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# ICID Newsletter

Managing water for sustainable agriculture

Also at <http://www.icid.org>

2007/2

## Message from the President

This has been a busy four months for me, moving back to my home in UK after six years residence in India managing Mott MacDonald's growing business there. I have been away from home for a lot longer, and there is much to do.



### 5<sup>th</sup> World Water Forum, Istanbul 2009

On my way back from India, I spent a month in New Zealand and then stopped off in Turkey in March for the kick-off meetings for the next World Water Forum (WWF), to be held in Istanbul in 2009. The kick-off meetings in Istanbul were followed by an International Congress on River Basin Management in Belek near Antalya that was opened by His Excellency the Prime Minister of Turkey, Recep Tayyip Erdogan. The meetings were very well attended and productive on several levels.

Despite ICID's best efforts and the support of the Mexican organisers, the last WWF gave rather less attention to water for food than we would have expected. Agriculture is often seen negatively for its "use" of 70% of the available water resources, but by my reckoning only about 8% of the forum sessions in Mexico were about this use. Clearly, we cannot expect the percentage of sessions to be anything like the percentage of use, but water for agriculture seemed to many, to be under-represented.

Perhaps as a reaction to this, I sense that the tide has turned, and it has heartening that several voices were raised in defence of agriculture at the kick-off meetings for

the next forum. Also, the partnership agreed between ICID and the World Water Council (WWC), signed in Antalya, provides the framework for the two organisations to work more closely together in addressing water for food issues more satisfactorily at the next forum. I am grateful to President Hon Bart Schultz in agreeing to coordinate the topic with WWC and the other involved organisations. In the meantime, President Hon Aly Shady will head up the task force that will coordinate ICID efforts to contribute to the forum.

### Liaison with other Water Organisations

Clearly, if ICID is to have greater influence over the programme for the next forum, and more generally look after the interests of agriculture in the world of water, it must be more active in its dealings with other organisations.

Water for agriculture was not the only subject that was relatively under-represented at the last WWF. The cross cutting theme of science and technology (S&T) and the implication that the policy in water should be science-based, was also weak. In order to rectify this, I am pleased with the role that ICID Central Office, as Secretariat of the International Water Associations Liaison Committee (IWALC) has played in reactivating that institution and finding common cause with our sister organisations, to strengthen the S&T input to the next WWF. Obviously, it is quite difficult to bring together many of these organisations at any one event, but I have attended meetings in Delhi, Mexico, Barcelona, Stockholm and Antalya where gradually we seem to be developing a pragmatic approach that will encourage more contact and common initiatives.

This starts with the topic of climate change, which is expected to feature prominently at the next WWF. Also, it has been proposed that IWALC members could provide useful input to the next UN World Water Development Report that will be issued at the next WWF. ICID as the IWALC Secretariat, and also as a member of UN-Water, has to play a pivotal role in this.

### 4<sup>th</sup> Asian Regional Conference

Well attended and well organised, the 4<sup>th</sup> Asian Regional Conference brought us together with the International Network on Participatory Irrigation Management (INPIM), which now has its base in Islamabad. An international seminar on History of Irrigation and Drainage drew on Iran's rich history of water supply and irrigation technologies, especially the world famous *qanats*. The conference/ seminar was opened by His Excellency the Minister of Energy Mr Fattah. His Excellency Dr Zargar, Deputy Minister for Water Affairs and Chairman, IRNCID was with us throughout the proceedings. It was most encouraging to see the strength of the private sector in Iran, and their involvement in the National Committee, and also the number of students and young professionals in attendance. Out of a total attendance of about 900, about 140 were from outside Iran and there were seven office bearers of ICID, four current and four past vice-presidents. My thanks to the Iranian Organising Committee and the concerned working groups for making this such a triumph.

Peter Lee  
President, ICID

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 Newsletter is published quarterly by ICID Central Office, New Delhi, India.

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Photo: Editor

*4<sup>th</sup> Asian Regional Conference, 10<sup>th</sup> International Seminar on Participatory Irrigation Management (PIM), and International History Seminar on Irrigation and Drainage were held in the beautiful city of Tehran, Iran from 2 to 5 May 2007. The city is situated at 1200 m above the sea level on the slopes of Alborz Mountain. Over 900 professionals (including 140 from overseas), policy makers, researchers, managers from 40 countries and international organizations participated in these events. All the events were organized and hosted by the Iranian National Committee on Irrigation and Drainage (IRNCID) and International Network on Participatory Irrigation Management (INPIM) and co-sponsored by Ministry of Energy, Ministry of Jihad-e-Agriculture, Iran Water Resources Management Co, The World Bank, and International Water Management Institute (IWMI). All the events were held at the world-class IRIB International Conference Centre (ICC), Tehran. This issue of the Newsletter covers highlights of the above events.*

During the opening ceremony, addresses/ speeches were made by their Excellencies Mr Parviz Fattah, Minister of Energy and Dr Rasoul Zargar, Deputy Minister for Water Affairs and Chairman of IRNCID, Mr Peter Lee, President, ICID and Dr Salah Darghouth, Water Advisor for Agriculture, The World Bank and Chairman, INPIM.

Besides the seminars, an impressive technical exhibition in which more than 30 consulting firms, companies and manufacturers from Iran and overseas showcased their latest products related to irrigation and drainage, was held. Post seminar technical tours were arranged to Qazvin Province and Yazd City on 5 May and to Shiraz and Isfahan cities on 6-7 May. These technical tours provided an understanding of not only rich and ancient water civilization of Iran but also of the modern and technological advances in the water resources development and management of the country.

