**E-ITEC-Training program**

**on**

**Disaster Management (Floods and Droughts)**

**Organized by**

**Department of Water Resources Development & Management**

**(September 26- 28, 2022)**

**Introduction**: This course will cover the issues and challenges related to the damage from floods and droughts. Further, the overall glimpse of several mitigation measures and arrangements from the government to reduce its impacts will be discussed in detail. In regards to drought, the role of alternate irrigation practices in minimizing the impact of the disaster will be covered. Structural and non-structural measures for approaching flood management will be of major focus. Forecasting of flood and drought management with relevant case studies will be discussed. Emphasize on Standard Operational Procedures on Disaster Management and various Guidelines on different types of disasters including some important national initiatives and international agreements/frameworks and study on various indices on floods and drought management will be covered with case examples.

**Aim**: This training course aims to develop the capacity in Afro-Asian countries to address the issue of floods and droughts on a local to regional scale.

**Objective**: In this training program, with exposure to practical tools to solve real-life problems, dissemination of knowledge for capacity building, studies relevant to local and regional levels to address the progress in the sector are proposed in effectively addressing the challenges in Disaster Management. This training program imparts knowledge of managing floods and droughts to young field engineers.

**Course coordinator:**

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| Prof. Deepak Khare Dept. of Water Resources Development and ManagementIndian Institute of Technology Roorkee, 247667 (India)Email: deepak.khare@wr.iitr.ac.inPhone: +91-1332-285393 (office) +91 94129 90808 (mobile) | Prof. Kasiviswanathan K S Dept. of Water Resources Development and ManagementIndian Institute of Technology Roorkee, 247667 (India)Email: k.kasiviswanathan@wr.iitr.ac.inPhone: +91-1332-284914 (office), +91-9952199196 (mobile) |

**Course content and schedule:**

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| Day No./ Date | Time | Program | Name of Faculty(Annexure - I) |
| 1 | 2 | 3 |  |
| Day 1 | 14:00- 15:00 | On line Registration, Course Inaugural, and Introduction |  |
|  |  |  |
| 15:00 –15.55 | Role of Water Resources Planning and Management in Floods and Drought | Prof. Deepak Khare |
| 16:00 –16.55 | Overview of Design flood estimation and Integrated flood management | Prof. ML Kansal |
| 17:00 –17.55 | Towards drought resilient societies – Drought monitoring, impact assessment and management from local to national scales | Prof. Parameshwar |
| Day 2 |  |  |  |
| 14:00 -14:55 | Modelling the flooding events and Existence of Non-stationary in the flooding | Prof Kasiviswanathan  |
| 15:00 15.55 | Applications of Remote Sensing and GIS in drought management | Prof. Ashish Pandey  |
| 16:00 –16.55 | Quantification of the floods | Prof S K Mishra |
| 17:00 –17.30 | Drought analysis and severity consdeirng ground water conditions: Case Study | Prof. Deepak Khare |
| Day 3 |  |  |  |
| 14:00- 14.55 | Case studies on overview of flooding scenario | Prof. Kasiviswanathan  |
| 15:00- 15.55 | Role of hydrological model in identifying causes of flood: A case study of 2018 Kerala flood | Prof. Sudheer KP |
| 16:00 17.00 | Feedback and Valedictory Function |  |
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**The expected outcome of the course**: At the end of this training course, participants will understand the issues related to floods and droughts. Further, the course also designed to introduce advanced technology in managing the floods, monitoring and declaration of drought events.

**Eligibility conditions of the participants**: Participants working in the area of Disaster management, flood and drought risk management.

**Resource Persons:** Experienced faculty members from various departments/centers of IIT Roorkee and other reputed institutions/agencies/industries will deliver lectures and coordinate laboratory exercises.