Ministry of Jal Shakti
Govt. of India
सत्यमेव जयते

Training Brochure

Conjunctive Water Use and Agricultural Water Productivity under Changing Climate

(February 18-20, 2025)

भाकृअनुप
ICAR

ICAR-Indian Institute of Water Management (IIWM)
Bhubaneswar-751 023, Odisha

भारतीय जल प्रबंधन संस्थान
ICAR-IIWM

Rationale

Availability of land and water resources and its judicious use has a major impact on the economic and ecological aspects of life around the world. As a result, the need to develop better tools/techniques for efficient management of land and water resource in irrigated and rainfed regions of India has become vital. Moreover, out of about 141 Mha of net area sown in the country, about 65 Mha (or 45%) is presently covered under irrigation. Extensive dependency on rainfall makes cultivation in unirrigated areas a high risk and less productive proposition. Empirical evidences suggest that promotion of assured or protective irrigation encourages farmers to invest more in farming technology and inputs leading to productivity enhancement and increased farm income. To accomplish this, the *Pradhan Mantri Krishi Sinchayee Yojana* (PMKSY) aims at extending the coverage of irrigation in a focused manner, with end-to-end solution on source creation, distribution, management, field application and extension activities. Under this initiative, the Department of Land Resources (DoLR) in the Ministry of Rural Development is mainly undertaking rain water conservation, construction of farm ponds, water harvesting structures, small check dams and contour bunding etc. through its Integrated Watershed Management Programme (IWMP). Similarly, the Ministry of Water Resources (MoWR) is undertaking various measures for completion of ongoing projects under 'Accelerated Irrigation Benefit Programme' (AIBP), besides construction of diversion canals, field channels, water diversion/lift irrigation, including development of water distribution systems. The Department of Agriculture & Cooperation (DAC) is promoting efficient water conveyance and precision water application devices like drips, sprinklers, pivotal irrigation methods, rain-guns in the farm, promotion of micro-irrigation facilities to supplement source creation and extension activities for promotion of scientific moisture conservation and agronomic measures, including cropping alignment. The purpose is aimed to maximize use of available water including rainfall and minimize irrigation requirement. Further through capacity building and training, potential use of water resource through technological, agronomic and management practices including community irrigation, Information Communication Technology (ICT) interventions etc., judicious use of water resources in agriculture can be achieved.

Therefore, it becomes imperative to train the personnel associated in these activities through use of modern tools and techniques related to surface and groundwater hydrology. The components of the training will address assessment of surface and groundwater resources, crop water requirement, water budgeting and judicious and conjunctive use of water in groundwater irrigated areas, rainfed and canal command areas. Thus, keeping in view of the three different approaches under PMKSY i.e. i) supply of water to each farm land ii) per drop more crop and iii) watershed development, this training programme is formulated. Further, it is aimed to focus on the "per drop more crop" initiative through conjunctive use of groundwater and surface stored water. The training programme will be organized in physical mode and is sponsored by **The Ministry of *Jal Shakti*, GoI** and is proposed to be organized for 3-days during February 18-20, 2025 at ICAR-Indian Institute of Water Management, Bhubaneswar, Odisha.

Objectives

The training programme is conceptualized with the following specific objectives:

- To train participants on modern tools/techniques for efficient conjunctive use of water in agriculture.
- To promote water-saving practices for improving agricultural water productivity.

Course Content

The training programme will broadly cover the lectures and practical modules pertaining to fundamental concepts of using the modern tools and techniques for conjunctive use of water and improving agricultural water productivity. Under this initiative, different course modules will cover the following areas (i) Broad overview on "Strategies for improving agricultural water productivity" (ii) An overview of irrigation projects and canal command area management in India (iii) Computation of irrigation efficiencies and methods to enhance the water application efficiency; (iv) Management of water resources under changing climate in irrigated regions using DSS; (v) Conjunctive water use (CWU) for improving water productivity; (vi) Tools and techniques for estimation of groundwater (GW) availability and recharge and demonstration of techniques for GW potential estimation; (vii) Irrigation scheduling protocols in different crops under different irrigation methods (Surface, Drip and Sprinkler irrigation method); (viii) Technologies for enhancing water productivity in different crops and cropping systems through rainwater management (ix) Community participation for improving water productivity through conjunctive use of water; (x) Different methods for computation of potential evapotranspiration (PET) & Demonstration of FAO CROPWAT for ET estimation and ET based irrigation scheduling; (xi) Irrigation water and soil moisture measuring devices and sensors for irrigation scheduling and (xii) "Improving agricultural water productivity under changing climate"

Level and Type of Participants

This programme is open for young and active academicians not below the rank of Assistant Professor / Scientist or equivalent rank having research/teaching experience in MoJS/ CGWB/CWC/SAUs and CAUs'/ICAR Institutes in the field of Agricultural Engineering / Civil Engineering with specialization in Irrigation and Drainage Engineering and Soil and Water Conservation Engineering related subjects / Soil Science / Agricultural Physics / Agronomy/ Environmental Science or any other related discipline having basic working experience on irrigation science and agricultural water management. TA & DA for trainees to be borne by the sponsoring organization. The lodging facility will be coordinated by ICAR/IIWM, Bhubaneswar in the guest house or nearby hotels on payment basis. However boarding will be arranged at ICAR-IIWM guest house during the training period. The applicant should preferably be less than 45 years of age. The total number of participants shall be limited to 30. The participants should have experience and involvement in Irrigation water management activities in the Country.

Course Coordinator

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Course Co-Coordinators

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Registration Form

Training Programme on

"Conjunctive Water Use and Agricultural Water Productivity under Changing Climate"

(*18-20* February*, 2025*)

Organized by ICAR-IIWM, Bhubaneswar, Odisha

(Registration deadline: 10th February 2025)

Name in Full:	
Designation:	
Email Id:	
Mobile No:	
Organization Name:	
Address:	
Educational Qualification:	
Area of Specialization	
It is certified that the above information furnished above are correct.	
Signature of the Candidate	
Recommendation of the Competent Authority	
Signature with Seal and date	

Please register online using Google Form:

https://docs.google.com/forms/d/e/1FAIpQLSeuwHk3nV2jQJsU60KBzg8VUDFHzsqnfF1vVzcdJ7s6zVeuUA/viewform?usp=header