Iran joined ICID in 1957 and IRNCID is one of its most active National Committees. All these events were organized under the leadership of Hon Dr Rasoul Zargar - fully supported by Dr S A Assadollahi, VP Dr Karim Shiati, VPH Dr Saeed Nairizi, VPH Javad Farhoudi, Dr A R Salamat, Chairman, WG-YPF, and Mr Mehrzad Ehsani, Secretary, IRNCID. Other Office Bearers who attended the events included VP Prof YooMan Huh (Korea), VP Mohd Azhari bin Ghazalli (Malaysia), VPH Shigetaka Taniyama (Japan), and VPH I K Musa (Nigeria).

As an outcome of the 4<sup>th</sup> ARC & 10<sup>th</sup> PIM, a 'Tehran Declaration' was released during the closing ceremony held on 4 May. IRNCID has brought out the proceedings of these events (abstracts of the papers in hard copies and full length papers in CD) which may be requested from Secretary General, IRNCID, E-mail: [IRNCID@neda.net.ir](mailto:IRNCID@neda.net.ir). **The full length papers are also available for free download at <[www.pim2007.org](http://www.pim2007.org)>.**



Photo: IRNCID

## Welcome / Opening Addresses



Photo: IRNCID

His Excellency Mr Parviz Fattah  
Minister of Energy, I R of Iran

His Excellency Mr Parviz Fattah, Minister of Energy of I R of Iran, in the opening address, said that since ancient era, limited availability of water resources in the country has made the Iranians think profoundly on how to harvest, store, operate, use and manage catchments and find optimum ways of water distribution and preventing water wastages. Iran has a successful model of PIM in the millennia-old Miraab system for managing the *karez*s and *qanats* in the arid and semi-arid regions. Water supply from *qanats*, water rights in its distribution, management by water-masters, *Cheghazanbil* water treatment and *Shaikh-Bahae's* role

in operation and management of water resources are some of the paradigms of the Iran's numerous initiatives.

"The Iranian Government is embarking on to decrease the financial burden of the Government in respect of water resources management by assigning conservation, maintenance and operation to the people through Water User Associations (WUAs). Promoting PIM/ IMT in the water resources development and management plans is one of the Iranian Government's important policies for optimum usage of country's soil and water resources. There are some impediments - socio-economic, and cultural in implementation of PIM which are being studied carefully", said the Minister.

Iran with a population of 70 million people, has rich natural endowments of oil, gas and mines. The country has arid and semi-arid climate with an average annual precipitation of 250 mm. Iran's irrigated area is 8.5 million ha ranking 5<sup>th</sup> at the world level. About 90% of the country's agricultural produce comes from irrigated agriculture.

In inaugural speech, His Excellency Dr Rasool Zargar, Deputy Minister of Water Affairs and Chairman, IRNCID said that the Government of Iran had made huge investment in water resources



Photo: IRNCID

His Excellency Dr Rasool Zargar, Deputy  
Minister of Water Affairs & Chairman, IRNCID

development by way of construction of multi-purpose dams and large irrigation and drainage network, to achieve a rapid economic and technical growth in water and agriculture sector. As a result, there were 195 multi-purpose large dams and 320 small dams, while 80 dams were under construction and 176 were at the planning stage. The country had expertise and rich experience in dam building, as well as in operation, maintenance and management of irrigation and drainage systems. He said that Iran was capable and ready to extend technical cooperation with the international entities and National Committees.



### What is PIM and IMT ?

The terms Participatory Irrigation Management (PIM) and Irrigation Management Transfer (IMT) are often used interchangeably, but they have different meanings.

The term Participatory Irrigation Management (PIM) refers to the participation of irrigation users – the farmers – in the management of the irrigation system, not merely at the tertiary level of management but spanning the entire system. Participation should not be construed as mere consultation with farmers, but also in the form of resources, both in terms of obligation and contribution. PIM involves substantial changes in functions, roles, responsibilities and authorities of public Irrigation Agencies (IA).

Irrigation Management Transfer (IMT) is the turning over of authority and responsibility to manage irrigation systems from government agencies to Water User Associations (WUAs). The IMT should involve at least three contingent strategies, namely: improvement of support services delivery; empowerment of farmers and farmers' organizations; and irrigation system's long-term financial viability. ([www.inpim.org](http://www.inpim.org))

## Managing Water for Sustainable Agriculture

*Irrigated agriculture is often blamed as an imprudent user of water and there is a growing pressure to use it more efficiently so as to divert the saved water to other sectors. President Peter Lee in his opening speech clarified this misapprehension by highlighting the multiple use of water, role of virtual water and how PIM could help improve water productivity.*

“For some time now, irrigated agriculture has been under fire, as it is seen by others to be an extravagant user of water, which must give up some of that water for other uses. Whilst in many places this transfer is certainly happening, much of the water used by agriculture is of too low reliability to be of much use for other purposes. Domestic and industrial uses usually require a supply that is year-round, and that can be sustained through the worse droughts. Agricultural water, which is often seasonal, sometimes purely ephemeral is not in these circumstances, acceptable to these other uses. Therefore, those that talk in terms of average volumes overstate the potential for agricultural water to be used for other purposes”.

“This seasonal and less reliable nature of most agricultural water supply also contributes to a large degree on the low levels of productivity often achieved by agriculture. Why should farmers invest in better ways of managing water and better crops, if the supply of water frequently fails them? Farmers who have limited, and valued supplies, which are nevertheless reasonably reliable (eg pumped from groundwater), usually achieve much higher levels of productivity. And if farmers have access to good markets for their produce, they are quick to invest in improved technologies”.

### Irrigation in Iran

“Iran, a country with a great tradition in irrigation has small schemes supplied by a stream off-take or a *qanat*. Storage of winter rain and spring snow melt is crucial for sustaining supplies into the dry summer. It is welcome to hear of Iran’s continuing investment in new dams to have further storage. In Iran, land that can be commanded by gravity tends to be limited in this terrain, so productivity in terms of crop output per unit of water was probably not that high. Nevertheless, where the irrigated land was reasonably safe from flood damage then higher value crops like fruit, and multiple use of the water were alternative strategies for pushing up productivity. This is how *flood control*, which is also a part of ICID’s mandate, can also contribute to productivity”.

