ICID Newsletter
2006/2

Message from the President

The 4th World Water Forum, Mexico City

I was very pleased to see many ICID regulars at 4th World Water Forum (4WWF). There were so many participants that it was only by good fortune that one met anybody, and then probably only once. My congratulations to the Mexican organisers in looking after us so well.

There was widespread concern that domestic water supply and hydropower are more and more dominating the forum, and that water for food is not being the attention that we believe it deserves. This is one inference to be drawn from ICID’s failure to be re-elected to the Board of Governors of the World Water Council, prompting the letter to the WWC President that has been reproduced in the April 2006 News Update.

Salah Darghouth expressed his concerns in an e-mail after the forum that has been seen by many, and this has received a number of responses. In one of these, President Honoraire Bart Schultz made the point that the main challenges to food security will be in the least developed countries where there is the least amount of water management, but the greatest potential growth in demand for food. If water for food is slipping off the agenda, then that is largely a developed country viewpoint.

Alto Rio Lermo Irrigation District 11, Mexico

One of the highlights of Mexico for me was the visit arranged by MXCID President Luis Rendón and Jaime Collado to Irrigation District No 11 in the Lerma-Chapala basin, three hours north of Mexico City. Vice President Honoraire Mohamed Hassan Amer and I were taken to the headquarters of this 116,000 ha district, which under the 1992 National Water Law has been handed over to the responsibility of the users, with the assets remaining in State ownership. The district has about 25,000 users in 11 water user associations and we visited one of the best organised of them, Modulo Valle de Santiago.

The modulo has been amazingly successful, having received the system in poor condition, and rehabilitated and improved this with government grants, to build it into a US$ 60 m pa business. The organisation employs 80 staff and provides the users with services ranging from certified seed and fertilisers to warehousing and marketing of the produce. It also provides farmers with crop insurance (against frost and flood damage). The production is mainly autumn-spring barley and summer sorghum, switching into wheat and maize respectively, if water is more plentiful. The most heartening thing about this operation, apart from the farmer’s pride in what they had achieved, was that water application charges had been increased far to 300 pesos per hectare and everyone seemed happy! It was said that the big challenge had been the first rise to over 10 pesos per hectare before the new service levels had been proven.

All the talk at 4thWWF was how privatisation had failed, but here was a tangible example of not only how could it work, but also generate livelihoods and community self-sufficiency.

Yes, it was really heartening.

Peter Lee,
President, ICID
ICID PARTICIPATION IN THE 4th WORLD WATER FORUM

The World Water Forum, an initiative of the World Water Council (WWC) based in France, is organized every three years in collaboration with the host country. The Forum seeks to enable multi-stakeholder participation and dialogue to influence water policy-making at a local, regional, national and global level, thus ensuring better living and respect for the principles of sustainable development to achieve the Millennium Development Goals (MDG).

The fourth World Water Forum (4th WWF) was held from 16-22 March 2006 in Mexico City, Mexico. The event was attended by 19,800 people from 149 countries representing governments, UN agencies, inter-governmental and non-governmental organizations, academia, industry, civil society organizations, indigenous groups, youth and the media to examine and discuss various issues and challenges of water faced by world community. Over 1300 journalists from around the world participated in the Forum. A Water Fair and World Water Expo were organized during the Forum. The overarching theme of the forum was “Local Actions for a Global Challenge” with the five Framework Themes viz. (1) Water for growth and development, (2) Integrated water resources management (IWRM), (3) Water supply and sanitation for all, (4) Water management for food and the environment, and (5) Risk management. More than 1600 ‘Local Actions’ were compiled, of which 552 were presented during the 206 thematic sessions by 320 organizations from 51 countries.

In ICID’s 56th International Executive Council (IEC) meeting held at Beijing in September 2005, it was agreed to contribute to 4th WWF through National Committees and Workbodies. A Task Force with the Chairmanship of Pres. Hon. Aly Shady was formed to guide ICID’s input to 4th WWF. ICID was associated with the following nine Framework Theme (FT) Sessions:

- Managing Drought and Scarcity (FT 1.16),
- Water Infrastructures for Sustainable and Equitable Development (FT 1.34),
- IWRM as a Basis for Social and Economic Development in Central Asia (FT 2.13),
- Drain for Gain – Agricultural Drainage for Sustainable Development (FT 4.03),
- Sustainable Paddy Water Use and Multi-functionality (FT 4.15),
- Capacity Development Strategies and Social Learning among Stakeholders for a Sustainable Irrigation and Drainage Sector (FT 4.20),
- Adequation of Water Users’ Rights and Productive Reconversion of Irrigation Districts (FT 4.21),
- Multiple Use Water Services (FT 4.25), and
- Managing Drought Risks – Role of Improved Preparedness and Management (FT 5.11).

From the ICID family, Peter S Lee, President; Presidents Hon. Aly Shady and Dr. Keizrul bin Abdullah; Vice Presidents Prof. Victor Dukhovny, Dr. Hussein El-Atfy, and R. Jeyaseelan; Vice-Presidents Hon. Dr. Chandra Madramootoo, Dr. S. Taniyama, Dr. M.H. Amer, and Dr. Saeed Nairizi; and M. Gopalakrishnan, Secretary General, participated in various forum sessions. President Peter Lee was panelist on FT sessions 1.16, 1.34 and 4.25. Similarly, VP Dukhovny in FT 2.13, Pres. Hon. Keizrul in FT 4.15, Pres. Hon. Aly Shady in FT 1.34 and Secretary General M. Gopalakrishnan in FT 2.13.

