



# ICID News

2011/3

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## Message from the President

Dear ICID Colleagues and Friends,

In preparing this message, I have been reflecting on my three year term as President of ICID. The first item that came to mind was how quickly time flies! It seems like only yesterday when you elected me to be your President. It was indeed a whirlwind tour of duty.

I have had the great fortune to meet many, to visit with you in our member countries and national committees, and to share special and fond memories and interactions at national, regional and international meetings. Our collaborations and interactions have been thought provoking, stimulating, and in many cases led to far reaching decisions. I think of the decisions taken at our last two International Executive Council meetings. We debated, discussed, sometimes disagreed, but in the end we retained a decorum of civility, professionalism, and respect for the opinion of others. To me this has been a hallmark of ICID. Our unity of purpose, dedication and commitment to the cause of irrigation drainage, and flood control worldwide etched an imprimatur, which can only be the envy of other international professional bodies. And we undertake our tasks in modesty in all its forms.

ICID is a volunteer organization, and I am astounded by the many individuals who always respond so positively when asked to take on a responsibility. I can safely say that not a single person has ever said no, when called upon. For this I am extremely grateful and thankful. It is a privilege to be surrounded by such a dedicated cadre of people who give so freely of their time, skills, energy and talent.

I recently had the honour and privilege to lead a high level ICID delegation to China, at the invitation of our Chinese National Committee (CNCID) and His Excellency the

Minister of Water Resources Mr Chen Lei, himself a stalwart of both ICID and CNCID. The occasion was the hosting of an International Workshop on Water Savings for Food Security and the official opening of an international training and research center in irrigation and drainage. It was totally evident at all times during the visit that CNCID and ICID play a very strong role in the

modernization and implementation of irrigation, drainage and water supply projects in China. We are regarded as a premier and highly respected organization in China. It was further evident during that visit that other international organizations wished to replicate ICID's successes in China and other parts of the world.

China is just one such example. I can say the same for several other national committees. The point I want to make is that ICID is in an internationally envious position, but equally I wish to emphasize that we ought to take pride in ICID and how we operate. One of my tasks as President has been to instill a sense of pride in ICID both internally and externally. I know for a fact that many envy us, given that we do our job with a very small fraction of what donors etc. provide to other organizations. It is through your voluntary efforts and the financial support of our national committees, as well as through conferences, that we are able to maintain our modest financial base.



With H.E. the Minister of Water Resources Chen Lei in Beijing

As your President, I have listened to your concerns about ICID's budgetary situation, and I have been fortunate to have the counsel and guidance of a very responsible Management Board, Permanent Finance Committee, and Staff Committee. Through these organs, we have reviewed the financial operations of ICID, and staffing at Central Office. And I am pleased to report that the institution is on a better financial footing. We have reduced the Central Office staff by nearly 50%, primarily through attrition, while improving the efficiency of operations, through introduction of technology, better allocation of human resources, and outsourcing of some functions. This has not been easy for the Secretary General and his staff. But I want to pay a very special tribute to the Secretary General and the staff of Central Office for their understanding of the world's financial situation and the need to tighten the belt. They have done this with courage and sacrifice, and we all owe them a debt of gratitude, since they have put the organization above their own interests and

**International Commission on Irrigation and Drainage (ICID) was established in 1950 as a scientific, technical and voluntary not-for-profit non-governmental international organization. The ICID News is published quarterly by ICID Central Office, New Delhi, India.**

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kept ICID at a peak level of performance and responsiveness to the national committees and work teams. The business of ICID kept on ticking without interruption or hindrance. One of my greatest satisfactions has been to visit the Central Office, and to meet and interact with the staff. Their dedication is unparalleled and I ask that you continue to support the Central Office staff and operations in a very positive way.

Of course, the leader and guru of the Central Office is our Secretary General, Mr. Gopalakrishnan. He is a master in his own right, and person of distinction who has led the Central Office with immaculate grace. Mr. Gopalakrishnan has been an indefatigable and tireless foot soldier on behalf of ICID. He has brought great honour to ICID and has commanded the respect of several international organizations. I envy his energy level and unswerving commitment to ICID. He will be stepping down this year, after 8 years of service, and I look forward to thanking him formally at the Tehran IEC, in your presence.

The position of Secretary General was advertised, and there were numerous applicants. A Selection Committee, chaired by President Honoraire Keizrul Bin Abdullah, screened all the applications, and interviewed the shortlisted candidates. The Committee unanimously recommended that Mr. Avinash Tyagi, a water resources expert who has worked extensively in India's Ministry of Water Resources, and more recently with the World Meteorological Organization in Geneva be

appointed the next Secretary General of ICID (see box below). I am pleased to report that Mr. Tyagi has agreed to accept the post, and his appointment will be brought to the Tehran IEC for ratification. The Selection Committee and I are convinced that Mr Tyagi has the necessary skills and international experience which place him in an unenviable position of advancing the international agenda of ICID in the coming years. I ask you to support Mr. Tyagi's appointment and to welcome him to the ICID family. He is no stranger to ICID, since he has attended some of our IEC meetings, and has been the WMO observer to IEC. We are extremely fortunate to have a person of his caliber in our midst.

