriculture as per norms and operational guidelines for organization of Model Training Courses. Participants will be paid to-and-fro fare for journey by train as per their entitlement or bus or other means of transport in vogue as the case may be and GOI norms. Actual TA will be paid on production of a tickets/certificate by the participants. However, the participants coming from ICAR/SAUs/KVKs etc., the TA and DA expenditure will have to be borne by their nominating organization/institute, and the boarding and lodging will be provided by the organizers. The participants will be provided shared accommodation in the Sindhu guest house of the Institute. No family members are allowed.

### **About CESCRA, IARI and New Delhi**

Established in 1993, Environmental Science Division was renamed as Centre for Environment Science and Climate Resilient Agriculture in 2012. The Centre has pioneering contributions in the field of greenhouse gas emission inventory, monitoring and mitigation, simulation modeling and climate change. Scientists of the Centre have contributed to IPCC, UNFCCC reports as well as to National and State Actions Plans on Climate Change. The ICAR-Indian Agricultural Research Institute (IARI), popularly known as Pusa Institute, began in 1905 at Pusa (Bihar). The institute was then known as Agricultural Research Institute (ARI) and was changed to Imperial Institute of Agricultural Research in 1911 and, in 1919 it was renamed as Imperial Agricultural Research Institute. Following a devastating earth quake on 15th January 1934, the institute was shifted to Delhi on 29th July 1936. Post-independence, the institute has been renamed as Indian Agricultural Research Institute (IARI). It attained the status of a Deemed University in the year 1958. IARI continues to be the leading institution for agricultural research, education and extension in the country and is the 'Seat of Green Revolution' and is striving to bring the 'Evergreen Revolution' in Indian agriculture. The Institute has 20 divisions 5 multi-disciplinary Centers situated in Delhi, 8 regional stations, 2 off-season nurseries, 3 All India coordinated research projects with headquarters at IARI and 10 national Centers functioning under the all India coordinated research projects. The Institute is recognized globally and has several state of art facilities.

New Delhi, the National Capital is the one of the oldest and historical cities of India. With about 2 billion population, Delhi is one of the happening cities in the world. Delhi weather in March is warm with temperatures of 16° and 30° degrees, usually good for traveling and outdoors activity. IARI is located about 8 km west of New Delhi railway station and 10 km from the Inter-State Bus Terminal and about 15 kms east of Indira Gandhi International Airport (T1). Pre-paid taxi/auto can be availed at railway/airport/bus stations to reach at IARI, Pusa Campus, New Delhi

### Who can participate?

This Model Training Course is meant for the state extension/developmental officers of soil conservation and watershed management; agriculture and horticulture; N G O s, and scientists /teachers /researchers in SAUs /ICAR Institutes in the area of Agricultural Sciences (Land and Water Management Engineering/ Agricultural Economics /Agricultural Engineering /Soil Water Conservation/Water Science/Water Resource Engineering/ Agronomy/ Soil Science/ Agricultural Physics /Agricultural Extension/ /Horticulture or any other related disciplines. The total number of participants shall be limited to 20.

### How to apply?

Application for participation in the training programme may be made in the prescribed format as given herewith and forwarded by the competent authority where the candidate is employed. Applicants may send an advance copy if they anticipate delay in forwarding through proper channel. However, the final selection will be made only if the application duly recommended by the competent authority is received, which must not be later than one week after the closing date. The closing date for receipt of applications is **28.02.2019**. The selected candidates will be intimated within 3 working days of the receipt of their application.

*After the candidates are intimated of their selection, they should immediately confirm their participation.*

### Applications may be sent to:

Dr. (Mrs.) Renu Singh

Course Coordinator

Centre for Environment Science and Climate Resilient Agriculture, ICAR-Indian Agricultural Research Institute, Pusa, New Delhi - 110 012.

INDIA.

Email: [renu\\_icar@yahoo.com](mailto:renu_icar@yahoo.com)

Mobile: **91-9818419104**

## Application form for Participation in Model Training Course

*(To be sent to the Course Director/Coordinator of MTC Course concerned and not to the ICAR)*

Institute \_\_\_\_\_ at \_\_\_\_\_.

1. Full name (in block letters):
2. Designation:
3. Present employer and address:
4. Address for correspondence (Give E-mail, Tel. / Mobile No.):
5. Permanent address:
6. Sex: Male/Female
7. Marital status: Married/unmarried
8. Academic record (Indicate in tabular form examinations passed from B.Sc./B.Tech. degree onwards, Main subjects, Year of passing, Class / rank / University / Institution, Other information):
9. Signature of applicant (indicate name of place and date):
10. Recommendation of the forwarding Institute  
(Signature with date, designation / address):

### CERTIFICATE

It is certified that the above information was furnished as per the office record and was found correct.

(Signature and Designation of the sponsoring authority)

INFORMATION BROCHURE

MODEL TRAINING COURSE

on

## Management of Emerging Environmental problems for enhancing agricultural productivity

(25 March - 1 April, 2019)

### Sponsored by

Directorate of Extension  
Ministry of Agriculture & Farmers Welfare  
(Department of Agriculture, Cooperation & Framers Welfare), GOI



**Dr. Renu Singh**  
Senior Scientist &  
Course Director

**Dr. Manoj Srivastava**  
Principal Scientist &  
Course Coordinator I

**Dr. Niveta Jain**  
Principal Scientist  
Course Coordinator II

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