

Annual Report

(April 2002 to March 2003)

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Foreword

It is my pleasure to present a report on various activities undertaken by the Commission in financial year 2002-2003 (April to March). This has been a year of many accomplishments dotted with several important meetings and conferences resulting in important outputs. The picturesque city of Montreal hosted the 53rd meeting of ICID International Executive Council (IEC) in July 2002 to take stock of the current activities and carve out future plans to grapple with the emerging challenges. Together with the IEC meeting, deliberations were held at the 18th International Congress on Irrigation and Drainage on theme “Food Production Under Conditions of Water Scarcity, Increasing Population and Environmental Pressures” in July 2002. Two important Questions – Question 50 on “Food Production, Poverty Alleviation and Environmental Challenges” as Influenced by Limited Water Resources and Population Growth; and Question 51 on “Integration and Management of Irrigation, Drainage and Flood Control” were discussed at the Congress while a Special Session on the topic “Research and development in irrigation, drainage and flood control” and a Symposium on “Privatization of irrigation and drainage schemes” were held. To further enrich the assembly, a Special Event coordinated by President Hon. Aly Shady on “The world vision for water, food and rural development in the year 2025” and a Seminar coordinated by Prof. H. Fahlbusch on “Lessons from failures in irrigation, drainage and flood control systems” were also organized. Four international workshops and 22 feature sessions were held on topics of considerable interest to the worldwide fraternity of the irrigation and drainage community. The Congress attracted more than 700 participants from the ICID family, and provided a platform for fruitful discussions and exchange of knowledge and experiences on the issues of current importance. The deliberations at the Congress culminated into the “Montreal Declaration”, laying down a roadmap for ICID for the ensuing three years. Besides these events, the ICID Workbodies held their annual meetings to take stock of the progress and formulate work plans for the coming year.

The 3rd World Water Forum (WWF3) was held at Kyoto, Japan during March 2003. ICID had earlier constituted

five Task Forces (TFs) to sharpen its contributions to the WWF process and implement its strategy, and transform the vision into action towards Integrated Water Resources Development and Management (IWRDM). A Special Session was held by ICID on 19 March 2003 at Kyoto on “Integrated water resources development and management for ensuring food sufficiency and security” under WWF Theme 1-10 “Agriculture, Food and Water”. The session emphasised the adoption of IWRDM as the only appropriate tool for sustainable development and food security. The deliberations identified the actions to be taken especially in the developing countries.

Task Force 1 (TF1) to guide preparation of ICID inputs for the 3rd World Water Forum was Chaired by President Hon. Aly M. Shady who presented the ICID Report at the 3rd World Water Forum in the Special Session. The TF2 set up on global issues related to food production, security and trading identified ways and means to meet the food demands of future also met and considered an intention paper. The report of TF3 on “Socio-economic sustainability of services provided by irrigation, drainage and flood control schemes in water resources sector” provided direction for implementing ICID’s strategy through a position paper on “Irrigation and Drainage Services: Some Principles and Issues towards Sustainability”. The TF4 on “Benchmarking of irrigation and drainage projects” is a joint initiative of IPTRID, the World Bank, IWMI and ICID for promoting implementation of benchmarking initiative in ICID member countries the session considered the position paper on Benchmarking of Irrigation and Drainage Sector besides “Country Policy Support Programme (CPSP)” report on water for food, people and eco-system for China and India. The findings of sample Basin Studies on two rivers in India under CPSP were also presented during the Session. The TF5 on “Promoting appropriate decision-making procedures for new dams, particularly for irrigation, drainage and flood management” presented its report on the subject.

ICID hosted the History session (2-3-10) on 18th March 2003 “History of Water: Lessons to Learn” under Theme 1-14 “Water and Cultural Diversity” convened by

Prof. N. Hatcho, Chairman, ICID Working Group on History of Irrigation, Drainage and Flood Control. The Japanese National Committee of ICID (JNC-ICID) organised another session on 'Multi-functional Roles of Paddy Irrigation'. ICID also participated in the Dialogue session organised by International Water Management Institute and presented the findings of the pathbreaking work conducted through CPSP. ICID was represented in other sessions of interest.

The readers are aware that the publication of ICID Journal from the year 2001 has started through M/s. John Wiley & Sons Ltd., UK with the changed title of "Irrigation and Drainage - The Journal of International Commission on Irrigation and Drainage". M/s. Wiley have distributed four issues of Volume 51 in the year 2002 and 2 issues of Volume 52 in 2003 so far.

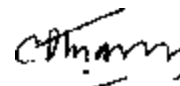
The ICID Website has further been enriched with useful water-related information, besides the information about ICID and its activities. The web counter indicates good progress in the number of visitors. The Text Delivery Service (TDS), an important activity of ICID is gaining momentum through ICID website. Numerous inquiries and requests were received for supply of grey literature that were promptly attended to. The French section of the website has been expanded with translation of ICID periodicals available. For the benefit of our Spanish-speaking professionals around the world, the Spanish version of the News Update prepared with the

help of the Spanish National Committee is being uploaded on the website.

The Permanent Committee for Technical Activities (PCTA) in its meetings at Cape Town (2000) and Seoul (2001) had advised separate webpages for ICID workbodies for projecting their activities. This has already been accomplished in case of 14 workbodies whose information is posted on the website. These pages are connected through the hyperlink provided under the workbodies section of the website.

The ICID continued to lend assistance to one of the four Centres of the World Water Council (WWC) at New Delhi. The Centre organized monthly brainstorming sessions on water policy issues, participated by experts from India.