Excerpts of the outcomes and key recommendations that emerged from these sessions are given in the following pages. Various regional and thematic reports, daily bulletins, presentations at various sessions, ministerial declaration etc. can be viewed on forum website <www.worldwaterforum4.org.mx>.
Reflections on Water for Food and Rural Development

Aly M. Shady, Pres Hon ICID, has raised substantive issues related to food production for the poor, environmental sustainability and Official Development Support (ODA) for the poor and the impact of globalization in the discourse about the future. He criticized that globalization filled all the space and time available at the Forum leaving no room for the real stakeholders and their down-to-earth concerns and everyday main issues from being presented or heard. There was a marked absence of these stakeholders and they had no voice at the Forum.

Who are these silent stakeholders?

At the bottom of the scale, there are 900 million persons living in abject poverty that sleep hungry every night due to lack of food, and with no access to clean drinking water and sanitation. They are joined by 300 million more without access to drinking water and sanitation and 1200 million more with no sanitation. Altogether they are joined by 800 million living on less than $2 per day. They represent more than 3 billion (half the world’s population) living in poverty. None of them came to the Forum, none could afford the trip, they were not able to speak and no one invited them to. Their issues and concerns are simple: break away from the perpetual yoke of poverty, secure food and access to clean water and adequate sanitation for them now, to better health and education for their children. They need the tools to do so and they are willing to finish the job if given the right tools.

The Millennium Development Goals (MDG), designed to tackle some of these challenges are receiving faltering support, and even if fully implemented they will leave a large segment of the world’s population facing the same problems.

Who else was absent?

These are the large corporations actively involved in the food chains of the world: the agriculture input industry including Syngenta, Bayer, BASF, Monsanto and DuPont (sales of the top 10 total $37 billion); food processors and traders including Nestle, Cargill, Unilever, Archer Daniels, Midland (ADM) and Kraft Foods (sales of the top 10 total $363 billion); and food retailers including Wal-Mart, Carrefour, Royal Ahold, Metro AG and Tesco (sales of the top 10 total $777 billion).

Equally silent and somewhat absent from the debates are the governments of developed economies, whose interventions in subsidizing their national agriculture sectors are causing great distortion and not helping any of the billions of poor at the bottom of the scale. They may be helping the rich to get richer, with the agriculture subsidies reaching $300 billion per year at present. The major actors are the European Union (EU), which through its Common Agriculture Policy (CAP) spends half of the EU budget of the EU on subsidies to European farmers, reaching $100 billion in 2002. And the USA through its USDA subsidies to American farmers reaching $40 billion in 2002, and still rising. In the United States alone the top 10% of recipients of the subsidies amount to 313,000 farms receiving more than $104 billion in 1995-2004, accounting for 72% of the total subsidies during this period.

In all OECD countries, this type of support is estimated to represent 31% of total farm receipts: 18% in the USA, 36% in the EU, 70% in Japan and 75% in Switzerland. As a result it has been noted that a cow in Europe receives more than $2 per day in EU support through CAP. This is more than 3 billion people earn in income for their living in the developing world. Pork-barrel politics are well and alive and part of the business as usual scenario (BAUS). Under the BAUS, the rich will get richer and the poor 3 billions will receive no relief now or in the near future. No commitments were made at the Forum to meet the needs of these billions; no commitments were made to fill the food gap, the water gap or address environmental sustainability. By comparison, in 2004 the total ODA of all OECD countries reached only $79 billion, while military expenditure of the same countries exceeded $750 billion.

It is natural that the weak has no voice. The strong and powerful had no voice either. This sounds like a kind of paradox.

Overtuing the BAUS calls for bold action by the rich nations to extend generosity, good-will and leadership to removing the human hardship and miseries faced by billions, by offering assistance in financing and technology for agriculture and water development matching the level of agricultural subsidies in their home countries. This will eradicate poverty, make clean water accessible for every one and make hunger and starvation a history of the past. The world water community has to learn the lessons and bring the world to deal with the vital issues of the core stakeholders with clarity, diligence and a sense of priority.
Role of Water Infrastructure in the Sustainable and Equitable Development

The session was jointly convened by International Water Resources Association (IWRA), International Commission on Irrigation and Drainage (ICID), International Hydropower Association (IHA), International Commission on Large Dams (ICOLD), and International Association for Hydraulic Research (IAHR). The session addressed the key issues of meeting the MDG’s of fighting poverty, hunger and assuring human health and safe environment by securing services for irrigation, drainage, clean drinking water and sanitation, clean and renewable hydro-electricity, protection from flood and drought and fostering efficient water transportation. Representatives of major scientific societies outlined the role of science and state-of-the-art in their respective fields in support of sustainable and equitable development.

Representatives from China, Egypt, Turkmenistan, Uganda, and Uzbekistan presented actual policies and practices from their respective countries. The recommendations stressed the importance of creating stable and robust financing system in support of developing countries, strengthening the capacity of national and local institutions, sustained political will, the need for innovative mechanisms for technology transfer, modernization of management and financing, promotion of universality of access to food, clean water, sanitation and electricity for all.