During my mandate I sought to articulate the importance of investments in irrigation and drainage to meet the challenges of world food security. Our views on the subject have been sought by numerous national and international agencies, and we have been invited to speak on the topic at several international fora. I have stressed the importance of having a stronger research and development capacity in irrigation and drainage, in order to ensure that water management for food security is sustainable. I wanted to see ICID reclaim and reinvigorate IPTRID, since this was our brainchild. I am extremely pleased that in this regard, Iran and China have come forward with concrete proposals to lead various ICID efforts in R&D and international training. I urge more of our national committees with strong research establishments to also come forward and be part of this network.

ICID has perhaps witnessed a renaissance over the past few years. There is renewed interest in the organization. There is now a healthy competition for elected positions. All of this is good because it brings vigour and vitality to the institution.

The external community appreciates our strengths and is calling on us. We have a duty and an obligation to respond, and to go beyond the imaginable. But to attain such heights, we must remove the barriers that separate us. We must join hands in unison and work together as equals. No national committee stands taller or greater than another. No office bearer is more influential or has a greater say than another. Each country and its citizens have a right to its aspirations. We must respect those aspirations and at times differences in views. We owe this to our children and their children, if we are serious about our goals of reducing poverty, hunger, malnutrition and affliction through improved irrigation, drainage and flood control practices.

I close by inviting you to our 21<sup>st</sup> International Congress and 62<sup>nd</sup> IEC in Tehran, from October 15-23. I can assure you that the Iranian National Committee has gone out of its way to organize an exceptional set of meetings. They are superb hosts and I know that you will enjoy their fine hospitality and warmth. I look forward to seeing you in Tehran.

Yours truly,



Professor Dr. Chandra A. Madramootoo  
President

## Avinash Tyagi is the New Secretary General (Designate) of ICID



Mr. Avinash C. Tyagi, a 1973 graduate from University of Roorkee, India and a post graduate from Indian Institute of Technology (IIT) Delhi, has 37 years of experience

dealing with various facets of water resources management. He has worked in water resources sector for Government of India for 28 years at Central Water

Commission (CWC) and Ministry of Water Resources.

Mr. Tyagi is presently the Director of the Climate and Water Department of the World Meteorological Organization (WMO), a specialized UN Agency, and is responsible for providing support to the countries in the field of water resources management including flood management and adaptations to climate change particularly in the water and agriculture sectors. For the last 9 years at the WMO, he has developed an intimate knowledge of issues related to water resources management in developing countries around the world. He is presently the coordinator of UN-Water Thematic Priority Area on Water and Climate Change.

Mr. Tyagi has worked closely with various UN agencies and other International organizations. He is known for his candid and professional approach to realize the benefits of international cooperation and is an ardent advocate of multi-disciplinary collaboration, a continuing dialogue with various stakeholders and community participation for solving complex development challenges in the water sector. Mr. Tyagi has been associated with activities of ICID as an observer in its Working Groups on flood management and climate change and strived for closer relationship between ICID and WMO.

Heartly welcome to Mr. A.C. Tyagi!

# Welcome to ICID International Event at Tehran in October 2011



It is my immense pleasure to invite all interested organizations and professionals in irrigation and drainage across the world to attend the unique

Congress, and 62nd IEC meeting' to be held in Tehran, Iran, during 15-23 October 2011. IRNCID with its high-level private and public teams is gearing up to host the event as glorious as possible. Delegates will experience the warm, friendly, Iranian hospitality.

Iran with a rich history on water resources management approaches and more than 8 million hectares of irrigation land, surrounded with beautiful landscapes which are supported by a very active and modern irrigation industry is an attractive venue to be visited.

IRNCID Organizing Committee & Executive Board appreciate receiving your comments to ensure the success of this important event via <irncid@gmail.com>. I would be also personally available to deal with your individual inquiry with respect to your attendance in this congress. Please feel free to contact me at <s.nairizi@toossab.com>.

I'm looking forward to meeting you all in Tehran.