The Annual Report provides an opportunity for the ICID family to recapitulate the happenings during the year, to identify the shortcomings, and ways to overcome them. The main aim is the call for more active participation by all stakeholders in the activities for joining the mainstream of irrigation, drainage and flood control sector in the march towards Sustainable Agriculture in the world.



C.D. Thatte
Secretary General, ICID
New Delhi

Highlights

Highlights of 18th ICID Congress

- ICID Distinguished Lecture on “Water in Africa and Future Challenges” by Dr. Mahmoud Abu-Zeid, Hon’ble Minister of Water Resources and Public Works of Egypt and President World Water Council (WWC)
- Keynote speech on integrated watershed management and water management in Quebec by M. Pierre Baril, Assistant Deputy Minister, Quebec Ministry of the Environment, Canada
- Keynote speeches by the Commissioner of the US Bureau of Reclamation, Mr. John Keys; Dr. Keith Pitman of the World Bank; Mr. M. Mannan of the Asian Development Bank; and Mr. Jack Wilkinson, President of the International Federation of Agricultural Producers, representing 500 million agricultural producers globally
- A roundtable on professional women in water and engineering
- An expert panel discussion on irrigation efficiency in major river basins
- Feature Sessions on Malaria in irrigated agriculture; Water resources projects in China; Farmers’ expectations from ICID; Water resources projects in India; World Food Security – Canada’s contribution, sponsored by Agriculture and Agri-Food Canada; and Feature Sessions co-sponsored by the World Water Council, Global Water Partnership and IWALC.
- A Young Professionals Forum, comprising presentations by 17 graduate students and young professionals from Canada and around the world, and
- A two-day technical exhibition.

Highlights of the International Executive Council Meeting (IEC)

- ICID elected its following new Office-Bearers for the term 2002-2005:

President	Dato’ Ir. Hj. Keizrul bin Abdullah (Malaysia)
Vice Presidents	Mr. Cai Lingen (China) Engr. I.K. Musa (Nigeria) Prof. André Musy (Switzerland)

- The following ICID Awards, each carrying a prize money of US\$ 2000 and citation plaque, were presented by President Prof. dr. Bart Schultz:

- WatSave Technology Award to Mr. Robert E. Merry (UK)
- WatSave Innovative Water Management Award to Dr. Mahmoud Moustafa (Egypt)
- WatSave Young Professionals Award to Dr. Ashutosh Upadhyaya (India)
- Dr. Hassan Ismail Memorial International Award comprising US\$ 1000 and a citation plaque to Ms. Marna de Lange (South Africa)
- ICID’s Best Performing National Committee Award to Korean National Committee of ICID (KCID) at the Closing Ceremony.
- A revised and updated version of ICID’s Multilingual Technical Dictionary (MTD) on CD-ROM was released.
- The Venues and Dates for the future ICID meetings were decided as follows:
 - 21st European Regional Conference, 2005, Germany & Poland.
 - 57th IEC Meeting and 3rd Asian Regional Conference, 2006, Kuala Lumpur, Malaysia.
 - 4th Asian Regional Conference, 2007, Iran.
 - 58th IEC Meeting, 2007, Sacramento, USA.
 - 59th IEC Meeting and 20th Congress, 2008, Lahore, Pakistan.
 - 60th IEC Meeting and 2nd African Regional Conference, 2009, Abuja, Nigeria.
- ICID workbodies regrouped under four new themes and theme leaders, viz. On-farm: VP Nairizi; System: VP Malano; Basin: VP Hon. Tardieu; Knowledge: VP Madramootoo.
- VP Madramootoo appointed as Chairman, PCSPOA.
- New Chairs appointed for 4 workbodies, viz. EB-JOUR: PH Schultz; WG-CD: Mr. Mesny; WG-HIST: Prof. Hacho; WG-SDTA: Dr. Park.
- Proposal to construct additional 511 sqm of floor space on the existing ICID building at New Delhi at a cost of Rs.4.4 million approved.
- Decided to set up two task forces chaired by concerned regional working groups, one each for Africa and Asia to consider ways and means to assist setting up NCs in the ‘Least Developed Countries’ from the two continents.

ICID Office Bearers

PRESIDENT



Ir. Keizrul bin Abdullah (Malaysia)
2002-2005

VICE PRESIDENTS



Soon-Kuk, Kwun (Korea)
2000-2003



C. Madramootoo (Canada)
2000-2003



H. Malano (Australia)
2000-2003



Shigetaka Taniyama (Japan)
2001-2004



Manuel Contijoch Escontria (Mexico)
2001-2004



Saeed Nairizi (Iran)
2001-2004



Mr. Cai Ling (China)
2002-2005



Engr. I.K. Musa (Nigeria)
2002-2005



Prof. André Musy (Switzerland)
2002-2005

SECRETARY GENERAL



C.D. Thatte (India)
1998-2003

ICID's New Office-Bearers

At Montreal, new President, Ir. Keizrul bin Abdullah (Malaysia) and three new Vice Presidents, Mr. Cai Lingen (China), Engr. I.K. Musa (Nigeria) and Prof. Andre Musy (Switzerland) were elected for the three-year term (2002-2005) to replace the outgoing President Prof. dr. Bart Schultz (The Netherlands) and Vice Presidents, Ir. Keizrul bin Abdullah (Malaysia), Prof. F. Ligetvari (Hungary) and Er. R. Segura (Spain), who completed their tenure (1999-2002). The retiring President and Vice Presidents were honoured by presenting them with plaques in recognition of their useful contribution in promoting ICID's mission and activities in their respective regions. ICID expresses sincere thanks to the retiring Office-Bearers for their distinguished services and guidance. ICID also heartily felicitates and welcomes the new Office Bearers and assure them best cooperation. The Curriculum Vitae of the incoming President and Vice Presidents follows:

Dato' Ir. Hj. Keizrul bin Abdullah (Malaysia), 2002-2005

Dato' Ir. Hj. Keizrul bin Abdullah, born December 1951, possesses B.E. (Hons.) degree in Civil Engineering from Malaysia (1975) and M.Sc. (Water Resources Systems Engineering) from University of Newcastle Upon Tyne, UK (1991). He is Chairman, MANCID and Chairman ICID's Asian Regional Working Group and was Vice President, ICID (1999-2002). He has actively participated in ICID meetings and has been a member of several workbodies including PCTA (1990-1996).

Ir. Keizrul has presented papers on Irrigation, drainage, floods, rivers and water resources in conferences and seminars at national and international levels. He has been involved in the field of irrigation, drainage, river engineering, flood mitigation and water resources planning and development for the past 26 years. In the 1980's, he was the Chief Counterpart Officer of the National Water Resources Study. He is a registered Professional Engineer and a Fellow of the Institution of Engineers Malaysia, Member of the Board of Engineers, Malaysia and Chairman of the Malaysian National

Committee on the International Hydrological Programme (IHP) of UNESCO.

Presently Ir. Keizrul is Director General of Irrigation and Drainage Department, Malaysia since November 1997.

Mr. Cai Lingen (China), 2002-2005

Mr. Cai Lingen, born November 1940, possesses M.Sc. with specialisation in Hydrology and Ground Water Hydraulics from China.

He has been associated with ICID since 1986 and has been Executive Secretary, CNCID (1986-1996), and is Vice Chairman, CNCID since 1999.

He has contributed more than 60 papers to various conferences. He was Engineer and Technician in Bureau of Water Resources, Xinzhou Prefecture, Shanxi Province (1970-1979); Research Engineer (1979-1990); Visiting Scientist, Water Resources Systems Engineering, USA (1984-1985); Coordinator for several National Research Projects (1980 - to date); Senior Engineer (1991-1996); Chief Engineer since 1994; and Professor since 1996. he is responsible for organizing and executing international and national research projects.

Mr. Cai Lingen is presently Chief Engineer and Professor, China Institute of Water Resources and Hydropower Research.

Engr. I.K. Musa (Nigeria), 2002-2005

Engr. I.K. Musa, born September 1952, holds a Master of Engineering degree from University of Sheffield, UK (1977). He has been the Chairman of Nigerian National Committee, ICID since 1994, Vice Chairman, PFC (1994-1996), Vice Chairman, AFRWG (1994-1996), and Chairman of AFRWG since 1996. He has published 26 papers in journals/conferences.

Engr. Musa has worked as Assistant General Manager, General Manager, and Managing Director and Chief Executive Officer - Niger Basin Development Authority. Member of Governing Council of Yaba

College of Technology (1986-1990); Member of Board of Directors of Chad Basin Development Authority (1993-1995); Member of the Joint Committee on the Review of Commercialisation of River Basin Development Authorities (1995-1996); Member of the Joint Committee on the Optimisation of Resources of River Basin and Rural Development Authorities (1997); Member of West African Sub-Regional Expert Consultation on Water and Food and Rural Development, 1999; and Member of Board of Directors Upper Niger River Basin and Rural Development Authority, Minna (2000 to date). He is a Fellow of Nigerian Society of Engineers (FNSE) since 1999.

Presently Engr. Musa is Federal Director of Irrigation and Drainage, Nigeria.