Session was chaired by Mr. John Pigram (Australia). The basic paper was presented by Dr. Chandra Madramootoo, Vice President Hon., ICID (Canada) identifying the role of water infrastructure for the sustainable and equitable development. Among others, President Lee, emphasized the important role played by storages for sustainable development. He highlighted the triple role of storages - blue, green and virtual water. Mr. Aly Shady, President, IWRA, and Pres. Hon. ICID focused on infrastructure development in past and challenges ahead. Prof. Victor Dukhovny, Vice President, ICID (Uzbekistan) discussed sustainable irrigation and drainage management issues of transitional economies of Central Asia.

Benefits of Water Infrastructure
The last century witnessed the largest water infrastructure development in the history of humanity. At the dawn of the 21st Century, this infrastructure provided great benefits for humanity, manifested in the following, among others:

1. Irrigation of more than 270 million ha representing 17% of all cultivated lands producing 40% of all agricultural output, and provides livelihood for more than 3 billion people, predominantly the rural poor.
2. Drainage works on 80 million ha of arable lands to restore these lands to productive cultivation.
3. Generation of 2650 TWh of hydropower every year (19% of all electrical energy) which is clean and renewable.
4. Protection of billions from the ravages of floods in river valleys and storm surges from the seas.
5. Provision of secure water supplies for mining and industrial development around the world.

It was realized that in respect of some, unexpected and negative consequences also surfaced. Through careful preparation and study, our scientists and engineers are now able to minimize the impact of new infrastructure development on the environment, and monitor the performance of existing water infrastructure so that future consequences are positive.

Key Recommendations
- Need for a more institutional capacity building system to provide the short, medium and long term needs of technology transfer and information dissemination for river basin and regional scale projects exists.
- Political commitment from governments to fund, develop and maintain water infrastructure for the benefits of all inhabitants irrespective of income, location and ethnic origin is required.
- Development of the organizational and management capacity of local organizations in the private sector, NGO and civil society organizations to undertake planning, management, operation and maintenance of water infrastructure are of importance.
- A strong database on the social, economic and environmental benefits of water projects is required to be built in.
- The pricing arrangements for energy and agricultural commodities be assessed, in light of the prices being paid to farmers and the costs of irrigation projects.
- International donor community should work more proactively with governments to implement large scale water infrastructure projects.
- Investments in irrigation and drainage infrastructure supports not only food production but also for energy generation and flood control.

(For further information please contact: Mr. Aly M. Shady, Pres. Hon. ICID and President, IWRA, Email: ALY_SHADY@acdi-cida.gc.ca)
Managing Drought Risks: Role of Improved Preparedness and Management

The session was jointly convened by World Meteorological Organization (WMO); National Drought Mitigation Center, University of Nebraska; United States Department of Agriculture (USDA); Regional Center of Meteorological Applications for Development (AGRHYMET), Niamey, Niger, and Working Group on Irrigated Agriculture under Drought and Water Scarcity (WG-IADWS) of ICID. Two Local actions presented were - (1) Development of Scientific Research about Meteorological and Climate Phenomenon that affect the North-East Region of Mexico, and (2) Sustainable Use of Water Resources - Role of Environmental Education and Gender Roles. Dr. Saeed Nairizi, Chairman, WG-IADWS, was one of the Panelists.

Worldwide, drought has been responsible for thousands of deaths and has cost hundreds of billions of dollars in damage. Because of its slow-onset characteristic and lack of structural impact, the concept of drought management is emerging only slowly. Drought risk management as an important component in disaster reduction programs is in its early stage of development. Drought is often considered to be a rare and random event, which to some extent explains the lack of national drought policies and management plans. Most countries have pursued drought management through a reactive, crisis management approach rather than a proactive, risk management approach that emphasizes drought preparedness and mitigation.

Shifting the paradigm to drought risk management will require improvements in seasonal forecasts, more comprehensive and integrated climate assessments, the development of better decision support tools, improved delivery systems to provide information to decision makers in a more timely fashion, better drought impact assessment methodologies, and the development of vulnerability profiles to better understand who and what is at risk, and why. With these tools in hand, greater progress can be made to lessen societal vulnerability to drought.

The session focused on risk-based management of droughts and how better preparedness and management strategies could help cope with drought risks. Drought impacts are often exacerbated by poverty, which in turn forces people to adopt destructive measures to ensure survival. Once such practice is in place it often does not reverse. Emergency drought relief, without empowerment through capacity building, often results in dependency on outside help. The dependency syndrome is then established and this discourages communities to help themselves.

Drought impacts are often exacerbated by poverty

The key lessons learned and messages were:

- Close involvement of local communities in the development and implementation of programs is an essential feature in preparedness and management of droughts.
- There is a need to increase research and education and information sharing on the application of preparedness and management strategies to droughts to lessen the impact of droughts in different sectors, including agriculture.
- There should be increased involvement and personal responsibility at the community and sector level, based on knowledge of the drought hazard, recognition of its likely occurrence, and knowledge of appropriate strategies for lessening the risk.
- Increased incidence of drought is of worldwide concern and the new technology (e.g. remote sensing, GIS), research, education and mitigation activities along with application of traditional techniques should be developed and applied.
- An effective risk management approach would include a timely and user-oriented early warning system with rapid dissemination of information to users.