Dr. Saeed Nairizi  
Senior Member, IRNCID Executive Board

'21st ICID Congress on Irrigation and Drainage, 8th International Micro-irrigation

Just less than 45 days from now, the entire ICID fraternity will gather at the historic city of Tehran to participate in the 62nd IEC Meeting, 21st ICID Congress on Irrigation and Drainage, 8th International Micro irrigation Congress to be held during 15-23 October 2011. All the events will be held in a magnificent venue – IRIB International Conference Center (IICC) having world class conference facilities. Besides the above, annual meetings of various workbodies, special workshops/ sessions jointly with FAO will be held. More than

300 papers/ posters will be presented during the event. The '3rd N.D. Gulhati Memorial Lecture for International Cooperation in Irrigation and Drainage' will be delivered by Dr. Charles Michael Burt, Chairman of the Board, Irrigation Training and Research Center, Cal Poly, USA. President Chandra Madramootoo will be the keynote speaker for the 8IMIC. The renowned experts from international organizations will present their reports on congress questions. Awards will be presented to the winners of the outstanding

water saving contributions, Best Performing National Committee, Best Performing Workbody, and Best ICID Journal Paper. A large technical exhibition of equipments and technologies in irrigation and drainage will be an added attraction. There will be two technical tours to Mazandaran and Khuzestan, while two post conference tours to historic and scenic provinces of Isfahan and Shiraz. Further details about the registration procedure, accommodation, program and updates can be accessed at the congress website <www.icid2011.org>.

## Program at a Glance – 15-23 October 2011, Tehran, Iran

Day/Date	Saturday 15 October	Sunday 16 October	Monday 17 October	Tuesday 18 October	Wednesday 19 October	Thursday 20 October	Friday 21 October	Saturday 22 October	Sunday 23 October	Monday 24 October						
Time (Hours)	09.00-17.00	09.00-12.30 13.30-17.00	09.00-12.30 13.30-17.00	09.00-12.30 13.30-17.00	09.00-12.30 13.30-17.00	09.00-12.30 13.30-17.00	09.00-12.30 13.30-17.00	09.00-12.30 13.30-17.00	09.00-12.30 13.30-17.00	09.00-12.30 13.30-17.00						
Theme 'Knowledge'	Registration		Registration Start of NCs Displays		Registration NCs Displays		Registration NCs Displays		Registration NCs Displays		Plenary session (Conclusions) • Q56 • Q57 • 8th IMIC	Closing Ceremony • Conclusions & Recommendations • Declaration • Awards/ Plaques • Address by President • Address by President-elect • Address by Chair, Organizing Committee				
	WG-HST / Seminar WG-TRUE		Intensification-TRID EB-JOUR		C-PR&P		Opening Ceremony		Poster presentation, 21 <sup>st</sup> Congress EXHIBITION (1)							
Theme 'Basin'	WG-ENV WG-DROUGHT		WG-SDTA and WS WG-CLIMATE		WG-CAFM		N.D. Gulhati Memorial Lecture		Poster presentation, 8 <sup>th</sup> IMIC EXHIBITION (2)		INTERNATIONAL EXECUTIVE COUNCIL (IEC)	PCTA				
	WG-DRG		WG-POVERTY MDG*		WG-MIS WG-WATS		Combined Q Q 56 Q 56.1 (I) Q 56.2 (II) Q 56.3 (III) Q 56.4 (IV) Q 56.5 (V)		Combined Q Q 57 Q 57.1 Q 57.2 Q 57.3 Q 57.4				Q 56 Q 56.1 (IV) Q 56.2 (IV) Q 56.5 (IV)			
Theme 'System'	WG-DRG		WG-CONGR		WG-ON-FARM		WG-POW WG-CROP		Q 56 Q 56.1 (I) Q 56.2 (II) Q 56.3 (III) Q 56.4 (IV) Q 56.5 (V)		Q 57 Q 57.1 Q 57.2 Q 57.3 Q 57.4		Q 56 Q 56.1 (IV) Q 56.2 (IV) Q 56.5 (IV)			
Theme 'On-Farm'	C-CONGR		ERWG AFRWG / ST-FCB		AMRWG		PCSO		Q 56 Q 56.1 (I) Q 56.2 (II) Q 56.3 (III) Q 56.4 (IV) Q 56.5 (V)		Q 57 Q 57.1 Q 57.2 Q 57.3 Q 57.4		Q 56 Q 56.1 (IV) Q 56.2 (IV) Q 56.5 (IV)			
RWGs	WG-YPF WG-IDST		ASRWG AFRWG / ST-FCB		AMRWG		PCSO		Q 56 Q 56.1 (I) Q 56.2 (II) Q 56.3 (III) Q 56.4 (IV) Q 56.5 (V)		Q 57 Q 57.1 Q 57.2 Q 57.3 Q 57.4		Q 56 Q 56.1 (IV) Q 56.2 (IV) Q 56.5 (IV)			
Task forces	TF-BIO-ENERGY TF-SEDIMENTATION		TF-FIN and WS		TF-WWF6		TF-WWF6 Special Session on Water for Food Security with FAO		Q 56 Q 56.1 (I) Q 56.2 (II) Q 56.3 (III) Q 56.4 (IV) Q 56.5 (V)		Q 57 Q 57.1 Q 57.2 Q 57.3 Q 57.4		Q 56 Q 56.1 (IV) Q 56.2 (IV) Q 56.5 (IV)			
Side Meetings	SC (15.00-17.00) MT-JOUR (17.00-18.00) MB (18.00-20.00)		PFC Mtg. NCs-OBs (08.00-09.00) Mtg. NCs-VPs (17.00-18.00)		SS for YPF (15.00-1800)		Symposium		SS on Modernization		FAO/ICID-IRNCID Special Session		Australian Session		FAO Side event Mtg. OBC	
Workshops/ Symposia/ Special Sessions	Reception / Open (19.00-21.00)		Reception / Open (19.00-21.00)		Welcome Reception (19.00-21.00)		Reception / Open (19.00-21.00)		Turkish Night (19.00-21.00)		Australian Reception (19.00 – 21.00)		Farewell Dinner and Cultural Show (18.30 – 22.00)			
Receptions	Reception / Open (19.00-21.00)		Reception / Open (19.00-21.00)		Welcome Reception (19.00-21.00)		Reception / Open (19.00-21.00)		Turkish Night (19.00-21.00)		Australian Reception (19.00 – 21.00)		Farewell Dinner and Cultural Show (18.30 – 22.00)			
	PCSO Workbodies		PCTA Workbodies		Task Forces		Workshop/Seminars/Special Sessions		21 <sup>st</sup> Int. Congress on Irrigation & Drainage		8 <sup>th</sup> Int. Micro Irrigation Congress					

