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INTERNATIONAL COMMISSION ON IRRIGATION AND DRAINAGE

66th ICID Foundation Day and Seminar on 24 June 2015

A Brief Report

ICID celebrated its 66th Foundation Day on 24 June 2015 at Central Water Commission (CWC) Auditorium in New Delhi by organizing a half-day seminar on “Meeting Water and Food Security Challenges for Sustainable Development” which was attended by around 100 participants associated with water sector from academics, research institutes, decision making bodies, implementation agencies, grass root level workers, international organizations, and governmental and non-governmental organizations alike. The seminar was followed by a panel discussion to elicit views and inputs from participants in the backdrop of ICID’s ongoing Vision 2030 exercise.

The function began with a welcome address by Secretary General Er. Avinash Tyagi, Secretary General, ICID who gave a background of establishment of ICID and its activities in a nut shell and introduced the topic of the seminar and its purpose, especially in the background of ICID Vision 2030 exercise. Er. Tyagi informed that ICID, directly or indirectly, contributes to the newly proposed SDGs. Particularly, Goal 2: “End Hunger, achieve food security and improved nutrition and promote sustainable agriculture” and Goal 6: “Ensure availability and sustainable management of water and sanitation for all”, directly fall within the purview of ICID objectives¹. He further informed that as a consequence of the new paradigm of the post- 2015 sustainable development agenda including past experiences in the sector, ICID consider the need for a review and revisit to its vision and with this objective has taken up exercise to develop ICID’s Vision 2030. Participants were requested to deliberate on the issue and provide their free and frank views/ suggestions on the following issues: (i) What role ICID can play globally in meeting water and food security challenges for sustainable development? (ii)

¹ Other goals which are relevant for ICID activities though not directly under purview of ICID activities are as follows: **Goal 1**- End poverty in all its forms everywhere , **Goal 8**- Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all, **Goal 11**- Ensure sustainable consumption and production patterns, **Goal 12**- Take urgent action to combat climate change and its impacts and **Goal 17**- Strengthen the means of implementation and revitalize the global partnership for sustainable development

What should be the area of focus of ICID activities? (iii) What are WG members' expectations from ICID? (iv) How can ICID be of more help to Indian National Committee, being headquartered in New Delhi?

Er. B.N. Navalawala, Chief Advisor to the Hon'ble Minister of Water Resources, River Development and Ganga Rejuvenation, Govt. of India and Hon'ble Chief Minister of Govt. of Gujarat State began his keynote address on the topic "Innovative and Sustainable Water Conservation Approaches for Irrigation Development" with anecdotes from ancient scriptures of Rig Veda and Atharva Veda where water has been equated with life. In his address he presented various indicators to highlight issue of worldwide water scarcity with focus on Indian scenario; initiatives taken to address the challenge such as MDGs, Vision 21, National water policy of India, sustainable development goals etc.; impact of climate change on agriculture and water resources including water foot print for various activities. He cautioned that water crisis is looming due to compartmentalized and lack of holistic and integrated approach and disjointed planning of water resources which calls for awareness to create value of water and adoption of measures for water harnessing and conservation. He stressed the need for adoption of latest technologies and water management techniques which may help in cutting water use in agriculture by 10-50%, industries by 40-90% and domestic by 30% or so without sacrificing quality of life or economic output. He suggested that way forward for sustainable development is through reuse and recycling of water, rainwater harvesting, improved aquifer recharging, efficient use of water in agriculture through improved irrigation management practices, adoption of organic farming, and finally reforms and initiatives in water management. [[Full presentation of Mr. Navalawala](#)].

Prof. N.K. Goel, Bharat Singh Chair Professor of Water Resources, Department of Hydrology, IIT Roorkee in his presentation on the topic "Flood Frequency Analysis under Climate and Land Use Changes" highlighted the issue of non-stationarity introduced in hydro-meteorological data time series due to various reasons such as climate change, land use changes, urbanization, deforestation, change in exposure conditions etc. which violates assumptions of flood frequency analysis, a tool that has served the hydrologists in extrapolating future water scenarios based on the past trends and records. He briefed audience on the mixed noise model approach developed by them for flood frequency analysis of non-stationary time series. [[Full presentation of Prof. Goel's presentation](#)].

Er. A.B. Pandya, Chairman, Central Water Commission and Vice President of ICID in his presentation on the topic “Need for Harnessing the Data Revolution in Irrigation and Drainage” gave brief overview of purpose of data collection and dissemination and role played by CWC in this respect including brief details of future planned expansion of data network. Efforts made by CWC in developing web based GIS portal India-WRIS (Water Resources Information System of India) which aim as a ‘Single Window’ solution for comprehensive, authoritative and consistent data & information of India’s water resources were also highlighted by him. [[Full presentation of VP Er. Pandya](#)].