### Multiple Uses

“The multiple use of water is too often ignored. Water used for driving a small mill, supplying the village with its domestic needs or those of rural industry all help to increase the productivity of water use beyond its primary function, which is irrigation and which produces the basic infrastructure. One of the benefits of a participatory approach is that localised decision makers are more likely to appreciate the value-added by more reliable water supplies and multiple uses”.



Photo: IR/ICID

“In speaking about productivity and multiple uses, I try to avoid thinking only of irrigation efficiency, which is in effect the percentage of water used by agriculture that is actually consumed. For those who decry the low efficiencies achieved by agriculture, I would say just be careful what you wish for... do you really want agriculture to consume more of the water it uses, leaving less for other uses? So do not focus too narrowly on irrigation efficiency. Think instead of all the ways that agriculture adds to the productivity of water in our increasingly crowded region”.

“Nevertheless, ICID has been active in promoting the saving of water, principally through the WatSave awards that are made for truly outstanding achievements through better management and technologies, in saving material volumes of water. It is interesting that over the last ten years, virtually all the awards were to for savings that could be used to expand agriculture, rather than release water to other uses”.

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*We are still very sector-driven, and saving water for other uses is not much of an incentive, unless there is a money transaction involved. Local participation means that water management is community based, and thus, better able to take an integrated water management (IWRM) approach.*

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### Virtual Water

“The supply of water in the form of the food and other produce that can be transported efficiently to distant cities and even other countries, and at the same time provide livelihoods in the source area, is something at which agriculture does very well. The electricity generated by hydropower also is a form of virtual water, but agriculture is strong provider of employment both in the source area and also in distribution and processing, generating employment in urban areas too. Also the water contained virtually in agriculture produce can be stored as well as traded. Thus, water that was only available in one season is converted into food and other produce available throughout the year through agriculture”.

### Water for Food

“As populations increase and also seek higher standards of living, we will need to grow more food... globally about two thirds more over the next 20-25 years. Asia should be able to remain more or less self sufficient, but only by increased trading of virtual water from areas of plenty to those of greater need”.

“If Australia can export rice very profitably to Japan, other countries in the region with more plentiful water should look not just at their own self-sufficiency. As we appear to have entered a period of reduced certainty about climate, the world needs to spread its options in so far as its sources of food are concerned. And the opportunities to do this will increase as the liberalisation of trade in agriculture moves closer. This will require agriculture water management to be responsive to the needs of farmers to get the best from the opportunities that changing demands will deliver. Therefore, we need farmers to be involved and participate in management at all levels”.

## Participatory Irrigation Management for Sustainable Irrigation Systems

*Dr. Salah Darghouth, Chairman, INPIM and Water Advisor, the World Bank, in his welcome address said that the 4<sup>th</sup> ARC and 10<sup>th</sup> PIM was one of the largest joint international events, focusing exclusively on PIM in the context of on-going irrigation reforms globally. He congratulated the Iranian National Committee on Irrigation and Drainage (IRNCID), which is one of the most active National Committee of ICID, for organizing and hosting the events.*

Dr Darghouth said that the organizers have got excellent response to the call for papers and received 110 papers matching well with the conference and seminar's three sub-themes, namely:

- (1) *Review of participatory measures in Irrigation* – that focuses on success stories and experiences with implemented and proposed PIM frameworks and models,
- (2) *Required grounds and facilities for PIM* – that discusses organizational reforms, legal frameworks and norms, socio-cultural and political grounds, and
- (3) *Support system for PIM sustainability* – that critically looks into required policies and strategies, monitoring and evaluation frameworks, and capacity building and training needs.

“As we all are aware that worldwide demand for water is increasing in all its uses due to increasing population, urbanization, increasing demand for food, industrial growth and overall expansion in economic activities. This is happening at times when scarcity and competition for water is also on rise and prolonged droughts becoming common phenomenon, all adding tremendous pressure on available water resources. In many places water availability is falling to critical levels, the quality of ground water and surface water is continuing to deteriorate due to the pollution by waste and contaminants from cities, industry and agriculture”.

“The problem is more serious in most of the low income developing countries-where importance of water is manifold. In these countries, there are enormous challenges in the management of water resources - particularly so in agriculture which uses 80 – 90 percent of the available water resources. The agricultural water sector has been facing a complex set of problems from basin level to the water course and field levels; and productivity levels remain low”.

“However, there are enormous opportunities for improving the management of available water resources – for increasing productivity, for enhancing water and food security for the poor men and women. To benefit from such opportunities, the recent global events such as the 4<sup>th</sup> WWF held in Mexico last year, the World Water Week



Photo: IRNCID

2007 held at Washington, from 28 February to 2 March 2007, called for increased investments from the public and private sources in order to enhance water security in developing countries – with greater emphasis on right kind of investments with sound institutions and good governance. The events also reaffirmed the importance of involving relevant stakeholders in the planning and management of water resources and decision making processes, capacity building and cooperation at all levels”.

“In the agricultural water sector, the importance of participatory approach to irrigation management is now widely recognized by governments, donors, agencies and other stakeholders. While PIM as a concept and approach has been

in vogue for over two decades with varying degrees of success, the fascinating and challenging debates on emerging PIM issues continue. As irrigation reforms progress, issues continue to emerge, alternative PIM models and frameworks continue to be experimented in diverse local environments, and PIM approaches continue to be evolved and refined. Importantly, as water becomes scarce and faces intense sectoral competition in most settings in the world, there is an increasing need to better use and manage each single drop of water. And the PIM approach to irrigation management assumes greater than ever significance in such settings”.