Tea/ Coffee Breaks: 11.00-11.30 hours and 15.15-15.45 hours; Lunch Break: 12.30-13.30 hours

# China Launches International Centre for Training and Research in Irrigation and Drainage

*An International Workshop on Water Saving Irrigation and Food Security was hosted by the Chinese National Committee (CNCID) in Beijing in July 2011. The Workshop is a maiden effort following the ICID's renewed efforts to invigorate the IPTRID. On this occasion, China Research and Training Centre in Irrigation and Drainage was launched at the hands of President Chandra Madramootoo. This marked the birth of the first nodal Centre for the new IPTRID. In a high level meeting held between ICID President and H.E. Dr. Chen Lei, the Hon'ble Minister for Water Resources declared a strong commitment in supporting the ICID and in promoting its mission across the globe. A brief report.*

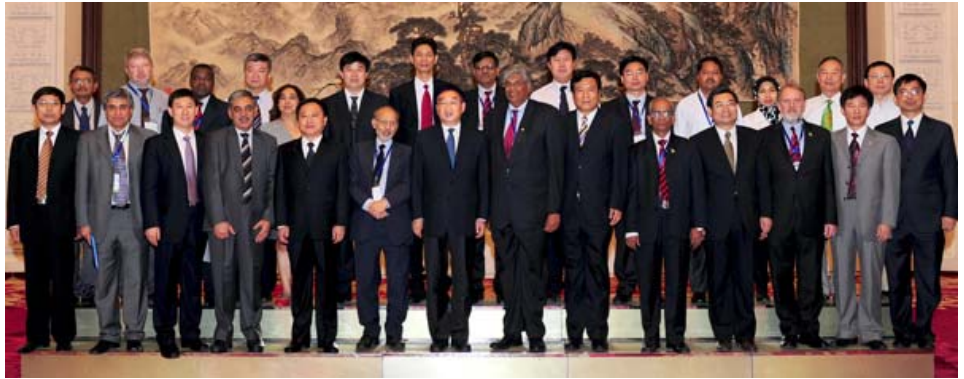
## International Workshop on Water Saving Irrigation and Food Security

The international workshop was held in Beijing during 11-14 July 2011 and was jointly organized by ICID and CNCID with the support of the Ministry of Water Resources, China. This was in tune with the signing of MoU between CNCID and ICID at Yogyakarta in October 2010.

The workshop was opened by H.E. Jiao Yong, the Vice Minister, Ministry of Water Resources, China. President Madramootoo in his keynote speech urged on the need for global food security and the importance for water savings in agriculture which shall drive the future technology and research in the sphere. The workshop attracted an overwhelming participation of nearly 100 professionals from China and from 12 countries, covering over 60% of the total world irrigated area. The workshop was graced by the presence of PH Aly Shady, Prof. Wang Aiguo, Chairman CNCID, Prof. Jia Jinsheng, President ICOLD, VPH Cai Lingen, VPH Karim Shiati, VPH Gao Zhanyi, VP W.F. Vlotman, and VP A.K. Bajaj. CNCID sponsored the international travel and stay of the participants who were in need of such support.

