5-day virtual training course on

"Water security for resilience to deal with disasters and outbreaks"

02-06 November, 2020

United Nations Educational, Scientific and Cultural Organization

Indian National Committee for Intergovernmental Hydrological Programme

Organized by:

National Institute of Hydrology, Roorkee

Under the aegis of

Indian National Committee for Intergovernmental Hydrological Programme (INC-IHP) of UNESCO

Background and Context

Water security is a complex multi-dimensional attribute. UN Water defines water security as *"the capacity of a population to safeguard sustainable access to* ***adequate quantities*** *of* ***acceptable quality*** *water for sustaining* ***livelihoods, human well-being****, and* ***socio-economic development****, for ensuring* ***protection against water-borne pollution and water-related disasters, and for preserving ecosystems*** *in a climate of peace and political stability".*

Water is increasingly becoming a scarce natural resource in many parts of the world, and cannot be taken for granted. Multiple drivers like population growth, rural migration, urbanization, unregulated abstraction of water, indiscriminate pollution are already creating stress on existing water resources. But since the last twenty years, the frequency of natural disaster events has increased at an alarming rate, which poses a serious threat to water resources. When disaster strikes, it usually manifests itself through the water. Floods, landslides, tsunamis, storms, heat waves, cold spells, droughts, and waterborne disease outbreaks are all becoming more frequent and more intense. Reducing risk to, and improving the resilience of, water and sanitation services will be key to maintaining access during a climatically uncertain future.

Water-related disasters pose both direct impacts (eg. damage to buildings, crops and infrastructure, and loss of life and property) and indirect impacts (e.g. losses in productivity and livelihoods, increased investment risk, indebtedness, and human health impacts). An average of 25.3 million people is displaced each year by sudden-onset disasters. However, around 74% of all natural disasters between 2001 and 2018 were water-related and during the past two decades, the total number of deaths caused only by floods and droughts exceeded 166,000, while floods and droughts affected over three billion people and caused total economic damage of almost US$700 billion.

Presently, we are witnessing Coronavirus (COVID-19) outbreak, which has been declared a pandemic by the World Health Organization. Improving water, sanitation, and hygiene has the potential to prevent at least 9% of the global disease burden and 6% of all deaths. Recovery from the pandemic will require effective water management that reinforces the stability of disrupted food systems. In the post-pandemic world, we must use what we are learning about the dynamics of these interconnected systems to "build back better." Investments in water should be used to build greater resilience to climate, health, and food system shocks, and more effective management of water-related risks.

Objectives

Against this backdrop, Indian National Committee (INC) for Intergovernmental Hydrological Programme (INC-IHP) in cooperation with National Institute of Hydrology (NIH), Roorkee (Uttarakhand) is organizing a 5-day online training course from 02nd November, 2020 to 06th November, 2020 on a virtual platform. The course will provide participants with comprehensive knowledge of the entire water security concepts and its resilience during these uncertain climatic conditions and outbreaks. The purpose of this training course is:

- To comprehend the participants with water security concepts, disasters/ outbreaks, and their related implications, and
- To train the participants to perform water security assessment and chalk out resilience strategies at different scales.

Target participants

The target participants of this course are youths and young professionals qualified in hydrology, water resources, or related fields, and associated with water resources assessment and management.

Course Structure

The course will consist of lectures supported by hands-on sessions on computers to cover both theory and practice in the right proportion. **Thus, the candidates are supposed to have a desktop/laptop with a webcam and fair internet connection.** The medium of the training course will be English, so they should be well-versed in it.

Registration

There will be no registration fees for the proposed training course and the seats will be limited to 50. The selection of candidates for the course shall be done through scrutiny.

The course will be conducted using a Video Conferencing facility, for which the link and final schedule shall be shared in due course of time. Attendance is compulsory and e-certificates will be provided only to those participants, who will attend all the sessions.

The intending participants are, therefore, requested to register themselves at following link latest by 15th October, 2020.

https://docs.google.com/forms/d/e/1FAIpQLSdf3pZckeg-jaoBXQDYJViOHeBrnaA2gh1w_qPDUUwkHtQyJw/viewform

Topics to be covered

- Water security concepts, challenges, and opportunities
- Climate change and water resources
- Disaster risks reduction and contribution to SDG6
- Water security through resilient water bodies
- Climate variability and anthropogenic stress on hydrologic resilience
- Wastewater treatment and management for water security
- Village level water security assessment
- DPSIR framework of water security assessment
- Ecohydrology and ecological flow for water security
- Communication and outreach (establish connect with the community)

Course Coordinators:

Dr. V.C. Goyal, Scientist- 'G' & Member-Secretary, INC-IHP of UNESCO

National Institute of Hydrology, Roorkee- 247667 (Uttarakhand)

Phone- (+91) 1332-249226, 276417 (O); Email- vcg.nihr@gov.in

Dr. Jyoti P. Patil, Scientist- 'D' National Institute of Hydrology, New Delhi- 110003

Phone- (+91) 11-24653812 (O); Email- jyoti.nihr@gov.in