

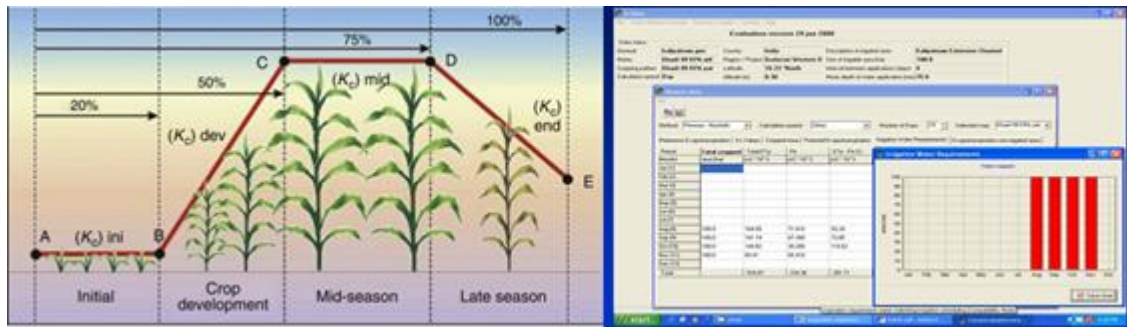


Engineering Staff College of India
Autonomous Organ of The Institution of Engineers (India)
Old Bombay Road, Gachi Bowli, Hyderabad – 500 032. TS, India

WATER RESOURCES DEVELOPMENT DIVISION

Continuing Professional Development Programme on
Assessment of Irrigation Demand and Irrigation Scheduling using Latest Software Applications

20 – 22 July, 2026



(An ISO 9001:2015 Certified, AICTE & CEA Recognized Institution)

Centre for Promotion of Professional Excellence

INTRODUCTION

Irrigation is of tremendous importance to global food security but it faces uncertainty in water supply due to less efficient irrigation system as well as increased competition from municipal and industrial water needs. India is an agrarian country having approximately 195 million hectare (M ha) area under cultivation in which only 63% is rain fed and rest irrigated. It also consists of 18% of global population, 4% of fresh water resources out of which 80% used in agriculture. Thus, agriculture is the largest consumer of fresh water resources. Presently, it meets the water demand to produce required foods, but inadequate for future demand. According to OECD environmental outlook 2050, India would face severe water crisis by 2050.

In conventional irrigation, farmers can either under irrigate or over irrigate the field results in loss of crop yield and its quality. Apart from it, most of farmers suffer from on-farm irrigation problem i.e they are unaware about the appropriate time and quantity of irrigation for optimum production of crops. To address this problem, scheduling of irrigation is essential. Basically, the ultimate goal of farmers is to always maximize farm profit with efficient resource use at field level. Keeping in view, there is a great need to modernize agricultural practices for conservation of resources and enhancing water productivity.

Therefore, there is need to focus on the development of low cost indigenous sensor based automated irrigation system for precise irrigation scheduling in different crops. Thus, it helped to improve water productivity in agriculture through irrigation scheduling using sensors by continuous monitoring of soil moisture content and weather parameters.

Irrigation Scheduling is a prime requirement for optimizing the use of water resources in irrigated agriculture. The majority of irrigation projects in India perform at a low overall efficiency of 30% (Sarma and Rao, 1997), which provides an opportunity for meeting the increasing water demands by adopting efficient methods of water management. The National Commission on Integrated Water Resources Development (NCIWRD, 1999) has projected that India's surface irrigation systems will work at only 40, 50 and 60% efficiency levels in 2010, 2025 and 2050, respectively. This demands for optimization of canal irrigation Scheduling.

It is required that the Water Use Efficiency (WUE) should be optimized in the field (Moutonett, 2002). Therefore, at present irrigation sector is facing the challenge of maximizing irrigation efficiency. Hence, in order to enhance the irrigation efficiency, estimation of irrigation demand is really important coupled with efficient management of water in the canal command area before releasing the water to the crops.

CROPWAT 8.0 software was used for analyzing water requirements during the entire growth period of crop, also an irrigation schedule was estimated with the help of CROPWAT 8.0 software. CROPWAT 8.0 for Windows is a computer programme for the computation of crop water requirements and irrigation requirements from existing climatic and crop data.