- With the development of water resources in arid and semi-arid regions, the irrigated lands are more exposed to droughts which may be growing frequently. Governments therefore, should introduce structural and non-structural policies, in parallel with their development plans, to be able to cope with the increasing risks of drought.
- Countries should develop policies aimed at effective drought management. Such policies should emphasize preparedness and incentives over insurance, insurance over relief, and relief over regulation.
- The bottom-up approach can complement the top-down approach and lead to a much more powerful mode of development. Local communities would become key players in the development process.

Current methods of drought management are largely crisis driven. There is an urgent need for a more risk-based management approach to drought planning at national and regional levels.

- Managing drought risks requires a holistic approach and should involve all the important actors starting with the local communities, and moving upwards to all ministries and agencies involved with drought management. The role of women in drought risk management at the village level needs greater attention.

(For more information please contact Dr. M.V.K. Sivakumar, Chief, Agricultural Meteorology Division, WMO, Geneva. msivakumar@wmo.int)
ICID Newsletter

IWRM as a Basis for Social and Economic Development in Central Asia

The session was convened by Prof. Victor Dukhovny, Vice President ICID, Director of Interstate Coordinator Water Commission of Central Asia (ICWC); and Dr. Vadim Sokolov, Chairman, GWP-CACENA. Two Local actions were presented during the session viz., (1) Testing of Practical Ways to Implement the IWRM Concept in Central Asia within Pilot Projects and (2) Multi Stakeholder Dialogue on Ways for Future Water Resources Development in Central Asia.

Mr. M. Gopalakrishnan, Secretary General in his welcome address informed the participants about ICID-IPTRID initiative on Aral Sea Basin and stressed on the need for continued action on IWRM for socio-economic development in Central Asia. There were eleven keynote speakers who covered various issues of IWRM in Central Asia.

In almost all countries of Central Asia the concept of IWRM is officially recognized as a basis of state policy of water sector development. The strengths, weaknesses and peculiarities of the Central Asian region in relation to the IWRM implementation were emphasized. The economic state of Central Asian countries in general and in the water sector in particular is complicated and determined by collapse of the previous management system, change in the water use structure and character, market relations among suppliers and consumers as well as globalization processes.

It was observed that though IWRM principles gain popularity among specialists, water users and stakeholders, its implementation is still a difficult job. For practical implementation of IWRM, there is a need for financial and political support, public participation, and capacity development besides technical measures. Real IWRM implementation can be achieved if there is proper transition from:

- Administrative to hydro-geographic boundaries (within basin or system);
- Sectoral to inter-sector governance (inter-departmental coordination);
- Authoritarian (top-down) to more democratic (both bottom-up and top-down) approach;
- Administrative to corporative system with participation of all water users and other stakeholders at all levels;
- Resource management to demand management;
- Closed to open and transparent information system.

Multiple Use Water Services

One of the best things about the World Water Forum is the opportunity for the different parts of the water sector to come together and exchange viewpoints. I think it is a shame if we go to these events and mix only with our own people.

One of the things that I enjoyed most at 4th WWF was the opportunity to participate as a panelist in the IWMI-organised session on Multiple Use Water Services (FT 4.25 on 20 March). Although this was the “water for food” day, this particular session was about generally adding value to domestic water supply and improving livelihoods in a village or peri-urban setting. There were some fascinating case studies (or “local actions”) from Asia and Latin America that showed how multiple uses were often started by the users themselves, often meeting resistance from those planning and operating the systems.

I think irrigation operators have always accepted that water will have multiple uses, and indeed, the survey ICID conducted a few years ago on financing irrigation and drainage found that 20% of irrigation organisations supply water for other uses, and get paid to do so! How many more supply water without being paid, and indeed how many drainage schemes serve purposes beyond farm drainage without levying a charge? The total service-provision is unknown, but multiple uses are accepted as an intrinsic benefit of what we do. Even channel footpaths and roads have an important multiple purpose in improving farm access to markets, the critical factor determining prosperity in the case study from Nepal.

I believe ICID’s participation in this session did a lot of good to highlight that irrigation and drainage nearly always has multiple uses, all the more so as we accept the involvement of the users themselves in running and modernising systems (as in the Mexican case cited on page 1). Of course there are concerns, somewhat legitimate, that all this can lead to inappropriate uses of resources. But the focus on livelihoods, which very often drives users to seek multiple uses for water, allows us to move more firmly away from a preoccupation with rationing to a value-added approach. As Roberto Lenton put it, “only as professionals do we see the barriers”.

(For more information please contact Prof. Victor A. Dukhovny, dukh@icwc-aral.uz, or Dr. Sokolov Vadim, vadim@icwc-aral.uz. The presentations made by various speakers during the session are available in pdf at www.worldwaterforum4.org.mx/home/documentos.asp under FT2.13)
Irrigation practices in arid and semi-arid regions are often associated with rising water table and salt accumulation in the root zone. Globally, about one third of the irrigated 270 million hectares, producing 40% of the world’s food, are affected by waterlogging and salinity. It is estimated that about 30 millions hectares are severely affected and have become unproductive. Irrigation induced salinity is a global threat to agricultural productivity and a cause of land degradation in arid and semi-arid regions. The world loses about 0.5-1.0 million ha of productive land annually due to salinization. Agricultural drainage is practiced as a means of control and defence against waterlogging and salinization. In recent years, reuse of drainage water in irrigation is increasing and augmenting scarce resources and reducing environmental problems in the downstream reaches of river basins. Agricultural drainage has proved to be extremely useful in controlling waterlogging and salinity and enhancing crop productivity.