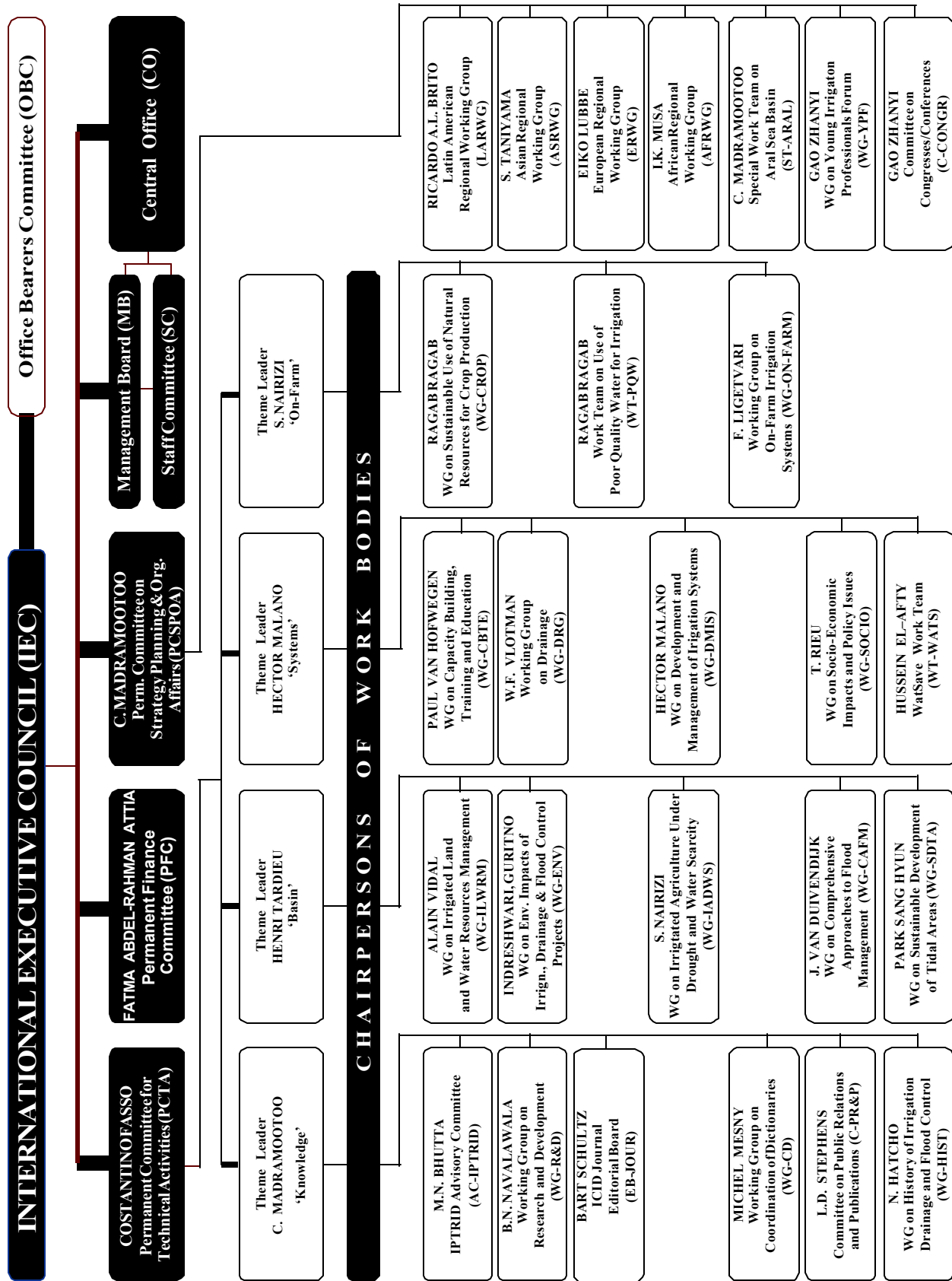
Prof. André Musy (Switzerland), 2002-2005

Prof. André Musy, born September 1945, has obtained Master's Degree and Ph.D. in Hydrology and Agricultural Engineering. He has Published 70 papers and 110 Communications, 4 books, has been a co-author of several books, and has organized international conferences. He

was Senior Chief Scientist (EPFL) 1976-978; Chief Technical Advisor of a WMO/UNDP in Guinea (1978-1981); Director of Applied Research in Agrometeorology and Operational Hydrology, Nigeria (1981-1983); Professor at the EPFL since 1983; Expert in the Swiss Agency for Development and Cooperation; Expert to the WMO/UNDP in the field of his professional activities such as Soil Physics, agrology, and Hydro-pedology, rural landscape management; soil science, soil and water management, agricultural engineering, Hydrology and Hydraulics applied in rural and sub-urban areas.

Prof. Musy is a Member of IASS; CIGR, ICID, EURAGENG; ORSTOM (France); CEMAGREF (France); AIH (USA); ASAE; IAH (India); Member of the Consulting Editorial Board of Journal of Irrigation and Drainage System, Journal of Water Science and International Electronic Journal of Agricultural. He is Chairman, Swiss National Committee of ICID since 1988.

At present Prof. Musy is Director, Institute of Environmental Science and Technology, Switzerland and Professor in Agricultural Engineering, Swiss Federal Institute of Technology, Lausanne, Switzerland.



Mandate and Composition of Work Bodies

OFFICE-BEARERS COMMITTEE (OBC)	10
MANAGEMENT BOARD (MB)	10
STAFF COMMITTEE (SC)	10
PERMANENT COMMITTEE FOR TECHNICAL ACTIVITIES (PCTA) (19 Work Bodies)	10
<i>Theme : 'Knowledge' (6 Work Bodies)</i>	
IPTRID Advisory Committee (AC-IPTRID)	10
Working Group on Research and Development (WG-R&D)	11
ICID Journal Editorial Board (EB-JOUR)	11
Working Group on Coordination of Dictionaries (WG-CD)	11
Committee on Public Relations and Publications (C-PR&P)	12
Working Group on History of Irrigation, Drainage and Flood Control (WG-HIST)	12
<i>Theme : 'Basin' (5 Work Bodies)</i>	
Working Group on Integrated Land and Water Resources Management (WG-ILWRM)	12
Working Group on Environmental Impacts of Irrigation, Drainage and Flood Control Projects (WG-ENV)	13
Working Group on Irrigated Agriculture under Drought and Water Scarcity (WG-IADWS)	13
Working Group on Comprehensive Approaches to Flood Management (WG-CAFM)	14
Working Group on Sustainable Development of Tidal Areas (WG-SDTA)	14
<i>Theme : 'Systems' (5 Work Bodies)</i>	
Working Group on Capacity Building, Training and Education (WG-CBTE)	14
Working Group on Drainage (WG-DRG)	14
Working Group on Development and Management of Irrigation Systems (WG-DMIS)	15
Working Group on Socio-Economic Impacts and Policy Issues (WG-SOCIO)	15
Watsave Work Team (WT-WATS)	15
<i>Theme : 'On-Farm' (3 Work Bodies)</i>	
Working Group on Sustainable Use of Natural Resources for Crop Production (WG-CROP)	16
Work Team on Use of Poor Quality Water for Irrigation (WT-PQW)	16
Working Group on On-Farm Irrigation Systems (WG-ON-FARM)	16
PERMANENT FINANCE COMMITTEE (PFC)	16
PERMANENT COMMITTEE ON STRATEGY PLANNING AND ORGANIZATIONAL AFFAIRS (PCSPOA) (7 Work Bodies)	17
Latin American Regional Working Group (LARWG)	17
Asian Regional Working Group (ASRWG)	17
European Regional Working Group (ERWG)	18
African Regional Working Group (AFRWG)	18
Special Work Team on Aral Sea Basin (ST-ARAL)	18
Working Group on Young Irrigation Professionals Forum (WG-YPF)	18
Committee on Congresses/Conferences (C-CONGR)	19