Secretary General Gopalakrishnan highlighted ICID contributions to the global water savings efforts. Country presentations by representatives from Australia, China, Canada, India, Iran, Nepal, Malaysia, Niger, Pakistan, South Africa, and Uzbekistan, besides FAO were made. The main topics covered were - irrigation management, water productivity improvement at different scales, and irrigation technology for small holders, environmental aspects of water saving irrigation, rainwater harvesting, etc.,

The workshop brought out the - importance for water savings with the ever growing stress on land and water for food security; the multipronged approach by adopting hard and soft options to enhance water and land productivity; developing 'pro-poor' cost effective portable irrigation systems that can fit in small holder situations

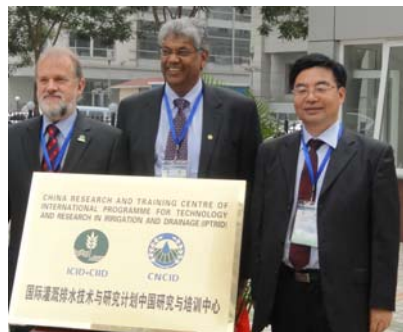


Workshop delegates with Minister H.E. Chen Lei, Vice Minister H.E. Jiao Yong of Ministry of Water Resources, China and President Prof. C. Madramootoo

prevalent in Asia; the wide ranging practices and measures in addressing cost recovery for irrigation; the need for revamping existing large-scale irrigation schemes using new technology and tools; the need to bridge in the gap between the field research and its uptake by farmers, and; ICID member countries could gain by the new IPTRID process by twinning interests and hence an institutional mechanism to share the available technology and knowledge base among countries and regions across the world.

The workshop was preceded by the visit to IWHR and field trips to Daxing Irrigation Experimental Station of IWHR, Water-saving Project, and Water Saving Demonstration Base of MoWR in Beijing.

## Launch of International Centre for Training and Research in Irrigation and Drainage



(From L): VP W.F. Vlotman, Pres. Chandra Madramootoo, and VPH Gao Zhanyi

The participants of the workshop were privileged to participate in an impressive launching ceremony of an International Centre for Training and Research in Irrigation and Drainage in Beijing at the hands of President Chandra Madramootoo, thanks to the great support of the Ministry of Water Resources, The Government of China.

The launch function was attended by delegates of the workshop besides Prof. Li Yangbin, DG of China Irrigation and Drainage Development Center and its staff, Thierry Facon (FAO) and the representatives of the participating national committees.

The workshop and the launch of the Training and Research Centre go on record as the maiden effort following the engagement of National Committees in ICID in their renewed efforts on "Intensification of Irrigation and Drainage Research to achieve Global Food Security" as enshrined in the discussion document floated during the 61st Council meeting held in Yogyakarta.

The workshop presentations can be viewed at [http://icid.org/news\\_online.html#beijing11](http://icid.org/news_online.html#beijing11) >

# Micro irrigation for Enhancing Water Productivity

## A Summary of the Lecture delivered on 62nd Foundation Day of ICID

*“With growing demand for irrigation water and increasing competition across other water use sectors, the world now faces a challenge to produce more food with less water. This goal will be realistic, only if appropriate strategies are adopted for water savings and for more efficient water use in agriculture” said Anil Jain, Managing Director, Jain Irrigation Systems Ltd. – which is the world’s second largest multi-national Irrigation Company located at Jalgaon, India. Jain was the chief guest at the function organized by ICID Central Office. The following are the key highlights of Jain’s speech.*

### Global Scenario

The global population is set to increase to 7.8 billion by 2025 and 80% of this increase will occur in developing countries. This factor puts a lot of pressure on food security and concomitantly on resources like water for irrigation. Irrigated agriculture is the major contributor to the world food security for the last 4-5 decades. For example, 17% of irrigated cropland in the United States produces nearly 50% of total crop revenues. On a global scale, irrigated agriculture accounts for less than 20% of the total cropland area but provides 40% of agricultural output.

Irrigation accounts for 72% of global fresh water withdrawals of water (90% in many developing countries). Water shortages threaten to reduce global food supply by more than 10% in the next 25 years yet food production must double by 2050 to meet the demand of the world’s growing population. McKinsey reports that the global water requirement is likely to rise from the present 4500 billion m<sup>3</sup> to 6900 billion m<sup>3</sup> by 2050 which is 40% more than the current accessible or reliable water supply.

