

*Seminar on*  
**REFORMS IN MANAGEMENT OF  
PUBLIC IRRIGATION SYSTEM**

**30-31 October, 2014, Hotel Royal Orchid, Bangalore**

*Organised by*



Central Board of Irrigation and Power



Central Water Commission

*Co-organised by*



WRD, Govt. of Karnataka



Karnataka Neeravari Nigam Ltd.



Cauvery Neeravari Nigam Ltd.



Krishna Bhagya Jala Nigam Ltd.

*Sponsored by*



ICID-CIID

International Commission  
on Irrigation and Drainage



Food and Agriculture  
Organization of the  
United Nations (FAO)



International Water  
Management Institute



Jain Irrigation  
Systems Ltd.



Netafim Irrigation India  
Pvt. Ltd.



Maharashtra Water Regulatory Authority



New Delhi Associate Centre of  
World Water Council (NDC-WWC)



Geographical Committee of  
International Water Resources Association (India)

## BACKGROUND

**INTEGRATED WATER RESOURCES MANAGEMENT (IWRM)** is a process which promotes the coordinated development and management of water, land and related resources in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. It has been accepted as the means to achieve the overall sustainable development and benefit of the society. However, putting the process in place has been found to be complicated and little progress has been achieved so far not only in India but also around the world. The growing water scarcity due to global changes including climate change, calls for efficient use of water resources.

**Water - Energy - Food nexus** poses additional complexities due to lack of full understanding of the linkages between the three seemingly different sectors. Under the post Kyoto Protocol regime, onus has fallen on water managers to help support climate change mitigation and adapt to new scenarios. They need to take their decisions duly recognizing the characteristics of this nexus which has implications for food security (availability, access, utilization, stability) at household, State and also at all India levels. An integrated approach from individuals, stakeholders and the government between water energy and food to solve the issues associated to any of these sectors with least stress on ecosystems is the need of the hour. The nexus approach acknowledges the links between water, energy and food in management, analysis, planning and implementation. When the nexus becomes unbalanced, there are clear consequences for public health, economy and the environment.

It has almost been two decade since structural adjustment and sector reform processes are being implemented in our country to achieve the vision of National Water Policy. Given the need to contribute to the cleaner energy to fuel the development engine and provide food and adequate nutrition to the growing population in the country and their intricate linkages, the water sector interventions have to follow the IWRM process and keep the Water-Food-Energy nexus into consideration.

Under these sectoral reforms, legal, institutional, financial and regulatory changes are also ongoing in the water sector. These reforms are being largely implemented through water sector loans/grants provided by the International Financial Institutions (IFIs) like the World Bank, FAO and the Asian Development Bank etc. The focus of such reforms is on financial sustainability and technical solutions to the existing problems in the water sector. Under these reforms, many states in India have now passed the Participatory Irrigation Management (PIM) Act and have initiated the process to form Water Regulatory Authorities. Since, many State Govt. have been considering forming the water regulatory authorities for some time now, it is an opportune moment to intensify the debate about the kind of regulation that is needed in the water sector, and ask what the larger framework of reforms within which it would be placed should be.

Keeping in view the above, it is proposed to organize a national level seminar on the topic “Reforms in Management of Public Irrigation System” by Central Board of Irrigation and Power and Water Resources Department, Govt. of Karnataka, and its subsidiaries Karnataka Neeravari Nigam Limited (KNNL), Krishna Bhagya Jal Nigam Limited (KBJNL), Cauvery Neeravari Nigam Limited (CNNL); and sponsored by International Commission on Irrigation and Drainage (ICID); Food and Agriculture Organization of the United Nations (FAO); International Water Management Institute (IWMI), New Delhi Associate Centre of World Water Council (NDC-WWC); Geographical Committee of the International Water Resources Association (India) (IWRA). The conference is sponsored by the Jain Irrigation Systems Ltd. and Netafim Irrigation India Pvt. Ltd.