ICID Work Bodies

OFFICE-BEARERS COMMITTEE (OBC)

Mandate

The Office-Bearers Committee shall be composed of the Office-Bearers in Office and the Honoraire Office-Bearers and will in general advise on all important questions concerning the policy, the orientation and the overall functioning of ICID. The Office-Bearers attending a Council meeting form themselves into an Office-Bearers Committee and meet informally prior to the meeting of the International Executive Council and, after considering all nominations make recommendations for filling the vacancies among Office-Bearers, but the Council would still have the last word in the elections.

MANAGEMENT BOARD (MB)

Mandate

The Management Board is responsible with the Central Office for implementation of Council's decisions, and will decide such actions as are necessary to properly effect the working of the Commission.

Members

(1) President Ir. Keizrul bin Abdullah, Chairman (Malaysia); (2) Prof. Dr. Bart Schultz, President Hon., ICID (The Netherlands); (3) Prof. C. Fasso (Italy), Chairman, Permanent Committee for Technical Activities; (4) Dr. Fatma Abdel-Rahman Attia (Egypt), Chairperson, Permanent Finance Committee; (5) Prof. C. Madramootoo (Canada), Chairman, Permanent Committee on Strategy Planning and Organizational Affairs; and (6) Dr. C.D. Thatte, Secretary General, ICID.

STAFF COMMITTEE (SC)

Mandate

The Staff Committee shall review and formulate the work procedures and the staff structure of the Central Office in keeping with the changing requirements of ICID and advise the Secretary General on the functioning of the Central Office. The Staff Committee shall be headed by the President and with other members as designated by the Management Board.

Members

(1) President Ir. Keizrul bin Abdullah, Chairman (Malaysia); (2) Dr. Fatma Abdel-Rahman Attia

(Chairperson, Permanent Finance Committee); (3) Chairman, Indian National Committee of ICID; and (4) Dr. C.D. Thatte, Secretary General, ICID.

PERMANENT COMMITTEE FOR TECHNICAL ACTIVITIES (PCTA)

Mandate

The Permanent Committee for Technical Activities shall be concerned with all the technical activities of the Commission including all publications of ICID. It will be responsible for activities of the technical work bodies, for selection of Questions/Themes for Congresses, Conferences, Special Sessions, Symposia, etc., for settlement of the technical conclusions thereof and for making appropriate recommendations for action thereon.

Members

(1) Prof. Costantino Fasso, Chairman (Italy, 1999); (2) Dr. Alain Vidal, Vice Chairman (France, 1999); (3) Mr. Tom Franks, Secretary (UK, 1998); (4) Mr. J. Ronald Johnston (USA, 1997); (5) Dr. Antonas Maziliauskas (Lithuania, 1998); (6) Mr. Felix B. Reinders (South Africa, 1999); (7) Mr. B.N. Navalawala (India, 2001); (8) Mr. G.G. Guljuk (Russia, 2002); (9) Prof. Y. Ogino (Japan, 2002); and (10) Secretary General, ICID.

Permanent Observers

(i) World Bank representative; (ii) FAO representative; (iii) IWMI representative; (iv) ISO representative.

Ex-Officio Members

All Strategy Theme Leaders and Chairpersons of Working Groups/Work Teams of PCTA.

Theme : 'Knowledge'

1.1 - IPTRID ADVISORY COMMITTEE (AC-IPTRID)

Mandate

To give advice on IPTRID programs, prioritize research needs, provide positive expressions of demand for research, suggest new research requirements and foster cooperation amongst key institutions/organizations.

Members

(1) Dr. M.N. Bhutta, Chairman (Pakistan, 2000); (2) Mr. B.S. Ahuja (India, 1998); (3) Mr. Gu Yuping (China, 1998); (4) Mr. J. Lelkes (Hungary, 1998); (5) Mr. P.S. Stradiot (Slovakia, 1998); (6) Mr. B.N. Navalawala,

Chairman, WG-R&D (India, 2001); (7) Dr. Mrs. Irene Bondarik (Russia, 2001); (8) Dr. (Mrs.) Shaden Abdel-Gawad (Egypt, 2001); (9) Mexican Representative; (10) Nigerian Representative; (11) Indonesian Representative; and (12) Secretary General, ICID.

Permanent Observers

(1) IPTRID Representative; (2) FAO Representative; (3) World Bank Representative; (4) IWMI Representative.

1.2 – WORKING GROUP ON RESEARCH AND DEVELOPMENT (WG-R&D)

Mandate

To keep National Committees informed of relevant new developments in irrigation, drainage and flood control and to promote multidisciplinary research, effective training and technology transfer, and assessment of the impacts R&D makes on performance in the field. To this end act as the focal point for ICID's liaison with IPTRID and other relevant research bodies such as FAO and IWMI and networks serving the irrigation and drainage professionals.