Globally, of the 300 million ha of area under irrigation, only 45 million ha, i.e. 15% is currently under sprinkler and micro irrigation. Of this 80% is under sprinkler irrigation, including pivot irrigation and 20% is under micro irrigation. In the United States, widespread adoption of center pivot irrigation has dramatically improved agricultural water use efficiency. Between 1969 and 2003, the average U.S. water application rate has declined by 20% or over 125 mm per acre. Over the same period, water efficiency gains allowed farmers to increase total irrigated acreage by over 40% while applying only 11% more water.

Enhancing water productivity, therefore is a key challenge. For example, productivity of irrigated rice is 0.13-0.15 kg/m<sup>3</sup> in the conventional rice cultivation situation while it can be increased to 0.57-0.63 kg/m<sup>3</sup>. Technologies currently available for irrigation and crop management are capable of producing more crops per drop of water.



(From L) S.A. Kulkarni, Executive Secretary; Anil Jain, Managing Director, JISL, A.K. Bajaj, Chairman, CWC/ INCID, M. Gopalakrishnan, Secretary General

### Indian Scenario

In India, micro irrigation has been silently creating another green revolution and transforming agriculture and horticulture in many parts of the country. It is more than just a water saving tool and has emerged as a single most important technological intervention in crop productivity enhancement. However today, India has only 6 million ha i.e. less than 10% of irrigated area under sprinkler and micro irrigation. Thus the country needs to accelerate the growth of micro irrigation technology by adding minimum 10 million ha in the coming decade.

Some of the key benefits due to adoption of micro irrigation accrued over the period include: quantum jump in production of fruits and vegetables, dramatic yield increase in crops like red gram (300%), sugarcane (100%); catalyst in harnessing full potential of new technologies like Bt. cotton, tissue culture in banana, hybrid seeds, water soluble fertilizers, etc.; arid and saline lands, ravine and steep mountain lands can now be used for growing fruit trees like - custard apple, pomegranate, ber (jujube), dates, etc. Micro irrigation can address the dry periods between rain spells. In remote areas, drip irrigation systems can be operated by solar pump sets.

In order to bring the benefits of micro irrigation technologies in the canal command areas conventional conveyance network will have to be replaced by

pipelined conveyance systems. Such pipelined distribution enables adoption of drip/sprinkler irrigation in the command area. This approach has already been adopted in the States of Gujarat, Himachal Pradesh, Karnataka, Maharashtra, and Rajasthan. Other complementary technologies and measures such as mulching, use of draught resistant cultivars, bio-technology, soil moisture sensors for irrigation scheduling, subsurface drainage will provide multiplier effect of such interventions.

Micro irrigation schemes should be given the status of infrastructure projects and receive support for multilateral funding. In a major initiative Government of India has recently created the ‘National Mission on Micro Irrigation’ which has given much needed recognition to the impending need for wider use of micro irrigation in the country. Various State Governments have strongly supported the use of drip irrigation as a way to save water and increase productivity. The Government provides up to 75% subsidy on the purchase price of micro irrigation equipments.

For faster and successful implementation of the micro irrigation technology in India, there is a need for boosting training and knowledge transfer to farmers through Farm Schools, Agricultural Science Centres, satellite communication and digital media in the operation and maintenance of micro irrigation systems, irrigation scheduling, supply of crop water requirement (Etc) data to farmers, etc.

[SOUND PRINCIPLE NO. 53]

# Believe in infinite possibility.

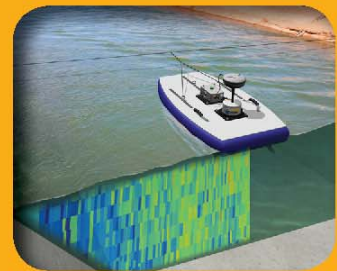


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# Pioneering Steps to Improve Irrigation Management in Bangladesh



Regulator on Feni Closure Dam

*With Asia home to 71% of the world's 300 million hectares of irrigated land, the need to make existing irrigation systems perform more efficiently is an essential requirement for meeting growing food demands. Despite the introduction of participatory irrigation management (PIM) to compliment investments in irrigation infrastructure and to contribute to sustainability of system improvements, making gains on major rice-based irrigation schemes remains challenging. Ms. Yasmin Siddiqi, Senior Water Resources Specialist, Asian Development Bank provides a brief of a pioneering approach for improving irrigation management in Bangladesh.*

With the need for increased food security and the confines posed by increasing water scarcity and global climate change, the Asian Development Bank (ADB) has been providing investments in irrigation management and system improvement over the past three decades to its developing member countries including Bangladesh.

