

Redesigning Water Conservation and Management Measures in Building Resilience in Farm Productivity

India ranks first among the rainfed countries in the world in terms of area, but counts amongst the lowest in rainfed yields (<1 ton/ha). As high as 78 Mha accounting for 64% of the country's net sown area is rainfed which is constrained by the extreme rainfall variability, poor soil health, land degradation through erosion etc. About 80 per cent of the annual runoff from the catchments flowing to rivers occurs during monsoon months of June to September, which often causes floods. Still then, acute water shortage is faced in many parts of India during the rest of the year.

India is water stressed. 52% of cropped area remains without irrigation. Irrigation consumes 84% of the water in India which is 2 to 4 times that in USA and China per unit of major crops. Share of canal in net irrigated area declined from 39.8 % to 23.6 % and groundwater sources increase from 28.7 % to a whopping 62.4 % between 1950-51 and 2012-13, which has contributed to significant increases in crop production, but there is steep decline in water tables and often water quality. Again climate change is occurring more rapidly than anticipated which affects water resources and agriculture.

India has invested heavily in rainwater harvesting under different watershed programmes but by and large, lack of hydrological planning and design. Though total amount of rainfall will not be changed due to climate change in future but intensity of rainfall will increase. So utmost emphasis is now for in-situ and ex-situ water conservation, and redesign of structures; preserve the water quality; and then improving crop water productivity. The notion of “more crop per drop” and ‘har khet ko pani’, source augmentation, distribution, ground water development, lift irrigation, diversion of water from water plenty to water scarce areas, supplementing rain water harvesting beyond IWMP, MGNREGA, repair, restoration, renovation of traditional water bodies, have also been given emphasis in PMKSY programme.

There is an urgent need to relook and rejuvenate the existing technologies, water augmentation at different suitable locations and soil conservation, judicious use of ground, surface water and waste water, and water

footprint. There is the need to train at grass root level functionaries for proper knowledge of innovation planning, design and effective utilization of above mentioned waters through water conservation and harvesting systems in building climate resilience to achieve sustainable goal, and enhancing food and livelihood security. This proposed training programme will assist the participants to address above problems and also its planning, implementation and management, adoption of soil and water resources through different Government programmes to enhance farm productivity. The training course will be organized for 8 days w.e.f. 8th October to 15th October, 2018 at Water Technology Centre, Indian Agricultural Research Institute (IARI), New Delhi.

Objectives

Urgent need of redesigning water harvesting measures and its management due to low irrigation efficiency, crop failure due to water scarcity, drying of water bodies, ground water table depletion etc. The objectives of this training programme are: (i) to provide advance training to the state agricultural officers and scientists of ICAR/SAUs/KVKs on redesign of water harvesting techniques, and its efficient utilization (ii) To train the trainees on modern concepts, tools and techniques of water management of stored water (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 content will broadly cover the following topics: (i) Water harvesting: Importance, concept and ITKs (ii) Procedures for water foot print estimation, impact indicators of WHSs analysis, (iii) Design of WHSs for green, blue and grey water harvesting, geospatial tools (iv) Watershed management, Government programmes for WHSs, (v) Effective utilization of stored water, its quality and DSS development, (vi) Economic analysis and adoption of WHSs for building resilience in farm productivity etc.

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 Farmers guest house of the Institute. No family members are allowed.

About IARI

IARI, popularly known as Pusa Institute, is the country's premier institution for research and higher education in the field of agricultural sciences. The primary mission of the institute is to explore new frontiers of science and knowledge, and develop human resources to provide leadership to the country in technology development and policy guidance. The Institute conducts basic and strategic research, serves as a centre for academic excellence, and provides national leadership in agricultural research, education and extension through development of new concepts, hypotheses and technologies.

The Water Technology Centre, established in 1969 is having an inter-disciplinary facility for research, teaching, training and extension in agricultural water management for which it has been designated as Centre of Excellence in training by Ministry of Agriculture and Cooperation, and has made significant contributions in imparting several trainings on various aspects of water related issues in agriculture. The Centre is adequately equipped with modern infrastructure and lab for carrying out high quality teaching and research leading to development of socially acceptable, practically feasible and climate resilient water conservation and agricultural water management technologies for sustainable crop and farm productivity.

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. The weather in Delhi during October will be pleasant, with a maximum temperature of 25-30°C and minimum temperature of 12-20°C, with about 68% relative humidity.

Who can participate?

This Model Training Course is meant for the state extension/developmental officers of soil conservation and watershed management; agriculture and horticulture; NGOs, 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 **24.09.2018**. 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.) Susama Sudhishri
Course Coordinator
Water Technology Centre,
ICAR-Indian Agricultural Research Institute,
Pusa, New Delhi - 110 012. INDIA.
Email: susama.sudhishri@gmail.com,
sudhishri_s@yahoo.co.in , pd_wtc@iari.res.in
Mobile: 09971931921; 09811531921, 08010912728

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

Redesigning Water Conservation and Management Measures in Building Resilience in Farm Productivity

(October 8-15, 2018)

Sponsored by

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



Dr. Man Singh
Project Director
&
Course Director

Dr. Susama Sudhishri
Principal Scientist &
Course Coordinator I

Dr. Bipin Kumar
Scientist &
Course Coordinator II

WATER TECHNOLOGY CENTRE
ICAR-INDIAN AGRICULTURAL
RESEARCH INSTITUTE
NEW DELHI-110 012