Members

(1) Mr. B.N. Navalawala, Chairman (India, 1992); (2) Prof. L. Vincent, Vice Chairperson (Netherlands, 1995); (3) Prof. L. Ubertini, Secretary (Italy, 1989); (4) Prof. Y. Ogino (Japan, 1997); (5) Dr. J.M.M. Mendiluce (Spain, 1992); (6) Dr. Hussam Fahmy (Egypt, 1995); (7) Dr. Mohamed Nawaz Bhutta (Pakistan, 1995); (8) Mr. A. Delacourt (France, 1995); (9) Dr. M.N. Jaafar (Malaysia, 1997); (10) Dr. Sigita Sileika (Lithuania, 1997); (11) Prof. Dusan Huska (Slovak Republic, 1998); (12) Dr. Nam-Ho Lee (Korea, 1999); (13) Dr. Gerhard R. Backerberg (South Africa, 1999); (14) Prof. Suphat Vongvisessomjai (Thailand, 1999); (15) Dr. M. Burton (Great Britain, 1999); (16) Prof. Jose Luis Teixeira (Portugal, 1999); (17) Dr. John A. Replogle (USA, 1999); (18) Dr. Abbas Ghahen (Iran, 2000); (19) Mr. Bo Gao (China, 2000); (20) Mr. Liu Chen-Wuing (Chinese Taipei, 2000), and (21) Dr. Sietan Chieng (Canada, 2001).

Permanent Observers

(i) World Bank representative; (ii) IPTRID representative; (iii) FAO representative; and (iv) IWMI representative.

1.3 – ICID JOURNAL EDITORIAL BOARD (EB-JOUR)

Mandate

- To ensure with the Editor that the Journal is published in accordance with editorial policy;

- To select and recommend to IEC, through PCTA, the appointment of Editor and Associate Editors;
- To review and update editorial policy when required, to conform with the developing ICID objectives;
- To address and resolve issues pertaining to the Journal;
- To review guidelines for authors, manuscript reviewers and book reviewers and liaise and coordinate with ICID workbodies.

Members

(1) Prof. dr. Bart Schultz, Chairman (Netherlands, 2001); (2) Prof. Janusz R. Rydzewski, Editor Emeritus, (UK, 1994); (3) Dr. Daniel Zimmer, Joint Editor (France, 1999); (4) Dr. Paul J.M. van Hofwegen, Joint Editor (Netherlands, 1999); (5) Mr. Jean-Marcel Laferrière (Canada, 1999); (6) Dr. H. Malano (Australia, 2000); (7) Mr. Melvyn G. Kay (UK, 1999); (8) Dr. Bryan P. Thoreson (USA, 2001); (9) Prof. L.S. Pereira (Portugal, 1997); (10) Prof. Xu Zhifang (China, 1997); (11) Dr. F. Ligetvari (Hungary, 1994); (12) Dr. R. Nakamura (Japan, 1994); (13) Mr. L.D. Stephens (USA, 1994); (14) Dr. M.H. Amer (Egypt, 1998); (15) Mr. Michel Mesny (France, 1998); (16) Prof. Daniele de Wrachien (Italy, 1998); (17) Prof. H. Soedodo Hardjoamidjojo (Indonesia, 1999); (18) Dr. Gerhard R. Backerberg (South Africa, 1999); (19) Prof. Demetrios Christofidis (Brazil, 1999); (20) Ir. Keizrul bin Abdullah (Malaysia, 1999); (21) Dr. S. Nairizi (Iran, 1999); (22) Prof. E.U. Nwa (Nigeria, 1999); (23) Dr. C. Perry (UK, 2000); (24) Dr. A. Kandiah (IPTRID, 2000) (25) Ing. M. Contijoch Escontria (Mexico, 2000); (26) Mr. Muhammad Latif (Pakistan, 2002); and (27) Mr. S.P. Goyal, Deputy Secretary, ICID.

1.4 – WORKING GROUP ON COORDINATION OF DICTIONARIES (WG-CD)

Mandate

To encourage preparation and publication of translations of the English/French revised edition of the Multilingual Technical Dictionary (MTD) on Irrigation and Drainage into additional languages; to produce copies of the MTD in other formats, especially electronic, so as to make it more valuable to users; and to produce periodic updates on all sections of the MTD.

Members

(1) Mr. M. Mesny, Chairman (France); (2) Dr. E. Kruse (USA); (3) Dr. P. Buri (Italy); (4) Mr. Cai Lingen (China); and (5) Mr. K.N. Sharma, Executive Secretary, ICID.

Permanent Observers

(i) Dr. Hans H. Wolter (FAO); (ii) Mr. Arthur T. Askew (WMO); (iii) Dr. R. Sakthivadivel (IWMI); (iv) Prof. C. Fasso, Chairman, PCTA; and (v) Mr. L.D. Stephens, Chairman, C-PR&P.



1.5 – COMMITTEE ON PUBLIC RELATIONS AND PUBLICATIONS (C-PR&P)

Mandate

1. To identify messages and associated audiences for the dissemination of ICID's objectives and activities, both directly and through National Committees, encouraging the use of the latest communications techniques.
2. To review, recommend and monitor ICID publication policy.
3. To review and recommend ICID internal communications procedures and opportunities.