In Australia, Egypt, and Mexico, where drainage and drainage water reuse are practiced in different physical, social and economical contexts, provided many useful lessons as follows:

- Implementing land drainage for sustainable development requires a vision and long-term commitment at the policy and decision making levels. Government’s support could include soft loans recovered over an extended period of time and subsidies for improvement of irrigation practices, installation of surface and subsurface drainage and education and training programs for irrigators.

- Drainage and drainage water reuse should be planned and managed from an integrated perspective to achieve an optimal mix of economic and social benefits while safeguarding key ecological functions.

- An institutional setup with a first order mandate towards drainage and addressing its multifunctional aspects with the involvement of all stakeholders in planning and management is a key to achieve the goals of integrated resource management.

- Continuous capacity building and training of government and contractor’s staff as well as relevant water users on the different functions of drainage is necessary to cope with the developments in technology and management. A local industry for producing drainage materials and capacity to implement and maintain drainage systems is required. The private sector could be instrumental in taking this role.

- The financial sustainability of drainage projects requires an affordable and easy to implement cost recovery system.

- Reuse of drainage water can close the gap between escalating water demand and available water resources for irrigated agriculture. It also helps reducing contamination of the lower reaches of rivers. Applied and adaptive research provide strong base for drainage development and drainage water reuse on technically effective and economically sound basis.

- Governments and developing agencies should give attention to investments in land drainage. A long-term commitment to the development and maintenance of drainage scheme should be among the priorities.

**National Drainage Program, Egypt**

The construction of the Aswan High Dam (AHD) on the Nile River enabled perennial irrigation in the Nile Delta and Valley. This led to a potential risk of water logging and salinity. The Govt. of Egypt in 1970, launched a program to provide all the irrigated lands with drainage infrastructure. This enhanced crop productivity and increased crop yields significantly. Implementation of such a large scale program imposed huge financial, institutional and technical challenges. Institutional capacity has been developed at the national and local level to operate and maintain a complex on-farm and main drainage infrastructure. Presently, about 2.1 million hectares have been provided with subsurface drainage. Provision of drainage has improved health conditions, sanitation, and safety of buildings. However, the impacts of drainage on environment were mixed. The historical development of drainage in Egypt provides many lessons that can be shared with the global community.

(For further information please contact Dr. Safwat Abdel-Dayem, safwat_eid@hotmail.com)
Sustainable Paddy Water Use and its Multifunctionality with Better Governance

The session conveners were International Network for Water and Eco-system in Paddy Fields (INWEPF), Japan, and Asian Regional Working Group (ASRWG) of ICID. Two local actions were presented – (i) International Network for Water and Ecosystem in Paddy Fields, and (ii) Enhancing Diversities and Multifunctionality through Better Water Management and Eco-Agriculture. The session started with opening remarks by the Chair, ICID Pres. Hon. Keizuru, followed by presentations on local actions by ICID and INWEPF groups. Dr. Hatcho, Coordinator of the ASRWG’s Work Team (WT) on Multiple Roles and Diversity of Irrigation Water, Dr. Molden (IWMI), and Mr. Nakajo (INWEPF, Japan) were the Keynote Speakers.

In the Asian monsoon region, where more than half of the world’s population lives, rice is the most important staple crop. The paddy based water management system provides multiple benefits and it depends on agricultural water infrastructure and integrated water management systems, some of which have been developed through long-term traditional wisdom and experiences of local communities and their participation since the early periods of human history. Water for rice in paddy systems is not only vital for food production, but also provides a broad range of services related to society, culture and the ecosystem (e.g. fish cultivation, flood control, ground water recharge, biodiversity conservation, culture heritage, etc.). Thus paddy-systems can be defined as wetlands having good potential for maintaining both human cultures and natural ecosystems in a sustainable manner. In humid regions, water in the paddy fields is considered a public asset, besides that of producing agricultural products. It is important to evaluate appropriately these multifunctional roles inherent in paddy field waters.

Dr. Hatcho, presented the background to the theme and actual practices of supporting multifunctionality, including agro-environmental farming practices, landscape conservation, environmental education, and multiple uses of irrigation facilities. He introduced the concept of “virtual environmental” in formulating future trade policy.

Dr. Molden (IWMI) made a presentation on managing paddy fields for ecosystem services. He stressed the need to design, construct, and manage irrigation system to support a diversity of ecosystem services and thus enhance the productivity of water, and make the concept an integral part of accepted design and operation procedure for irrigation. After the presentations, panelists discussed the issues related to sustainable paddy water use and presented the experiences of their countries/organizations on these issues.

The key recommendations of the session were:
- The multiple use roles, values and services in paddy farming regions should be recognized, evaluated and incorporated into water resources development plans and management strategies.
- The traditional wisdom and experiences of local communities and the value of their participation in water planning and management should be fully acknowledged, and
- Governmental assistance is important and often necessary for adequate investment, modernization and management of rice water systems, in order to achieve food security, to alleviate poverty and to conserve ecosystems.