## OBJECTIVES

This seminar will encourage engineers, economists, professionals, and administrators involved in the water and agriculture sector to share their experiences and enhance their knowledge by way of participation in session on the various topics of the seminar. This would help to spread awareness of the inter-sectoral linkages of water, food and energy give impetus to reforms in the irrigation sector.

## TOPICS

The following topics will be deliberated during the two days deliberations of the seminar programme:

### 1. Reforms in Indian Irrigation System

Irrigation is critical to food security and economic growth in contemporary India. The performance of irrigation systems is of serious concern to farmers who rely on them for their crops and livelihoods and to governments that have invested heavily in their development. Large-scale canal irrigation systems, in particular, are in poor condition: they are not properly maintained, operations are inadequate, water supplies do not reach the end of systems, and the timing of water supply is unreliable. The wide gap between actual and desirable performance threatens the sustainability of irrigated agriculture. Structural changes and appropriate reforms are necessary to improve the services provided, performance of the systems and long-term sustainability of irrigation systems. Some of the thrust areas for this topic are:

- Irrigation systems and planning, Irrigation modelling
- Overview and Need for institutional reforms in Indian Irrigation
- Irrigation management: governance for sustainable irrigation and water re-use
- Legal and Policy framework
  - (a) Institutional framework for basin planning and management
  - (b) Legal and administrative reforms required to empower user groups for implementing PIM
  - (c) Strengthening the water rights of user groups to motivate them to participate in irrigation O&M
  - (d) To provide critical services especially water supply at main delivery points and guidance in maintenance activities
  - (e) Impediments in enactment of Groundwater legislation by States

### 2. Participatory Irrigation Management : Critically Review of Issues and Challenges for Improving the Water Use Efficiency

Efficacy of Participatory Irrigation Management (PIM) in improved performance of irrigation systems is well established.

In India, the promotion of PIM has resulted in enactment of new acts or amendment in the existing act by many States to provide for effective participatory irrigation management. The process of Formation of Water Users' Association (WUA) has been initiated in almost all the States and about 63167 WUAs are in place in the country covering about 14.63 million hectare of irrigated area. Further, it has been highlighted at many fora that the WUAs in their existing form are not as effective as they ought to be and that there is considerable scope for improvement in the functioning of the WUAs.

Participatory Irrigation Management experience has been varied across the country. Achievement of the professed goals has depended on a variety of factors important among them being the strategy or the approach followed by the state. Looking at the

experience of PIM in India we see the emergence of two kinds of strategies -- the motivational strategy (bottom-up approach) and the legislative strategy (top-down approach). It has largely been seen that the bottom-up approach adopted by states like Maharashtra and Gujarat have shown positive results in terms of achieving the wider goals of PIM (though limited in its reach) as compared to some other states where the approach has largely been top-down.

There is a need to critically review of the existing framework, and identify which models have worked and the reasons of their success the needed actions to make the PIM more effective particularly for improving the much needed water use efficiency besides to look at the achievements of PIM experience in the context of the above mentioned approaches in different states. This exercise would help to identify the obstacles in translating goals of PIM like improved irrigation efficiency, equitable access, sustainable use, decentralized governance and cost recovery into reality. The deliberations of the workshop shall also focus and discuss some of the critical factors and conditions like enabling legislative framework to ensure equitable access and enhanced irrigation efficiency, transition to volumetric supply and pricing system, and training and capability building which would have a bearing on the outcome of PIM. Besides it may help in charting out a course of action for the transition to IWRM and the present PIM institutions like the WUAs into a wider process of multi-stake holder platforms. To further deliberation to strengthen PIM processes in the country, the case study papers from Karnataka, Andhra Pradesh, Maharashtra, Gujarat and Madhya Pradesh are expected to capture some of the real-world experiences and provide flesh and blood to the various issues for making PIM a vehicle for restructuring water sector in more integrated and sustainable lines. Some of the main points to be focused in the session are:

- Impact of Participatory Irrigation management – Case Studies
- Experiences and impediments in Participatory Irrigation Management: Case Studies
- Success and failures stories on PIM implemented projects
- Reforms in investments, financing and subsidies options in irrigated agriculture
- Financing Models: Public Private Partnership; Private Sector Management
- Monitoring and evaluation of PIM systems
- Incentives for efficient use of irrigation water
- Legal and administrative measures and safe guards required for public private participation;

### 3. Modernization of Irrigation System

The management of irrigation systems has gained importance over the last five decades due to a tremendous increase in irrigated area in India, primarily as a result of massive investments in new and existing surface irrigation projects. There has been a growing realization of possible improvement in water management for a more efficient use of available water resources. The potential of information technology applications for improved irrigation system management was realized long ago, but concerted efforts on this front have only been made in the last ten years. The use of computers, communication and information to control irrigation systems will yield many benefits, resulting in obvious economic savings and in intangible benefits whose value cannot be measured in monetary terms.

#### Engineering:

- Rehabilitation and modernization of the existing irrigation projects water conveyance and distribution system and in particular, the regulating devices,

- On-farm development works such as field channels, water distribution and control systems (distribution boxes etc), field drainage and land leveling,
- Modern techniques such as application of Geographic Information Systems (GIS); remote sensing; mathematical modeling and information management systems for planning, development and management of irrigation systems
- Adoption of sprinkler and drip systems of irrigation in canal command areas to improve irrigation efficiency,
- Creating necessary infrastructure for volumetric distribution of water,

#### Agromony:

- Review of current cropping patterns, and identifying economically beneficial cropping systems that require less water
- Scientific assessment of crop water requirements to upgrade the system to meet the new demand,
- Adoption of high-yielding varieties,
- Propagation of proper cultural practices and so on.

*Administration:* The administrative side includes the consolidation of land, volumetric supply of irrigation water, changes in water rate policy and the like.

### 4. Operation and Maintenance of Irrigation System

Most of the large irrigation projects around the world have been built, are owned, and are being operated and maintained by the governments. The cost recovery from such projects through levy of Irrigation Service Fees (ISF) in almost all the countries presents a dismal picture. The limited cost recovery from ISF in irrigation projects has meant that extensive contributions from governments' public investment and current expenditure budgets have been necessary to sustain irrigation systems. Over the years the underlying conditions have however changed. With government finances coming under increasing pressure they have been unable to provide adequate funds for maintenance of the built infrastructure. They have also failed to increase the user charges from the users of water to any significant level. The widening gap between financial resources required to maintain the infrastructure and that available from government budgets plus that collected as user fees, has led to the deterioration not only of the quality of the built infrastructure but also of institutions managing and governing such infrastructure, creating a vicious circle of low-cost recovery, poor maintenance of infrastructure, inadequate and unreliable water supply, inefficient and corrupt institutions, unwillingness of the farmers to pay and low cost recovery. Breaking this vicious circle requires, apart from other interventions, identifying ways to improve availability of financial resources to keep these systems in perfect working order. Improving cost recovery from all users including irrigators of the water, offers one of the most important avenues for raising financial resources.

- Routine O&M; provision of adequate funds for O&M, payment. Improving service, quality and responsibility
- Irrigation service fees, payment, collection, volumetric or area pricing
- Incentives for good management
- Pricing of irrigation water – linking with quality of services (adequacy, reliability and timeliness)
- Managing the disposal of drainage water to avoid pollution of receiving water bodies;
- Performance-assessment, productivity and efficiency
- Capacity building & gender equity.

## DATES AND VENUE

The Seminar will be held on 30-31 October 2014 at Hotel Royal Orchid, No. 1 Golf Avenue, Adjoining KGA Golf Course, Hal, Airport Road, Bangalore.

## CALL FOR PAPERS/CASE STUDIES

**There will be invited presentation only from the professionals.** In the exceptional cases where the authors who wish to contribute papers related to the above mentioned themes are requested to send the full text of their papers on any of the above topics, so as to reach the organizers by 10th October 2014 either by e-mail or by post to the Seminar Secretariat.