Members

(1) Mr. L.D. Stephens, Chairman (USA, 1991); (2) Mr. Peter S. Lee (UK, 1993); (3) Dr. D. Zimmer, Joint Editor, ICID Journal (France, 1993); (4) Mr. W.F. Vlotman (Netherlands); (5) Prof. P.L. Romita (Italy, 1996); (6) Prof. Hsieh, Yung-Hsu (Chinese Taipei, 1998); (7) Mr. Michel Mesny (France, 1998); (8) Ms. Anne Currey (Australia, 1998); (9) Dr. Dia El-Din Ahmed El-Qousoy, (Egypt, 1998); (10) Mr. Hassan Rahimi (Iran, 2000); and (11) Secretary General, ICID.

Ex-Officio Members

(1) Mr. Satit Maneepai (Thailand).

1.6 – WORKING GROUP ON HISTORY OF IRRIGATION, DRAINAGE AND FLOOD CONTROL (WG-HIST)

Mandate

To motivate ICID National Committees in various countries to set up their National Working Groups and provide them guidance to compile, publish, update and/or translate documents on history of irrigation, drainage, flood control, and river engineering, incorporating relevant agricultural, political, socio-economic, climatological and geographical aspects for proper understanding of the technological developments in the subject, if possible chronologically. Furthermore, to organize seminars at ICID Congresses in order to show to experts the importance of historical studies when planning new projects.

Members

(1) Dr. Nobumasa Hatcho, Chairman (Japan, 1996); (2) Prof. H. Fahlbusch (Germany, 1987); (3) Mr. D. de Bruin, Secretary (Netherlands, 1994); (4) Mr. J.R. Raposo (Portugal, 1986); (5) Dr. Roicardo S. Graino (Spain, 1992); (6) Mrs. F. Sinatti (Italy, 1994); (7) Mrs. Xuming Tan (China, 1997); (8) Mr. S.H. Lee (Korea, 1997); (9) Mr. Naser Shayan (Iran, 1998); (10) Dr. Libor Jansky (Slovakia, 1998); (11) Mr. Felipe Arce Tena (Mexico,

1999); (12) Mr. Illahi B. Seikh (Pakistan, 2000); (13) Mr. R.N.P. Singh (India, 2001); (14) Dr. Laszlo Hayde (Hungary, 2001); (15) Mr. Yu, Chin-Chi (Chinese Taipei, 2001); (16) Prof. Zorko Kos (Croatia, 2002); (17) Mr. Aliyu Jada (Nigeria, 2002) (18) Mr. Satit Maneepai (Thailand, 2002) (19) Dr. Alexis Vogel (Austria, 2002); and (20) Secretary General, ICID.

Permanent Observers

(i) Dr. (Mrs.) B. Dolfing (Netherlands).

2 - Theme : 'Basin'

2.1 – WORKING GROUP ON INTEGRATED LAND AND WATER RESOURCES MANAGEMENT (WG-ILWRM)

Mandate

- Prepare inventory of existing research results, principles and methodologies for managing land and water resources at the scale of river basins where irrigation and drainage are represented in significant areas or volumes;
- Examine the recommendations already issued by GWP at global and regional scales in this domain, and identify possible gaps where ICID could complement GWP actions;
- Prepare inventory of decision making methods and tools in ILWRM;
- Identify best practices on selected river basins, and elaborate a methodological guide based on these best practices;
- Issue recommendations on short-term technical and economical actions, and on mid-term research, to be undertaken to promote ILWRM in irrigated and drained areas;
- Examine the specific case of ILWRM on transboundary basins in cooperation with the Working Group on Socio-economic Impacts and Policy Issues and the Working Group on History of Irrigation, Drainage and Flood Control.

Members

(1) Dr. Alain Vidal, Chairman (France, 1993); (2) Mr. M.G. Bos, Vice Chairman (Netherlands, 2002); (3) Mr. Russell Boals, Secretary (Canada, 2001); (4) Mr. Aderito de Jesus Mendes (Portugal, 1990); (5) Mr. L.K. Oosthuizen (South Africa, 1995); (6) Dr. A. Goto (Japan, 1996); (7) Prof. C. Fasso (Italy, 1999); (8) Mr. Joachim Quast (Germany, 2000); (9) Mr. Y. Pei (China, 2002); (10) Mr. Y.R. Yousefloo (Iran, 2002); (11) Dr. R.S. Graino (Spain, 2002); and (12) Mr. William Price (USA, 2002).

Permanent Observers

(i) Mr. T. Rieu, Chairman, Working Group on Socio-Economic Impacts and Policy Issues; (ii) Dr. W.F. Vlotman, Chairman, Working Group on Drainage; (iii) Prof. N. Hatcho, Chairman, Working Group on History of Irrigation, Drainage and Flood Control; (iv) Dr. I. Makin (IWMI); (v) Mr. W. Price (USCID); and (vi) GWP representative.

2.2 – WORKING GROUP ON ENVIRONMENTAL IMPACTS OF IRRIGATION, DRAINAGE AND FLOOD CONTROL PROJECTS (WG-ENV)

Mandate

To understand the process of environmental impact analysis making this a part of all project evaluation, major environmental problems as addressed by each country, and effects of irrigation and drainage on the natural environment, flora, fauna and human beings; and recognizing the project/site specific nature of the problem, to provide guidance to project designers and managers in identifying and minimizing adverse environmental impacts.