Follow up actions required were identified as: awareness-raising of stakeholders on the multifunctionality, networking and participation mechanism for stakeholders in management and other social functions, and investigating the viability of eco-oriented farming and a possible support mechanism relating to institutional, policy, and trade matters.

(For more information please contact: Shirou Watanabe, inwepf@nm.maff.go.jp or Prof. N. Hatcho, hatcho_n@yahoo.co.jp)

What is INWEPF?
International Network for Water and Ecosystem in Paddy Fields (INWEPF), with Secretariat in Tokyo, was established in 2004 as a follow up of the Ministerial Recommendation of the 3rd World Water Forum held in Japan in 2003. The INWEPF aims to realize three challenges viz., “Food security and poverty alleviation”, “Sustainable water use”, and “Partnership”. These challenges are to be achieved by promoting dialogue, exchanging knowledge and experiences, creating synergy among existing forums and strengthening capacity building in agricultural water management in paddy fields with due consideration for environmental aspects. The INWEPF organizes virtual meetings, workshops, symposia, and other knowledge exchange and capacity building activities. Membership of INWEPF covers 15 countries viz. Bangladesh, Cambodia, China, Egypt, Indonesia, Japan, Republic of Korea, Lao PDR, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Vietnam and 10 International Organizations including ICID.
(For more information, please visit the website <http://www.maff.go.jp/inwepf/index.htm>)
The key lessons learned and message from the session were:

- Enhancing knowledge and capacity development remains one of the most critical challenges in water resource management.
- Capacity development actions in the water sector need to be scaled up. Policy actions are required to replicate the developed tools and methods into common practice.
- Continued operation and implementation of proposed strategies and follow-up are required. Resources are required to support the effective transfer of capacity and the expertise required for sustained performance of resource systems, to communities or government agencies at local level.
- Capacity development activities need to provide clear “incentives” that would motivate stakeholders to participate.

Capacity development activities need to be holistic, integrated, and bottom-up rather than top-down. They should encompass technical, social-economic and institutional issues.
- It is necessary to establish broad partnerships among stakeholders to reach out and involve as many people as possible in the capacity development process. The process should be repetitive, iterative, and monitored continually to provide feedback for future planning.
- Capacity development activities should not be a “free good”. There should be some investments from participants as well.

Revitalization of Smallholder Irrigated Agriculture in Limpopo Province, South Africa

Limpopo Province is one of the driest and poorest provinces in South Africa, with 70 percent of the population living below the poverty line. The province also has the lowest human development index of 0.43 compared to the national average of 0.69. The unemployment rate is estimated at 46 percent. The previous (apartheid) government established 171 smallholder irrigation schemes in the province with the objective of improving the livelihood of smallholder farmers and their families. The value of assets in the irrigation schemes is estimated at US$ 571 million. These schemes were administered in a top-down manner with emphasis on food self-sufficiency. However, most of these irrigation schemes are not performing optimally. As a result, the original objective of generating employment and reducing rural poverty through the establishment of these schemes has not been achieved in many instances.

Through a Water Research Commission (WRC) research project, guidelines developed were tested as a means of increasing the accessibility of meaningful training and capacity building where small-scale irrigation forms part of integrated sustainable rural development initiatives.

(For more information, please contact Dr. Krishna Prasad, UNESCO-IHE, k.prasad@unesco-ihe.org)
Water Users Role in the Productive Conversion of Irrigation Districts

The session “Adequation of Water Users Right and Productive Reconversion of Irrigation Districts” was convened by Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación, and Mexican National Committee on Irrigation and Drainage (MXCID). Local Actions from Mexico, Brazil and China were presented in the session. A brief summary of these local actions is given below:

- In the Irrigation District 001, Pabellón, State of Aguascalientes, México, it was possible to reduce irrigation water demand through modernization of the infrastructure of the District and shifting over to crops having lower water demand and higher value of production per unit of cultivated area and water consumed. This made possible diversion of the saved water to other uses, and the stabilization of the aquifer without affecting the agriculture.

- Automation of irrigation systems in the State of Sonora, Mexico has facilitated a more efficient use of water—mainly in those zones where predominantly groundwater is used for irrigation. This together with a program of the Ministry of Agriculture to get the rights of water from users to reduce the surface irrigated area is expected to contribute to the stabilization of withdrawals from aquifers.

- The objective of implementing a ‘Plan of Rational Use of Water’ in the Jaguaribe and Banabuiú river basins of Brazil was to improve the management of water resources and to increase the water use efficiency in the agriculture. The balance between the supply and the demand of water in the river basins could be achieved by reduction in cropped areas, which in turn was possible due to the provision of incentives to grow less water consuming and higher water productivity crops. Farmers were trained in water measurement and in on-farm irrigation techniques.

- In Gansu province of China, an irrigation water saving project comprises use of pipes for water conveyance, drip and sprinkler irrigation systems and establishment of grass-root ‘Irrigation Associations’ and their capacity building. The impacts of the project are the prevention of desertification and soil erosion, significant savings in irrigation water leading to an increase in farmer’s income.