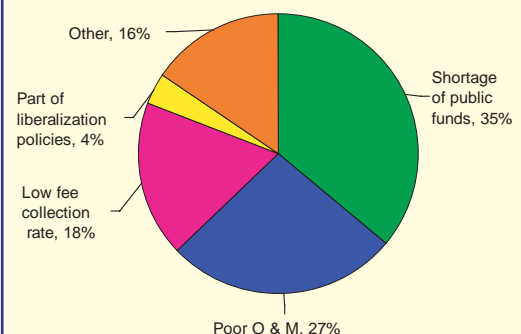
*PIM is now a true worldwide phenomenon. More than 60 countries have embarked upon PIM reforms aimed at improving irrigation management and making irrigation systems sustainable. These countries represent some 80 percent of global irrigated area.*

“This international event provided an important forum to report and discuss various PIM related issues and challenges, share experiences and lessons, discuss solutions and options, and celebrate progress made in PIM in international settings, particularly in Asia that accounts for over half of the global irrigated area”.

### What is INPIM?

International Network on Participatory Irrigation Management (INPIM) is a unique global network of professionals for facilitating and promoting participatory irrigation management and related new ideas and best practices in irrigation management worldwide. INPIM's mission is to make irrigation systems sustainable by supporting institutional reforms that promote greater involvement and increased capacity of farmers, water user associations, and other private stakeholders. <[www.inpim.org](http://www.inpim.org)>

### Why is PIM/ IMT taking place?



(Source: FAO-IWMI)

## Lessons Learned from PIM/ IMT Worldwide

Since the 1980s, Participatory Irrigation Management (PIM) has been adopted in varying degrees and ways in about 60 countries representing some 80 percent of the global irrigated area. In the 4<sup>th</sup> ARC/ 10<sup>th</sup> PIM seminar over 110 papers - covering a wide range of issues and experiences from a variety of situations were presented. The results of the PIM/ IMT process undertaken across the globe are a mix of successes and failures. The following are some of the lessons/ experiences shared by the participants that need to be addressed in order to obtain the benefits of PIM/ IMT.

- A comprehensive implementation plan for PIM should involve - policy reforms, legal reforms, agency restructuring, provision of new support services, and improvement of irrigation infrastructure
- Many countries have implemented PIM – mostly by organizing WUAs at lower level of irrigation systems
- A few countries have implemented IMT with the Public Irrigation Agency (IA) reforms. In most cases, reforms have been deferred due to reluctance or political difficulty
- Irrigation Agencies often tend to resist PIM reforms owing to perceived threat to staff jobs, budget, authority or independence
- Clarity regarding the responsibilities and authority of WUAs, IA and local administration, cost sharing, rights to water and infrastructure is essential for sustainability
- Often, government financial support falls short of IMT needs
- WUAs and irrigation agencies need capacity development and training on continuous basis
- IMT programs need systematic public awareness campaigns, consultations, involvement and support of all key stakeholders
- Application of successful model of one country may not necessarily be successful to another country. IMT should be tailor-made and flexible
- The absence of legislation, or ill adapted legislation, will have a negative impact on sustainability
- Stronger the WUA ownership, greater is the farmers participation
- Social divisions may disrupt communications and decision-making between farmers and IA
- Adequate human, financial and information resources should be available to support the local management
- Unprofitable agricultural conditions do not encourage the formation of WUAs
- There is no evidence that the IMT process leads to an improvement in water distribution system
- IMT has achieved government's objectives only partially. The performance

### Benefits of PIM/ IMT

- Reduced cost of irrigation to government
- Increased cost recovery and transparency
- Better operation, improved coverage and quality of maintenance
- Better water distribution equity and efficiency, tail enders get a better deal
- Fewer water conflicts
- Freedom of crop planning
- Better conjunctive use of surface and groundwater
- Flexibility in water scheduling
- Efficient water use, improved water use efficiency, and increased farm productivity
- Less corruption
- Improved sustainability of irrigation systems due to local governance and user ownership and
- Unity among farmers and better cooperation in WUAs.

of water services fee collection has been erratic

- Democratic selection of WUA leaders is problematic and is often not achieved
- PIM has not been able to make a serious impact on crop productivity enhancement and equitable access to water, except in certain innovative cases
- Rehabilitation and modernization of the system prior to or along with implementation of IMT is necessary
- Cultural rules/ traditions of water management and agricultural practices of the farming community need greater attention
- The newly established WUAs need to be supported financially, technically by concerned government departments for their sustainability
- Knowledge of the traditional irrigation institution/ system should be embedded in the new PIM approach
- Government agencies should come forward in promoting PIM and establish pilot WUAs
- There is a need to establish drainage beneficiary groups for operation, maintenance and sustenance of agricultural drainage systems
- Constraints like illiteracy, dominance of big land owners, hinder the process of PIM
- Participatory groundwater management needs to be promoted - where groundwater exploitation is a threat for sustainable use

- In sub-Saharan Africa, the Participatory Rapid Analysis & Action Planning of Irrigated Agricultural Systems (PRDA) may be a good tool to achieve successful PIM.
- In transition economy countries, water management authorities have little capacity and/or experience for meeting new situation. The dilapidated infrastructure is not equipped for efficient water distribution. WUAs are still a new phenomenon in countries of the former Soviet Union.

### Conditions determining success and sustainability of PIM/ IMT reforms

- ❖ **Institutional framework** – legislative backing, clear and strong legal status of FOs/ WUAs
- ❖ **Representation and partnership** – supportive links, effective partnerships and interactions with relevant government agencies, NGOs and private sector organizations
- ❖ **Political support** – strong political will, commitment and support
- ❖ **Leadership** – strong multiple local leadership
- ❖ **Financial strength** – healthy financial status, adequacy of resources
- ❖ **Capacity building and support** – long term capacity building, support services,
- ❖ **Water and land rights** – clear water use rights, land tenure security
- ❖ **Authority and powers** – full management authority and power transfer
- ❖ **Effective system of accountability, transparency, incentives and conflict resolution**
- ❖ **Homogeneity of community** – there is homogeneity of community in terms of caste, income, and resources
- ❖ **Dependence on agriculture and agricultural profitability** – higher degree of dependence on irrigated agriculture for livelihoods, productivity levels high
- ❖ **Cost and benefits to farmers** – cost to farmers is small proportion of the benefits
- ❖ **Condition of irrigation infrastructure** – physically sound infrastructure and well-functioning irrigation system, better control over irrigation supplies.