### Paper should contain:

- A descriptive title, the name(s) and affiliation(s) of the author(s).
- The address for correspondence (including telephone, fax and e-mail) and preferred mode of presentation (oral or poster).
- The text must include introduction (objective), methods, result and conclusion.

An important condition of acceptance of paper is that the author/one of the authors in case of multiple authors will attend the seminar and present the paper. The full length paper will only be included in proceedings volume of the seminar if the Registration Fee of an author, as specified, is paid in advance along with the full length paper. The persons intending to contribute paper(s) and or to participate in the seminar are required to fill-up the enclosed Registration Form and return it to the seminar Secretariat with registration fees.

## OFFICIAL LANGUAGE

The official language of the Seminar will be English.

## REGISTRATION

The following is the registration fee payable per participants for participation in the deliberations of the seminar:

Countries	Delegates	Members of NDC-WWC, IWRA
SAARC Countries	INR. 10,000	Rs. 9,000
Other Countries	US \$ 500	-

The registration fee includes the seminar material, registration kit, working lunch, tea/coffee. The participants will have to make their own arrangements for travel, boarding and lodging, etc.

The participants, desirous of attending the seminar are requested to fill-in the enclosed Registration Form and send the same along with the registration fee payable through demand draft drawn in favour of 'Central Board of Irrigation and Power, New Delhi'. The last date for Registration is 10th October 2014.

## SPONSORSHIP OPPORTUNITY

The seminar will provide an excellent opportunity to central/state government organizations, Water Resources/Irrigation Departments, public sector undertakings, industrial organizations, equipment manufacturers, financial and funding institutions, consulting organizations and construction organizations in India and abroad to publicize their services/products by being a co-organizer, sponsor, co-sponsor or supporter of the seminar. The sponsorship fees payable and entitlements are mentioned below:

### Co-organizer **US\$ 5,000/Rs. 3,00,000**

- Name of organisation in the list of co-organizers
- Organization may nominate five delegates
- One full-page black and white advertisement in proceedings volume

- 20-minute time slot for presentation
- Distribution of literature/brochures

### Co-sponsors **US\$ 3,000/Rs. 2,00,000**

- Name of organization in the list of co-sponsors
- Organization may nominate four delegates
- One full-page black and white advertisement in proceedings volume
- Distribution of literature/brochures

### Supporters **US\$ 2,000/Rs. 1,00,000**

- Name of organization in the list of co-supporters
- Organization may nominate two delegates
- One full-page black and white advertisement in proceedings volume
- Distribution of literature/brochures

## ADVERTISEMENT IN PROCEEDINGS VOLUME

A limited space will be available on first-come-first served basis, for publishing advertisement in the proceedings volume of the seminar. The interested organizations are required to send the advertisement material (Art Work/Negative/Positive) along with payment as detailed below:

- (i) Inner pages US\$ 500/Rs. 20,000
- (ii) Second or third cover US\$ 1,000/Rs. 25,000
- (iii) Back cover US\$ 1,500/Rs. 50,000

### Notes:

1. The rates mentioned in INR are for SAARC countries.
2. The last date for advertisement reservation is 10th Oct. 2014
3. The advertisement material in the form of artwork/negative/positive of maximum size 130 mm × 200 mm is required to be sent before 10th October 2014.

## PAYMENTS

1. All payments should be made by Demand Draft drawn in favour of "Central Board of Irrigation and Power", payable at HDFC Bank, Saving Bank Account No: 00031110004411, Branch/RTG/NEFT IFSC: HDFC0000003, MICR Code: 110240001, Swift Code; HDFCINBBDEL, Branch & Address: 209-214, Kailash Building, 26 Kasturba Gandhi Marg, New Delhi
2. Participants will have to make their own arrangement for travel, boarding and lodging, etc.
3. Last date for receipt of Registration Form is 10th October 2014.
4. Spot registration facility will also be available, provided prior information is received.
5. Last date for sponsorship and advertisement is 10th October 2014.

## SEMINAR SECRETARIAT

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