The panel of experts proposed the following recommendations:

- Water measurement should be an integral part of water management.
- Promote technification of irrigation systems to increase water use efficiency.
- Suitable schemes of financing should be launched to encourage adoption of irrigation technology by farmers.
- Shifting over to cultivation of less water consuming and high value crops.
- Adequation of water users rights for stabilization of aquifers.
- Promote the participation of the users at all levels, and
- Update the water concessions and assured rights.

(For further information please contact Mr. Benjamin de Leon Majarro, Secretary, MXCID, crm@mxcid.org; or bleon@tlaloc.imta.mx)

SOME OF THE KEY DOCUMENTS RELEASED DURING THE 4th WWF

- Regional Documents: Americas, Africa, Asia-Pacific, Europe, and Middle East and North Africa
- Thematic Baseline Documents on the 5 Themes and 5 cross-cutting Perspectives.
  (The above reports are available in the pdf format and can be downloaded at www.worldwaterforum4.org.mx/home/tools.asp)
- Proceedings of the International Workshop on Multiple Roles and Diversity of Irrigation Water – by Asian Regional Working Group of ICID (Contact : Dr. Shigetaka Taniyama, E-mail : tani@mbp.sphere.ne.jp)
- The Right to Water, Essential Element for Human Dignity and The Report on Financing Water - by the World Water Council (WWC)
- The Right to Water, from Concept to Implementation – by the Green Cross International
Forthcoming ICID Events

ICID@MALAYSIA, 2006

57th International Executive Council (IEC) meetings, 3rd Asian Regional Conference (ARC), 7th International Micro-Irrigation Congress (7 IMIC), 10-15 September 2006, Kuala Lumpur, Malaysia. Preparations for these high profile international events are in full swing by Malaysian National Committee (MANCID) under the leadership of YBhg Datuk Ir. Hj. Keizrul bin Abdullah, President, MANCID and President Hon., ICID. It is expected that there will be participation from more than 50 countries.

3rd Asian Regional Conference (3rd ARC): The theme of the 3rd ARC is “Transforming Irrigated Agriculture into an Efficient Engine of Growth”. More than 55 papers covering fundamental areas such as policies, management, economics and R&D from experts and researchers from countries across the world have been accepted.

7th International Micro-Irrigation Congress (7 IMIC): The theme of the 7 IMIC is “Advances in Micro Irrigation for Optimum Crop Production and Resource Conservation”. The Congress focuses on creating a strategic global platform for networking and the exchange of ideas on micro irrigation technologies and issues, and is expected to bring together researchers, policy makers and R&D experts from all over the world. Fifty four papers dealing with the R&D, fertigation and chemigation, and grower and industrial experiences of micro irrigation from professionals across the world have been accepted.

Irrigation, Drainage and Water 2006 Exhibition: The exhibition will be held concurrently (13-15 September) with the above events. The exhibition will bring together companies, suppliers, manufacturers, R&D institutions and academic establishments, and will showcase a diverse range of the latest products and emerging technologies in the irrigation, drainage and water industries. For space requirement and sponsorship, please contact the Exhibition Secretariat: Protemp Group of Companies, Melissa@protemp.com.my; Tel: 603-6140 6666.

Schedule of Meetings: The schedule of meetings and draft programme of various technical meetings, workshops, task forces and side meetings has been drawn up. Please keep track of their updates by visiting the websites < www.icid2006.org > and < www.icid.org > from time to time.

Registration: The registration fee for a delegate from an ICID member country is US$ 600 and from non-member country is US$ 675 up to 1st June 2006 (it will be US$ 650 and US$ 725 after 1st June, respectively). For young professionals (a person who will be below 40 years as on 9 September 2006) the registration fee is US$ 325. The full payment should accompany a ‘Registration Form’ with a cheque payable to ICID 2006. Payments can also be made by bank transfer or by a credit card. One can register online at www.icid2006.org/registerinfo.htm using a credit card. The registration form can be downloaded at <www.watermalaysia.com/registration6.htm>. For more information about registration, please visit the website <www.icid2006.org/registerinfo.htm>.

Study Tours: Malaysia is one of the South-East Asia’s most vibrant, technologically modern and culturally rich countries. A series of pre and post conference technical study tours will be organized to visit interesting projects and activities in the country. Major sites of study tours will include the Malaysian Agricultural Research and Development Institute (MARDI), Jelebu Dam, Integrated Agricultural Development Project, PPK Sungai Besar, and Aeroponic Vegetables. Post conference study tours will be organized to visit interesting places in and around Kuala Lumpur will be organized from 11-16 September. More information on various tour programmes is available at <www.icid2006.org/tour.htm>.

Accommodation: The organizers would help participants in reserving their accommodation in various hotels. Delegates who wish to book accommodation in hotels (as listed) must complete the appropriate section of the registration form and submit it to the organizers on or before 10 August 2006. The list of hotels is available at <www.icid2006.org/accomm.htm>.

