



Call for Participation  
National Workshop on  
**'Automation & Emerging Skill Requirements  
for Water Resource Management'**  
On the occasion of **101<sup>st</sup> foundation day** of  
**Central Water and Power Research Station (CWPRS)**  
in collaboration with  
IASC and The World Bank  
on June 14, 2017 at Khadakwasla, Pune-411024 Maharashtra, India  
<http://cwprs.gov.in>, [www.indiawrm.org](http://www.indiawrm.org),  
<http://iascsectorskillcouncil.in/event-participation.php>

## **Introduction**

CWPRS is the premier research origination in the water sector. It was setup initially as a “ special irrigation district” in 1916 by the then Bombay precedence in recognition of the need for laboratory studies / investigation on hydraulic issues associated with irrigation such as water login and salt efflorescence, as well as with river and canals, CWPRS has continued to serve for 100 years by catering to the research and development needs for involving safe and economical planning and design of water resources structures, river engineering, hydro power generation and costal engineering projects fulfilling the mandate of ‘Service to the Nation through Research’. On the occasion of 101<sup>st</sup> foundation day of CWPRS on 14<sup>th</sup> June 2017 a National workshop on ‘Automation & Emerging Skill Requirements for Water Resource Management’ is organised at CWPRS Pune in collaboration with IASC and The World Bank.

## **Objectives**

Efficient and optimal management of water resource is a critical need for India. Rapid economic growth and urbanization has underlined many weak links in the overall planning and management of this precious resource - such as capacity estimation, availability, quality and fitness for use, efficient distribution, consumption and leakage monitoring, flood management, forecasting and creation of a long term plan and infrastructure that is sustainable.

National Hydrology Project (NHP) has been setup for gathering Hydro-meteorological data which will be stored and analyzed on a real time basis and can be seamlessly accessed by any user at the State/District/village level. The programme focuses on water management through scientific data collection, dissemination of information on water availability in all blocks of the country and establishing of National Water Information Centre (NWIC). The automated system for Flood Forecasting is envisaged to reduce water related disasters.

An equally important aspect is inclusion of all stakeholders and their concerns in the plan. Water and irrigation have direct and indirect linkage with a very wide cross section of users, public and private organizations. The publicly accessible information on water through NWIC will help in predicting water availability and help farmers and other users to plan their crops and other farm related activities and reduce wastage.

Extensive application of modern instrumentation technologies is necessary to fulfill these objectives. In addition, we must leverage the rapidly emerging technologies that are ushering the 'Fourth industrial revolution - Industry4.0' such as the Internet of Things (IoT), Data Analytics, Augmented Reality and Virtual Reality, Artificial Intelligence, Machine Learning, and Robotics. It is



important to note that the existing workforce will need to align its skill set to keep pace, adapt and to thrive on in the Fourth Industrial Revolution. The desirable skills include complex problem solving, critical thinking, creativity, people management, coordination, decision making and cognitive flexibility.

It is felt that the workforce engaged at various layers of Water Resource Management may lack knowledge and training in many of the essential technologies and attributes identified above. Identification of key job roles for modern Water Resource Management is also an emergent need, along with skill gap analysis and a plan for ensuring the availability of such skills - through reskilling, upskilling and appropriate training programs.

The IASC Sector Skill Council is mandated to focus on the skill development for Instrumentation, Automation, Surveillance and Broadcast Communication segments which are directly linked to the technologies mentioned above. This workshop jointly organized by IASC SSC, CWPRS and the World Bank attempts to bring together key stakeholders involved and to deliberate on the issues relating to identification of emerging job roles and the skilling needs of the sector, Position papers, Case studies, Statistics, Technical papers relating to review of appropriate technologies, processes, systems and software for water management and forecasting, skilling and training programs and other relevant content are invited from all stakeholders and experts on the topics suggested below.

## **Audience**

All stakeholders, including the Ministry of Water Resource at the Centre and States/UTs, Government agencies dealing with water management, The World Bank, PSUs, End User Industries, OEMs, System Integrators and Contractors, MSMEs, Academicians, Researchers, Educators and Training Solution Providers.

## **Expected Outcome**

The workshop is expected to identify the opportunities and challenges in the implementation of NHP. It will also identify the type of job roles that are likely to be needed at various NSQF levels, as well as those job roles requiring reorientation. Alongside, the workshop is also expected to identify the training needs, re-skilling and up-skilling requirements for the workforce and the resources needed to realize it.

## **Suggested Topics for the Workshop**

Position and Review Papers, Statistics, Case Studies, Suggestions and Policy recommendations etc. are invited which may broadly cover but are not limited to the following topics:

- Hydrological Mapping and Information System
- Hydrometrology, LIDAR
- Flood Forecasting and Management
- Monitoring and Management of Silting
- Automation in Water Resource Management existing state-of-the-art
- Emerging Technologies for Water Resource Management
- Future Needs for Successful Implementation of NHP
- Real-time Data Acquisition, Monitoring & Control
- Automation and SCADA
- Instrumentation for Water Management
- Rapid Implementation of Barrages using Rubber Dams
- Micro-irrigation, Sprinkler based Irrigation
- Water Conservation
- Dam Safety



- Soil Card
- Hydrostation
- Automation of Solar Operated Tube wells
- Communication Technology for future, IoT
- Data Analytics, Cloud Computing, Simulation Software
- Gaps in Technology
- Satellite Flow Forecasting
- Barrage Automation
- Skill Needs and Likely Skill Gaps in Water Resource Management and related Industry
- Impact of Industry 4.0 on Water Resource Management and related Industry
- Challenges in creating employable skilled manpower for Water Resource Management
- Experiences and Case studies in Water Resource Management
- Challenges for Skill Training Industry
- Other relevant topics ...

How to participate: Delegates of the implementing agencies (IA) under NHP need to register through the first link. Other participants may register through the second link given below:

Register online at: <http://www.indiawrm.org/NewMIS/MISLogin.aspx> or  
<http://iascsectorskillcouncil.in/event-participation.php>

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