About 70% of the Bangladesh poor live in rural areas with low agricultural productivity and unreliable food supplies. Promoting agricultural growth is a critical element of the government's strategy aimed at food security and poverty alleviation. Efficient and sustainable irrigation systems are central to boosting agricultural productivity and encouraging crop diversification. Failure to rehabilitate infrastructure and properly manage and maintain large-scale surface irrigation schemes has negative impacts on farm production, household incomes and poverty. There is a pressing need to improve existing scheme performance through innovative management approaches and institutional frameworks as a platform for designing and implementing a new generation of more effective large-scale surface water schemes. It is expected that these will in future, contribute to national food security and poverty alleviation.

Since 1977, ADB has financed 35 technical assistance (\$22 million) and 20 loan projects (\$730 million) in Bangladesh. Recognizing the key role of the policy and institutional environment, ADB has incorporated these aspects to support its investments in water resources infrastructure development.

Generally, performance of investments has been mixed. Large-scale surface water schemes, under the responsibility of Bangladesh Water Development Board (BWDB) of the Ministry of Water Resources

are often undermined by weak stakeholder participation. This adversely affects operation and maintenance (O&M) and overall system performance. Yet, small-scale systems (< 1000 ha) have demonstrated better performance with an increasing number of well managed, stakeholder driven schemes. The challenge is to adapt conventional PIM solutions to better respond to large scale systems.

One such option has been recently assessed in Bangladesh under ADB financing<sup>1</sup>. The study provided a more focused analysis of managing major irrigation systems, including Muhuri Irrigation Project (MIP) located in south eastern Bangladesh. MIP was designed for dry season irrigation and supplemental wet season irrigation by constructing the Feni Regulator downstream of the confluence of the Feni, Muhuri and Kalidash-Pahalia rivers and creating a reservoir. Water flows through canal network by gravity from

## Impediments to efficient system management

- ❖ Low irrigation service charge collection which is inadequate to support system O&M,
- ❖ No systematic procedure for asset management and to identify O&M needs,
- ❖ Limited participation and consultation with beneficiaries on O&M requirements,
- ❖ Lack of asset inventory and condition survey on which to develop maintenance budget,
- ❖ Proposed annual budgets for O&M are curtailed due to insufficient funds,
- ❖ Funds released for O&M do not reflect requirements for annual, periodic or emergency maintenance of a system, and
- ❖ Lack of enforcement of cost recovery or contribution to O&M costs in particular for annual maintenance.

where it is lifted for irrigation by about 1100 low lift pumps.

To improve the management, operation and maintenance of major irrigation systems a pilot project encompassing the entire secondary and tertiary system of MIP is to be established. This will require use of a Specialized Management Unit (SMU) which will be tasked to: Ensure water users receive reliable and equitable supplies; Establish a transparent and equitable system for recovering some proportion of the costs associated with delivering water; and Strengthen the assessment, planning, financing, and implementation of O&M.

BWDB will have overall responsibility for (i) bulk water supply to the primary system; (ii) implementing all irrigation system improvements at the primary and secondary levels of the system, (iii) maintaining responsibility for the management, operation, and maintenance of the head works and primary system, (iv) entering into a contract for the services of a facilitating entity to establish the SMU and (v) monitoring the contract between BWDB and the facilitating entity to ensure compliance.

If the SMU proves to be successful, it would itself become a registered independent entity and contract directly with BWDB to continue to provide the requisite services. The facilitating entity will also develop an asset inventory of all irrigation infrastructures to establish a system performance benchmark of MIP and institutional performance of the entity.

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*(Disclaimer: The views expressed and the conclusions reached are those of the author and not necessarily those of ADB)*

<sup>1</sup> Technical Assistance 7260-BAN: Developing Innovative Approaches to Management of Major Irrigation Systems, 2011

# Upcoming and Future ICID Events

**62nd IEC, 21st Congress and 8th International Micro Irrigation Congress Tehran, Iran, 15-23 October 2011.** The theme of the Congress is "Water productivity towards food security" and will be held on Question 56: Water and land productivity challenges; Question 57: Water management in rainfed agriculture; Special session on Modernization of water management schemes; Symposium on Climate change impacts

on soil and water resources; and History Seminar on Possibilities of using traditional methods in modern water management systems. The theme of the 8th International Micro Irrigation Congress is "Innovation in technology and management of micro irrigation for enhanced crop and water productivity". Other events viz. International Workshop (TF-FIN), Special Sessions of "FAO-ICID-IRNCID" and "Australia" have also been planned. For

more details, please contact: Dr. S.A. Assadollahi, Secretary General, Congress Secretary, Iranian National Committee on Irrigation and Drainage (IRNCID), No. 1, Shahrzad Alley, Kargozar St., Zafar Ave., Tehran, Iran, Postal Code: 19198-34453. Tel: (+9821) 2225 7348 – 22250162, E-mail: <irncid@gmail.com>, <icid2011@gmail.com>, Website: <http://www.icid2011.org>. (Also see page 3)