For further information and assistance please contact - MANCID – KL 2006, Division of Irrigation and Agricultural Drainage, 4th Floor, Wisma Tani, Lot 4G1, Presint 4, Putrajaya, Malaysia, Tel: +603-88701662, Fax: +603-8884855

E-mails: icid2006@gmail.com, azhari@agri.moa.my, kalaiselvam@agri.moa.my
You may also contact the Secretary General, ICID, New Delhi, icid@icid.org. Websites: www.icid2006.org; www.icid.org.
International Workshop on “Social – Economic and Ecological Issues of Drainage Systems”, St. Petersburg, Russia, 21-23 June 2006. The workshop is organized by the Russian National Committee on Irrigation and Drainage (RUCID) and Ministry of Agriculture, Russia Federation, as a part of European Regional Working Group (ERWG)/ ICID activity. The RUCID extends an invitation to all members of European Work Team on Drainage (EWTDRA), ERWG and other ICID members. For further details, please contact: Dr. Georgi G. Guluyk, Chairman of RUCID, E-mail: rusiptrid@mail.ru, Tel/ Fax: + 7 095 153 9406.

XVI National Congress on Irrigation and Drainage (CONIRD), 25-30 June 2006, Goiânia, Brazil: The Congress aims to focus on the challenges in the irrigation and drainage sector of America. The Brazilian National Committee on Irrigation Drainage (ABID) is organizing a seminar as a part of the Congress. President Peter Lee will be a keynote speaker. All countries in America (member and non-member) are invited to participate in the Congress. A meeting of the American Regional Working Group will also be held on the occasion. All representatives of the region (including Spain and Portugal) are invited to join the meeting. For further information, please contact Ing. Helvécio Mattana Saturnino, President, ABID, Email: abid@pip.com.br, helvécio@gcsnet.com.br or Website: www.tempodeaprender.com.br/parceiros/abid/informes.asp.

2nd Symposium on Irrigation and Drainage, 15-17 November 2006, Mpumalanga, South Africa: The Symposium with a theme “The changing face of irrigation in Southern Africa” is organized by South African National Committee on Irrigation and Drainage (SANCID). The Symposium aims to attract multidisciplinary professionals involved in irrigation and drainage in Southern Africa. Please submit abstract of the paper(s) electronically to Litia Magingxka magingxkal.sci@mail.uovs.ac.za. For registration and other information, please contact Donne Ross, Event Dynamics Africa (Pty) Ltd donne@edafrica.co.za or visit the website http://www.sancid.org.za.

4th Asian Regional Conference (4th ARC) and 10th International Seminar on Participatory Irrigation Management (PIM), 2-5 May 2007, Tehran, Iran: Both the events are organized by Iranian National Committee on Irrigation and Drainage (IRNCID) in collaboration with INPIM, IWMI and The World Bank. Please submit an abstract of your paper soon. For further information please contact: Mr. S.A. Assadollahi, Secretary General, IRNCID, No. 24 Shahrszaz Lane, Kargoza St., Zafar (Dastgerdi) Ave., Tehran, Iran. Tel: 0908 21 22257348, Fax: 0908 21 22272285 or visit the websites: http://www.irncid.org, http://www.pim2007.org.

22nd 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, Italy and Ministry of Agriculture and Forestry Policies. Authors may submit their abstract(s) by 15 July 2006. Pre-registration may be sent by e-mail by 31 December 2006. For more information, please contact M. Elisa Venezian Scarascia, ITAL-ICID General Secretary, Via Sallustiana, 10 Rome Italy. Tel: +39 06 488 4728, Fax: +39 06 488 4728, E-mail: erc2007@italicid.it, me.scarascia@politecheagricole.it.

Take advantage of Irrigation and Drainage Online

The ICID journal, Irrigation and Drainage is available online FREE via Wiley InterScience for all ICID office bearers and work body members.

- Papers are available in easy to read PDF format
- Provides access to the full text of all articles published in Irrigation and Drainage since 2001, as well as Tables of Contents and Abstracts
- EarlyView service provides papers online as soon as they have been accepted for publication, which can be several months earlier than the papers published in print
- Sign up for FREE Wiley InterScience Alerts – receive the table of contents via e-mail as soon as an issue is published online: www.interscience.wiley.com/irrigationanddrainage

For 2006 Wiley has provided each ICID office bearer, work body member and subscriber a membership registration number. Your e-mail address is your user name and you can choose your own password.

Volume 55.2 has been published in April 2006. Click on www.interscience.wiley.com/irrigationanddrainage for direct access to the home page of Irrigation and Drainage at the Wiley site, or at abstract of the concerned paper for a direct link to the abstract of that paper.

M. E. Venezian Scarascia, F. Di Battista, L. Salvoti
Water resources in Italy: availability and agricultural uses.

P. E. Georgiou, D. M. Papamichail, S. G. Vougioukas
Optimal irrigation reservoir operation and simultaneous multi-crop cultivation area selection using simulated annealing.

Antanas Lukianas, Saulius Vaikasas, Arvydas Povilas Malisauskas
Water management tasks in the summer polders of the Nemunas lowland.

Petra J. G. J. Heelgers
The role of economics in irrigation water management.

Tomomichi Kato, Makio Kamichika
Determination of a crop coefficient for evapotranspiration in a sparse sorghum field.

M. J. Kaledhonkar, Ashok K. Keshari
Modelling the effects of saline water use in agriculture.

Saleh Mahmoud Ismail
Effect of tillage on water advance and distribution under surge and continuous furrows irrigation methods for cotton in Egypt.

Zornitsa Popova, Milena Kercheva, Luis S. Pereira
Validation of the FAO methodology for computing ET, with limited data. Application to South Bulgaria.

ICID
19th ICID Congress 2005 - use of water and land for food security and environmental sustainability.