(Source: Dr. Intizar Hussain, INPIM)

## International Seminar on History of Irrigation and Drainage

Er M Gopalakrishnan, Secretary General, ICID in his welcome address highlighted the importance of historical lessons for sustainable development and compared different historical water development paths in Iran and India. Prof N Hatcho, Chairman, ICID Working Group on History of Irrigation, Drainage and Flood Control (WG-HIST) said that the Group was the oldest workbody of ICID and was celebrating its 30<sup>th</sup> anniversary by holding this Seminar. He said that the seeds for WG were sown in Iran.

A total of 26 presentations from 8 countries, including 17 from Iran, were made in 5 parallel sessions. The keynote addresses were made by Dr H Fahlbusch, Vice Chairman of the German Water History Association on the overall development perspective on water management since the prehistoric times, Dr K Emami (Iran) on the challenges of the 21<sup>st</sup> century to combine historical knowledge/ wisdom with modern science and technology, and Mr B Farhangi on the Iranian ingenuity of constructing numerous water structures since olden times such as dams/ weirs, *qanats*, or water mills.

Iran has a rich history of water and irrigation development/ management, sustainable from ancient times. Being located in arid and semi-arid region, water supply, irrigation and drainage have played very important roles in establishing the base for civilization in Iran, which influenced the civilizations of other



Photo: IRNCID

regions. The *qanat* is a typical example. In Iran, there are more than 30,000 ancient *qanat* systems, and many of them are still in use. Iran has established an International Center on Qanats and Historic Hydraulic Structures in Yazd. Other topics discussed during the seminar were ancient water supply systems, weirs and dams, tanks and management issues. Following lessons /issues emerged as recommendations of the seminar:

- Traditional water systems have multiple values in addition to economic or production value, including social, cultural, religious, and environmental values, which have been nurtured over a long term period,

- While achieving sustainable water development and management, a combination of traditional wisdom with modern science and technology is needed,
- Additional advantage should be taken to incorporate traditional wisdom into modern science, and
- Engineers, politicians and general public should be made aware of the value of traditional wisdom and should learn from experiences.

*(Contributed by Prof Dr N Hatcho, Chairman, WG-HIST)*



## 2<sup>nd</sup> Special Session of Task Force for the LDCs in Asia

The 2<sup>nd</sup> Special Session of the Task Force for the Least Developed Countries (TF-LDCs-AS) was held on 3 May 2007. The theme of the Special Session was 'Affordable technology for the develop-

ment and management of irrigation, drainage and flood control schemes in LDCs and other countries in Asia'. VPH Dr Nairizi, Iran, made a presentation on "Irrigation improvement and management

through farmers' participation", and Prof Dr M Satoh, Japan and Ms Tassanee, Thailand presented "The government's role in making participatory irrigation management successful".

VPH Dr S Taniyama (Japan), Chairman of the TF, briefed the first draft of summary report of the Special Session held at Kuala Lumpur in September 2006. The session was attended by President Peter Lee, VP Dr Karim Shiati, VP Ir Azhari bin Ghazalli, VP Dr Huh Yoo-Man, and VPH Engr I K Musa among others. Participants touched upon the priority issues of irrigation in LDCs and proposed actions that ICID might like to initiate for helping LDCs with their problems.

*(Contributed by Dr S Taniyama Chairman, TF-LDCs-AS)*



Photo: Taniyama

## Closing Speeches

*The closing ceremony of 4<sup>th</sup> ARC, 10<sup>th</sup> PIM and History Seminar was held on 4 May 2007 and was addressed by VP Karim Shiati, SG M Gopalakrishnan, Dr Intizar Hussain, Executive Director, INPIM and Dr S A Assadollahi, Secretary General, IRNCID.*

Dr Karim Shiati, Vice President and Chairman, Asian Regional Working Group (ASRWG) in his closing address thanked all the delegates for their active participation in all the events. He hoped that the conference was successful in its objectives of sharing of experiences, expertise and technology in the context of PIM/IMT across the world, especially in Asian countries. VP Dr Shiati also presented the recommendations of the Special Session of the TF-LDCs-AS.



Photo: IRNCID

Dr Karim Shiati, Vice President, ICID

## Shifting Focus from Livelihood to Wealth Creation in Farming Community

*M Gopalakrishnan, Secretary General, ICID in his concluding address took an overview of the key issues emerged from the various events including the 'Tehran Declaration'.*

"The goal enshrined in PIM objectives can be possible only when we consider both soft and hard options, which could differ in different settings. One aspect that may require further deliberations for achieving the overall objectives relates to making the farming more attractive. ICID in its last annual event held in Kuala Lumpur recognized the need to acknowledge that 'Agriculture is business' and reaffirmed its commitment to address agricultural water management, holistically. How do we couple it with pro-poor policies and take on board issues relating to poverty alleviation? Rural development as a tool to prevent the large scale urban migration which is likely to, in due course, impact agriculture".