OBJECTIVES

The Proposed training program aims at providing an opportunity to the Irrigation and Agriculture engineers to enhance their knowledge and skill on assessment of irrigation water demand and scheduling using latest software and hardware technologies.

COVERAGE

- Overview on Irrigation Development in India
- Integrated Water Resources Development and Management(IWRDM)
- Climate – Weather forecasting
- Crop water requirement – FAO Guidelines
- Irrigation Scheduling
- CRIWAR Model Software
- Modernization of irrigation systems
- Soil moisture senses for irrigation scheduling
- Technology for soil Improvement
- Methods and Technologies to improve efficiency of water use
- India WRIS
- Water Use Efficiency – Case Studies

METHODOLOGY

Methodology includes class room lectures with audio visuals, interactive sessions through group discussions, case studies etc. Emphasis would be laid on sharing of experiences of participants and active participation is solicited from the participants. Medium of training is English.

TARGET PARTICIPANTS

The programme is meant for all level officers involved in Irrigation, Agriculture Depts. of State Govts, and Central Government, Water & Soil Conservation Departments, NABARD, Research & Development Organizations, Consultants, Academicians etc.

PROGRAMME VENUE

Engineering Staff College of India (ESCI) Campus, Old Bombay Road, Gachi Bowli, Hyderabad - 500032, TS India.

DATES

20 – 22 July, 2026

TIMINGS

On the first day registration will commence at 0900 Hrs. On all other days the programme timings will be from 0915 to 1715 hrs with breaks in between for tea and lunch.

COURSE DIRECTOR

Er. G Naresh, M.Tech (Ph.D), MIE

Faculty & Head I/c.

Mobile : +918801193075

COURSE FEE

Residential Fee is Rs.18,000/- per participant. Residential fee includes course material, course kit, and twin-sharing / single AC accommodation as per availability, Breakfast, Lunch, Dinner, Tea / Coffee and Snacks.

DISCOUNTS

Non-Residential Fee: 10% discount on course fee is allowed for non-residential participants.

Group Discount: Additional 10% discount for three or more participants if sponsored by the same organization.

(All discounts are applicable only if fee is received at ESCI before the commencement of the programme)

GST @18% as applicable is to be paid extra over and above the training fee. **PAN Card No** AAATT3439Q; **GSTIN** 36AAATT3439Q1ZV under commercial training or coaching services.

Programme fee is to be paid in favour of “**IE(I)-Engineering Staff College of India**” in the form of demand draft payable at Hyderabad.

Alternatively the payment may be made by **Electronic Fund Transfer (EFT)** to ESCI - SB A/c No. 10007111201 with The SBI, PBB, Rajbhavan Road Branch, Khairatabad, Hyderabad-500004 by **NEFT/ RTGS/ IFSC Code No.** SBIN 0004159 – MICR No.500002075. **While using EFT method of payment, please ensure to communicate us your company name, our invoice reference and programme title.**

REGISTRATION

Online registration shall be available on ESCI website. To register manually, please send your nominations giving details of name, designation, contact address, email address, mobile, telephone and fax numbers of the participant along with the details of mode of payment of fee, addressed to:

Head

Water Resources Development Division
Engineering Staff College of India
Gachi Bowli, Hyderabad – 500 032
Phone: 040 – 66304117 – 8 (Dir.) / Fax: 040 - 23000336
E-Mail : wrd@escihyd.org
Url : www.escihyd.org

CERTIFICATE: A certificate of participation will be awarded to each participant on conclusion of the programme.

GENERAL INSTRUCTIONS

- ESCI encourages participants to present case studies from their respective organizations.
- For the convenience of the outstation participants ESCI will facilitate pickup and drop from Airport / Railway Station/ Bus stations, if travel plans are received at least 3 days in advance along with mobile number by fax or email. The charges shall be paid by the participants directly to the cab.
- ESCI provides complimentary accommodation to participants a day prior to the commencement and after the conclusion of the programme. (Check in at 12:00Hrs) one day after conclusion (Check out at 12:00 hrs) of the programme duration.
- Overstay charges of @ Rs.990/- per day, per head will be charged.
- Well developed Information Centre and internet facilities are available to the participants.