**3rd African Regional Conference (AfRC) and 3rd African Exhibition of Irrigation and Drainage (SAFID), 29 November - 5 December 2011, Bamako, Mali.** The main theme of the conference is: *Food Security and Climate Change: How to improve the contribution of irrigation and drainage?* The Sub-themes are: (1) Climate change impacts on the development of Irrigation in Africa; (2) Policies and strategies to improve the contribution of irrigation and drainage to

food security in Africa in the context of climate change; and (3) Water Productivity in agriculture and the challenge of climate change. Two panels of experts (including development partners, political and water users' representatives) will discuss and exchange with the delegates on important issues such as environmental risks, agriculture insurance, etc.

All those persons interested in contributing to the afore mentioned themes are requested to send abstract(s) of their

paper(s) to [amid-mali@orangemali.net](mailto:amid-mali@orangemali.net) and/or [inf@arid-afrique.org](mailto:inf@arid-afrique.org). The full length papers (oral and poster) should be received by 31 October 2011. Contact: Dr. Adama SANGARE, Secretary General, Association Malienne des Irrigations et du Drainage (AMID), Au Modibo Keita, Im Sulla and Fils, BP 1840, BAMAKO, Mali. Tel: (223) 222 75 21, Mobile No.: (223) 674 08 94, Fax: (223) 223 48 82, E-mail: [a.sangare@betico.net](mailto:a.sangare@betico.net); [betico@betico.net](mailto:betico@betico.net), Website: <http://www.amid-mali.org>.

**63rd IEC Meeting, 7th Asian Regional Conference, and Irrigation Australia 2012 Conference and Exhibition, 24-30 June 2012, Adelaide, Australia.** Abstracts are invited from researchers and practitioners for conference session with

emphasis on the themes: (i) Regional Cooperation for Water and Food Security, and (ii) Droughts, Floods, Environment: Managing Consumptive Water needs Sustainably. For further details, please

contact: Conference Secretariat, E-mail: [IAL2012@saneevent.com.au](mailto:IAL2012@saneevent.com.au), Tel: 61 2 9553 4820 or VPH Dr. W.F. Vlotman, Chairman, ICID-NCA at E-mail: [Willem.Vlotman@mdba.gov.au](mailto:Willem.Vlotman@mdba.gov.au)

**11th International Drainage Workshop (IDW), 23-27 September 2012, Cairo, Egypt.** The theme of the workshop is: Agricultural Drainage Needs and Future

Priorities. Contact : Workshop Secretariat, c/o Prof. Dr. Mohamed Hassan Amer, ENCID Chairman, Coastal Protection Building, Fum Ismailiya Canal, Shoubra El-Kheima 13411, P.O. Box 40, Cairo, Egypt.

Tel: (+2 02) 44464505 / 010-16419861, Fax: (+2 02) 44464504, E-mail: [encid@link.com.eg](mailto:encid@link.com.eg), ENCID website: <http://www.encid.org.eg>, IDW website: <http://www.encid.org.eg/idw11>

**64th IEC Meeting and 8th Asian Regional Conference, October 2013, Mardin, Turkey.** Theme: Drought and

Flood. Contact : Mrs. Serpil KOYLU, Turkish National Committee, ICID (TUCID), Delvet Mahallesi İnönü Bulvarı No. 16,

06100 Cankaya, Ankara, Turkey, Tel/Fax: + 90 312 425 4614, E-mail : [tucid@dsi.gov.tr](mailto:tucid@dsi.gov.tr).

**12th International Drainage Workshop (IDW), June 2014, St. Petersburg, Russia.** Contact: Ms. Irena G. Bondarik,

Secretary General, National Committee of the Russian Federation on Irrigation and Drainage (RUCID), VNIIGiM, Room 601B,

B. Akademicheskaya ul. 44, 127550, Moscow, Russia. Tel/Fax: +7 095 153 94 06, E-mail: [ibond@online.ru](mailto:ibond@online.ru), [rusiptrid@mail.ru](mailto:rusiptrid@mail.ru)

**65th IEC Meeting and 22nd International Congress on Irrigation and Drainage, 2014, Republic of Korea.** Contact: Dr. Jin-Hoon JO,

Secretary General, Korean National Committee on Irrigation and Drainage (KCID), 1031-7 Sa-dong, Sangnok-gu, Ansan-Si, Gyeonggi-do 425-170, Republic

of Korea. Tel: +82 31 400 1755/1758, +82 31 400 1759, Fax: +82 31 406 7278, E-mail: [kcidkr@gmail.com](mailto:kcidkr@gmail.com), [kcid@ekr.or.kr](mailto:kcid@ekr.or.kr)

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