"A widespread perception that unbearable burden of debt and an increased competition from imports are symptomatic of a crisis in the developing countries' agriculture. Import liberalisation with the ongoing WTO regime is gradually creeping in even in countries that tried to resist them initially. This is already causing a strong dampening effect on the prices of several crops, especially in such diversified crops that are advocated for enhancing farmers' income. The farm and the farming economics are no longer insulated. The growing economic and social disparities between agriculture and the rest of the economy and between rural and urban sectors may be a critical factor that would play a key role on what we

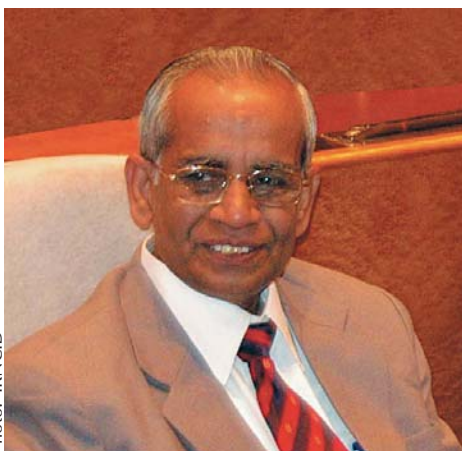


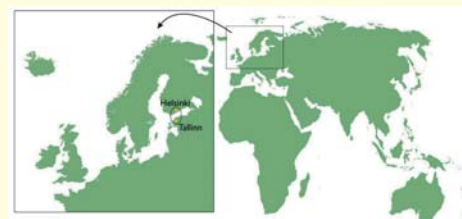
Photo: IRNCID

want to achieve through PIM efforts. That PIM is just one of the necessary conditions though not necessarily the sufficient condition".

"Agricultural credit and subsidy aspects did come up in the presentations or interventions on papers. Who can be other players apart from Governments and Donors who can be attracted to invest in agriculture sector? Perhaps food processing industries, and commercial banks enthusiasm to extend lending to them, could encourage down the chain, the formation of new cooperatives. The water users associations can take up in turn a new role to support this process. The goal being to shift the farming from livelihood support in rural poor settings in developing and least developed world to perhaps providing opportunities to 'wealth creation' even in farming communities?"

## Call for Papers – 10<sup>th</sup> International Drainage Workshop, 2008

National Committees of Finland (FINCID) and Estonia (ESTCID) have a great honour to invite all members of the ICID family to the **10<sup>th</sup> International Drainage Workshop in Helsinki and Tallinn from 6 to 11 July 2008.**



The main theme of the workshop is 'Agricultural Drainage and Environment'. The workshop will deliberate on five sub-themes viz., (i) Agricultural drainage and environment in different farming policies; (ii) Technical solutions to prevent leaching from agricultural drainage systems; (iii) Agricultural water management and decision support methods and technology; (iv) Drainage in the context of environmental river engineering, and (v) Extreme weather conditions and drainage. Authors who wish to give a presentation (oral or poster) should submit an abstract by e-mail: [fincid@fincid.fi](mailto:fincid@fincid.fi) before **1 July 2007**. Language of the workshop is English.

### Important deadlines

Notification of abstracts acceptance	<b>1 August 2007</b>
Submission of draft papers	<b>1 November 2007</b>
Review comments to authors	<b>1 January 2008</b>
Submission of final papers	<b>1 April 2008</b>

Online registration facility will be available from 1 September 2007.

For more information about the preliminary program, technical tours, registration, accommodation, transport etc. please visit: [www.fincid.fi/idw2008](http://www.fincid.fi/idw2008).

### Contacts:

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## Tehran Declaration on Participatory Irrigation Management

*The 4<sup>th</sup> ARC and the 10<sup>th</sup> INPIM Seminar provided an important forum to stakeholders for reporting and discussing issues, challenges and options for agricultural water management, specifically focusing on participatory approaches to irrigation management, sharing knowledge, experiences, lessons and promoting best practices and innovative ideas on PIM. Taking note of discussions, deliberations and recommendations of the stakeholders, the Tehran Declaration -*

❶ Reaffirms the critical importance of irrigation for enhancing productivity, employment, farm incomes and food security – promoting agricultural and economic growth and reducing poverty. It is recognized that the positive impacts of irrigation can be substantially increased through interventions that address issues related to inequities in land and water distribution, water allocation within and across sectors, maintenance and management of irrigation infrastructure, access to improved production technologies and agricultural support measures – with greater emphasis on pro-poor approach to such interventions.

❷ Recognizes that there are enormous challenges and complex set of issues facing irrigation sector – from basin level to watercourse and field levels – but so are the opportunities. The forum emphasizes the need for reengaging in the sector and calls for increased investments from both public and private sources not only for expanding irrigation, where needed, but also for reforming and modernizing existing irrigation systems – with focus on right kind of investments with sound institutions that deliver larger benefits to the poor.

❸ Recognizes that PIM is now a widely accepted approach and its implementation is a worldwide phenomenon; there is a general consensus on the need for further promoting, strengthening and expanding PIM reforms in irrigation sector across countries; and in many countries PIM is becoming a central component of irrigation/water policies.

❹ Highlights that PIM approach delivers a number of positive outcomes and impacts for stakeholders, including the following: (a) empowers farmers, (b) leads to better system maintenance and service, (c) reduces cost of irrigation to the government, (d) improves productivity and profitability of agriculture and water use, and (e) leads to innovations in irrigation management and agriculture in general. However, the magnitude of such outcomes and impacts and the degree of PIM reform success and sustainability have

varied across settings and have depended on a number of factors such as the clarity and strength of the institutional and legal framework, higher level political will and local level leadership, financial and technical resources, access to support services, incentive system, capacity building and training etc. Understanding these and other facilitating or constraining factors (institutional, financial, socio-economic, agricultural and hydrological) is important for further strengthening and expanding PIM reforms.

❺ Suggests that efforts being made in promoting PIM reforms should be continued and further strengthened, greater emphasis is needed on ensuring equity in sharing benefits of PIM reforms and sustainability of such benefits – under the pro-poor framework. The stakeholders call for broadening the framework of PIM from simple ‘transfer’ to an instrument of ‘restructuring’ the water sector for improving its performance, ensuring equitable water access and allowing transition to a sustainable and integrated management and use of water resources. It is suggested that the PIM approach can provide an important mechanism for tackling water resources management issues.