A Panel discussion on the theme of the Seminar, moderated by Dr. B.R.K. Pillai, Director (Dam Safety), Central Water Commission was also held as part of the event. The panellists included Dr. Ravinder Kaur, Project Director, Water Technology Centre (WTC) and Acting Director, Indian Agricultural Research Institute (IARI) representing R&D; Dr. Arvind Kumar, President, India Water Foundation (IWF), representing NGO community working at grass-root level; Er. R.K. Gupta, Chairman-cum-Managing Director, Water & Power Consultancy Services (I) Ltd., representing Industry and Er. R.S. Pathak, Consultant, World Bank, representing international organisation. Dr. Pillai elicited the views of panellists how to address such a vast topic meeting water and food security challenges for sustainable development in the prevailing water scenario, identifying solutions and ways to implement them.

Dr. Kaur highlighted efforts being made by WTC in developing improved water management techniques and their dissemination and covered important aspects like conservation of water for agriculture, improved and appropriate agricultural water management strategies including use of poor quality water for agriculture, water modelling techniques including issues related to availability of quality data, and best management practices in water management – watershed, catchment areas, fresh water resources. She felt that as agriculture is the largest user of fresh water resources besides urban sector, we should find cost effective ways as to how to make best use of 80% water which is wasted in urban sector. She also exhorted for the decentralization of wastewater management under the umbrella of agricultural water management and highlighted development of low cost low energy waste water reuse technology developed by WTC.

Dr. Arvind Kumar was of the view that one of the option for sustainable development for food security is to adopt Climate Smart Agriculture (CSA) which calls for integrated planning of land, agriculture, forests, fisheries and water to ensure that synergies are captured. He presented CSA Meghalaya model as an example that is being practiced in Meghalaya under IWF’s monitoring and guidance.

Er. R.K Gupta shared experience of working in 41 countries, including 27 African countries and the issues they face. He mentioned that in many cases although finances are available, but limited capacity and experience of staff in development of viable project concept, feasibility and detailed proposal is a major issues in number of countries especially in Africa. He highlighted other challenges in sustainable development such as the non-availability of data and/or gaps in available data, environmental issues, impacts of climate change on water resources and agriculture which result in time and cost overrun if not accounted for properly right at the planning stages. He stressed that support is required in many African countries for capacity development of involved stakeholders in planning, development and management of water resources.

Er. Pathak stressed the need to focus on one element, i.e., improvement of water use efficiency in agriculture sector mainly at scheme/project level in first place which will support sustainable development for food security. He highlighted importance of establishing baseline for each project to understand present level of system performance for which there is need for measurement of diverted water at various points in the irrigation system. He further stressed that in addition to proper system maintenance other critical issues which need attention for optimum utilisation of scarce water resources are adoption of proper water management techniques, use of latest technologies, establishment of water share and entitlements, and independent regulatory mechanism, among others.

After opening remarks by the panellist Dr Pillai moderated discussion on various issues related to the seminar theme with the active participation of the audience. Following main issues emerged after discussion in the seminar:

- (i) There are numerous challenges in water sector needing immediate attention such as lack of holistic and integrated approach, disjointed planning of water resources, limited or lack of availability of quality data, limited capacity and experience of staff in project development, environmental issues, impact of climate change, low water use efficiencies etc.
- (ii) Water scarcity should be seen from two angles – absolute scarcity and relative scarcity with respect to space and time.

- (iii) Although hunger and food insecurity are largely due to lack of proper distribution system and purchasing power due to poverty, increase in food production needs to be pursued to improve the food availability for the increasing population
- (iv) Political will and support for policy makers is required to address various challenges plaguing water sector for extensive development of irrigation which can play significant role in achieving food security in sustainable manner.
- (v) Under the limiting water resources, various users need to be informed about water available for that particular area, activity or use and should be encouraged to manage it within that quantum.
- (vi) Pollution of fresh water is a critical issue as this is reducing the quantum of water available for safe utilisation.
- (vii) Capacity of staff is limiting factor in number of countries especially in Africa so capacity development is of prime importance to achieve objective of sustainable development.

Options which can be considered and needed for sustainable development for food security are as follows:

- (a) integrated and holistic approach in planning and development of water resources involving all stakeholders which will need change of mind set with which various agencies and departments are working in compartments and silos
- (b) institutional reforms in water sector, including establishment of water shares, entitlements, and independent regulatory mechanism
- (c) efficient use of water in agriculture through improved irrigation management practices, and adoption of organic farming, and establishment of baseline system performance,
- (d) given the high variability of precipitation harnessing utilisable water through creation of all kinds of feasible storages to make agriculture drought resilient,
- (e) rainwater harvesting, improved aquifer recharging, reuse and recycling of water, and use of sustainable techniques for use of poor quality water in agriculture,
- (f) adoption of climate smart agriculture

- (g) adoption of appropriate latest technologies and improved agriculture and water management techniques,
- (h) development of standards and guidelines
- (i) mass awareness program for stakeholders in respect of economic value of water and adoption of measures for water harnessing and conservation
- (j) improvement of linkages between policy making bodies and R&D organisations and dissemination/transfer of R&D findings to concerned stakeholders may be through demonstration/pilot projects,

Finally, it was concluded that ICID can play a significant role in many of the areas highlighted above through supporting efficient use of water by facilitating sharing of experiences by networking different organisations and countries; experience and knowledge dissemination; capacity development and supporting stakeholders awareness programs.

Mr. H.K. Varma, Executive Director, ICID delivered the vote of thanks and the meeting concluded with lunch.