❻ Emphasizes the need for greater attention during post-intervention phase of PIM reforms, especially on the following areas:

- a. **Support Services** - long term support in consultation with farmers/ users while avoiding increasing dependency.
- b. **Monitoring and Evaluation** - multi-perspective and participatory approach with emphasis on a third party/ private sector based on a set of robust indicators.
- c. **Capacity Development** - substantial and prolonged capacity development at the level of policy environment, institutional strengthening and individual development.
- d. **System of Incentives** to promote performance and innovation.
- e. **Financial Strength** - resource mobilization and revenue generation capacity of WUAs.

❼ Points out that so far PIM reforms have focused on ‘downstream’ side of reforms, that is, on establishing and strengthening WUAs, and only little attention has been paid to ‘upstream side’, that is, on reforming public irrigation agencies. For success of PIM reforms, reforming public irrigation agency is as important as establishing WUAs. There is a need to clearly define new roles and responsibilities of the public irrigation agency, and its capacity needs to be developed to enable it to adapt to its new roles.

❽ Encourages action research on PIM reforms through pilot testing within a framework for learning and scaling up. Pilot experiments may be necessary to clarify modalities and generate support for innovation and for creating a common vision for developing a national strategy. Pilot activities for PIM should be continued even when PIM reforms are under full implementation, because they can tackle additional aspects of reforms requiring experimentation, especially for “second generation” issues, such as WUA federations, innovations in irrigation financing, charging and cost recovery, multi-functionality of WUAs, technology transfer through WUAs, asset management in transferred schemes, agency personnel changes, and development of private sector support services.

❾ Reiterates the importance of building capacity, promoting collaborations and partnerships across stakeholders at various levels; and promoting the exchange of information, knowledge, best practices and lessons learned on PIM reforms.

❿ Calls upon national governments, local, regional and international donors, development banks and partners to take facilitating role in promoting PIM reforms, help mobilize financial and technical resources from public and private sources, and provide required assistance to relevant organizations involved in promoting and strengthening PIM reforms.

## Visit to Modern Agriculture Farms of Qazvin Province, Iran

Participants during the one day (5 May) technical tour to Qazvin (Ghazvin) province of Iran visited the diversion, water distribution, regulation works of Qazvin Irrigation System, farms of Magsal Agriculture and Livestock Company, and Sharifabad Agro-industrial Company. A brief of the visit is given below.

### Qazvin (Ghazvin) Irrigation System

Qazvin Irrigation System (QIS) of Qazvin Province of Iran is located at 150 km from Tehran. The QIS covers a net area of 60,000 hectares and about 30,000 water users. The Qazvin Irrigation System Operation Company (QISOC) on behalf of the Ministry of Energy (MOE) is responsible for management, operation and maintenance of the Irrigation System.

The main source of water is Talghan Reservoir Dam (TRD) having storage capacity of 450 Mm<sup>3</sup>. The water is conveyed through a 94 km long main canal and further distributed through a concrete lined network of 94 km laterals and 749 km of tertiary and quaternary canals. The general cropping pattern of QIS consists of – garden crops and vineyard (4%), autumn wheat & barley (43%), forage corn, alfalfa, beet, summer crops (27%), rotation cultivation (22%), and canola (4%). There are 1220 deep wells functional within the Project Area. Also an artificial water recharge system has been planned for 425 hectares, of which 135 hectares have been covered. About 5% of the area is irrigated by pressurized methods (sprinkler and drip) and other by surface methods (furrows, basins, border strips).

Prior to the land reforms in 1963, the irrigation management was under the control of the landlords. Subsequently, it was taken over by the Government.



Participants at the main canal of the Qazvin Irrigation System

With the objective of reducing the Government expenditure, the Ministry of Energy has been promoting PIM and IMT since five years. Some 158 WUAs were established within the period 2002-2005. The WUAs have formed a Union, and the Unions further have been confederated into the Irrigation Unions Center (IUC). The IUC together with WUAs is responsible for supply, distribution of water besides maintenance of the system. Presently, these associations are facing some financial, legal, technical, managerial and proprietorship problems which are being looked into.

Creation of the IUC and WUAs have had many positive effects like employment generation among young professionals, lowering the time gap in water demand and supply, lesser cases of damaging equipment/structure, lower distribution costs and fewer problems in water distribution.

**Magsal Comany** is the first 'Agriculture and Livestock Public Joint Stock Company' (PJSC) of Qazvin province. The company has 1000 hectare land and has been in operation since 1973.

The agriculture division of the company has various types of sprinkler irrigation system (linear



(L to R): Mr Daneshjou, Head of Qazvin Water Resources Authority Co., HE S A Nasry, Governor of Qazvin Province, SG M Gopalakrishnan and President Peter Lee

move, center pivot, wheel move) and over 500 hectare are irrigated by these systems. The participants saw the linear move systems in operation. The farm manager told the visitors that earlier, about 12,000 m<sup>3</sup>/ha had been applied to the wheat crop by surface irrigation, but now on an average 7,000 m<sup>3</sup>/ha is applied. Thus, a saving of 5,000 m<sup>3</sup> of water per ha could be achieved due to the use of the linear move sprinkler system. The water is supplied from 7 wells having 350 liters per second discharge and also from the Qazvin valley main canal. The company has highly experienced specialists, and closely works with universities and research centers. The company is getting high crop yields: wheat - 7.3 tons/ha, corn (silage) - 68 tons/ha, canola - 4 tons/ha, dry alfalfa - 15 tons/ha, and sugarbeet 95 tons/ha. The livestock division runs a modern dairy farm with a herd of more than 3000 cattle. Over 1100 lactating cows are milked thrice a day, the average milk yield is 34 kg/cow/day with 3.6% butter fat.



Linear move sprinkler system in operation: Each system covers an area of 120 ha, the length of the lateral is 600 meters and has 10 spans. Normally, length to width ratio is 2:1. Design discharge=75 liters/sec, operating pressure at the sprinkler=2.5 kg/cm<sup>2</sup>, Irrigation interval=7 days, Gross depth of water application=80 mm/irrigation, Application efficiency=80%

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## Forthcoming ICID Events



### 22<sup>nd</sup> European Regional Conference, 2-6 September 2007, Pavia, Italy:

The Conference is organized by the Italian National Committee of ICID (ITAL-ICID) in cooperation with Agriculture General Direction, and Ministry of Agriculture and Forestry Policies, Italy. The Conference will address the theme "Water Resources Management, and Irrigation and

Drainage Systems Development in the European Environment".

During the Conference, two international workshops viz. "History of Irrigation, Drainage and Flood Control" on 2 September and "European Framework Directive in the Field of Water" on 4 September will be held. In addition, technical tours to Pavia-Novara-Vigevano and Pavia-Mantova have been planned.

There is an early bird registration discount before 02 June 2007. For information on programme, registration form, accommodation, and technical tours, please visit Website: <http://www.italicid.org/erc2007>. For additional information, please contact: Ms M Elisa Venezian Scarascia, General Secretary, ITAL-ICID, Via Sallustiana, 10 Rome Italy. Tel: +39 06 488 4728, E-mails: [erc2007@italicid.it](mailto:erc2007@italicid.it), [me.scarascia@politecheagricole.it](mailto:me.scarascia@politecheagricole.it).

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USCID

### 58<sup>th</sup> International Executive Council (IEC) Meeting and USCID's 4<sup>th</sup> International Conference on Irrigation and Drainage, Sacramento, California USA, 30 September to 5 October 2007:

The theme of the Conference is 'The Role of Irrigation and Drainage in a Sustainable Future' and explored through the three main topics viz. (1) Developing Sustainable Irrigation and Drainage Systems, (2) Using Technology to Improve Irrigation and Drainage Systems, and (3) Improving

the Interaction of Irrigation and Drainage Systems with the Wider Society.

The ICID workbody meetings will be held from 30 September to 2 October 2007, the 4<sup>th</sup> International Conference on Irrigation and Drainage is scheduled from 3 to 5 October 2007. Technical exhibitions will be organized on 3-4 October, the IEC meeting will be held on 5 October and technical study tour will begin on 6 October 2007. The list of accepted papers for oral and poster presentations has been posted on the USCID website, [www.icid2007.org](http://www.icid2007.org). The

papers will be presented in 15 concurrent technical sessions.

The detailed programme is now available online. The USCID will provide a pdf version of the programme, registration form and other information, upon request. For details, please contact Mr. Larry D. Stephens, Vice President, US Committee on Irrigation and Drainage (USCID), 1616 17<sup>th</sup> Street, #483, Denver, CO 80202 USA. Tel: 303 628 5430, Fax: 303 628 5431 E-mail: [stephens@uscid.org](mailto:stephens@uscid.org), or visit website: <http://www.uscid.org>, for more information.



### 2<sup>nd</sup> African Regional Conference, 6-9 November 2007, Johannesburg, South Africa:

The Conference is organized by the South African National Committee (SANCID) together with the Southern African Regional Irrigation Association (SARIA), the Department of Agriculture and the Water Research Commission.

The Conference theme is "Contribution of rainfed and irrigated agriculture to poverty alleviation through increased productivity in Africa" and will be explored through sub-themes which focus on: natural, social, human, physical, and financial capital. The conference aims to attract a multi-disciplinary group of professionals involved with agricultural water management to create new challenges and opportunities for investment in people,

agriculture and rural areas of Africa in 21<sup>st</sup> century. For details regarding the programme, registration, accommodation etc. please contact: Monica Chipeta, Global Conferences Africa, E-mail: [monica@globalconf.co.za](mailto:monica@globalconf.co.za) or Dr Gerhard R Backeberg, Chairman, South African National Committee on Irrigation and Drainage (SANCID). Tel: +27 12 330 9043 (Direct), E-mail: [gerhardb@wrc.org.za](mailto:gerhardb@wrc.org.za) or visit <http://www.sancid.org.za>.

### Call for Papers – 20<sup>th</sup> International Congress on Irrigation and Drainage:



LAHORE 2008

The 20<sup>th</sup> Congress of ICID will be held in Lahore, Pakistan from 13 to 19 October 2008. The theme of the Congress is 'Participatory Integrated Water Resources

Management-From Concepts to Actions'. The topics for the two Questions, Special Session, Symposium and Seminar along with other relevant information are available at ICID website: [www.icid.org](http://www.icid.org).

Please note the following deadlines:

- ☞ National Committees to intimate name(s) of author(s) of paper to the Central Office: **01 August 2007**;
- ☞ Submission of comprehensive "summary and conclusions" of about 500-600 words: **01 September 2007**;
- ☞ Intimation of acceptance of "summary and conclusions": **15 December 2007**;
- ☞ Receipt of full text of accepted papers: **01 March 2008**.

For details, please contact the Conference Secretariat: 506 WAPDA House, Lahore, Pakistan. Tel: +92 42 9202538, Fax: +92 42 9202154, E-mail: [icid@icid2008.org](mailto:icid@icid2008.org), or Mr Syed Raghieb Abbas Shah, Secretary General, Organizing Committee, E-mail: [gmcmw@wapda.gov.pk](mailto:gmcmw@wapda.gov.pk), and/or the Secretary, ICID, E-mail: [icid@icid.org](mailto:icid@icid.org).

The Congress website: <http://www.icid2008.org> has been launched and is being updated from time-to-time.

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