Members

(1) Dr. (Mrs.) Indreswari Guritno, Chairperson (Indonesia, 1995); (2) Mr. A. Perrier, Vice Chairman (France, 1999); (3) Dr. Wayne O. Deason, Secretary (USA, 1992); (4) Mr. Barkat Hadid (Syria, 1991); (5) Mr. Francisco Vezquez Sell (Spain, 1992); (6) Dr. A.F. Mauderli (Switzerland, 1992); (7) Mr. Alfred Heuperman (Australia, 1993); (8) Kuwn, Soon-Kuk (Korea, 1994); (9) Prof. Yih-Chi Tan (Chinese Taipei, 1995); (10) Dr. Laszlo Vermes (Hungary, 1995); (11) Mr. Charoon Kamolratana (Thailand, 1995); (12) Dr. Smiljan Juvan (Slovenia, 1995); (13) Dr. Shaden Abdel Gawad (Egypt, 1996); (14) Ing. A. de Vito (Italy, 1996); (15) Mr. M. Yokozawa (Japan, 1996); (16) Dr. Eike Lubbe (Germany, 1997); (17) Dr. A. Van Dijk (Netherlands, 1997); (18) Prof. Almeida Fernandez (Portugal, 1999); (19) Prof. Julius Valtyni (Slovak Republic, 1999); (20) Mr. Mohammed Siah (Iran, 2000); (21) Dr. Hu Heping (China, 2000); (22) Mr. Indra Raj (India, 2001); (23) Mr. O.A. Purhonen (Finland, 2002); and (24) Secretary General, ICID.

Permanent Observers

(i) FAO representative; (ii) ICOLD representative; (iii) World Bank representative; (iv) Mr. M.G. Chuelov (Russia); (v) Mr. C. Storsbergen (Netherlands); (vi) Dr. D. Zimmer (France); (vii) Mr. Primoz Banovec (Slovenia); (viii) Dr. Fatma Abdel-Rahman Attia (Egypt); (ix) Prof. H. Malano (Australia).

2.3 – WORKING GROUP ON IRRIGATED AGRICULTURE UNDER DROUGHT AND WATER SCARCITY (WG-IADWS)

Mandate

- To identify and study the phenomena of drought and water scarcity in their various manifestations, and the ecological, social, economic and political implications thereof in the context of irrigated agriculture;
- To identify research priorities which will contribute to the achievement of the above-mentioned objectives, and to promote the execution of this research;
- To promote the development of appropriate technology packages to manage irrigated agriculture in situations of drought and water scarcity;
- To study and propose possible alternative cropping patterns suitable for situations of drought and water scarcity;
- To provide guidelines for the formulation of policies and decision support strategies for the management and utilization of water resources for irrigation under conditions of drought and water scarcity.

Members

(1) Dr. S. Nairizi, Chairman (Iran, 2000); (2) Dr. Gerhard R. Backeberg, Vice Chairman (South Africa, 1999); (3) Mr. Frank Dimick, Secretary (USA, 1998); (4) Dr. R. Ragab (UK, 1998); (5) Dr. J.M. Rodriguez-Chaparro (Spain, 1998); (6) Mr. S. Szalai (Hungary, 1998); (7) Mr. A. Villocel (France, 1998); (8) Mr. Alfredo Zeloka Valdez (Mexico, 1999); (9) Dr. Giulio Leone (Italy, 1999); (10) Dr. B.R. Sharma (India, 1999); (11) Dr. Eng. Barakat Al. Dagher (Syria, 1999); (12) Mr. Masakuni Kawamata (Japan, 1999); (13) Prof. Ricardo Paulo Serralheiro (Portugal, 1999); (14) Mr. Salih H. Hamid (Sudan, 1999); (15) Mr. Mu Jianxin (China, 2000); (16) Mr. Hussein El-Atfy (Egypt, 2001); (17) Mr. Pulat Umarov (Central Asia, 2001); (18) Mr. A.J. Horton (Australia, 2002); (19) Dr. Abdul Majeed (Pakistan, 2002); and (20) Dr. J. Sostaric (Croatia, 2002).

Permanent Observers

(i) Prof. J.M. de Jager (Executive Team on Irrigation under Limited Water Availability); (ii) Mr. S. Taniyama (Asian Regional Working Group); (iii) Dr. M.V.K. Sivakumar (WMO); (iv) Prof. L. Vermes (European Regional Working Group); and (v) World Bank Representative.

2.4 – WORKING GROUP ON COMPREHENSIVE APPROACHES TO FLOOD MANAGEMENT (WG-CAFM)

Mandate

To identify and disseminate various structural and non-structural measures of flood management, and to study the social, political and economic aspects of flood mitigation measures, ecologically sound development, international cooperation, as well as people's participation in disaster preparedness.

Members

(1) Dr. J. van Duivendijk, Chairman (Netherlands, 1996); (2) Mr. J. Astier, Vice Chairman (France, 1990); (3) Prof. J.L. Montanes (Spain, 1987); (4) Mr. V.C. Ballard (Australia, 1992); (5) Dr. Takeshi Hata (Japan, 1993); (6) Mr. Wei-Fu Yang (Chinese Taipei, 1995); (7) Dr. Lajos Szlavik (Hungary, 1996); (8) Prof. M.F. Viljoen (South Africa, 1997); (9) Mr. R. Jeyaseelan (India, 1998); (10) Mr. P. Puncochar (Czech Republic, 1998); (11) Mr. M. Quazi (Canada, 1998); (12) Mr. P. Burrows (UK, 1999); (13) Dr. K. Emami (Iran, 1999); (14) Mr. Jin Soo Kim (Korea, 2000); (15) Mr. Illahi B. Seikh (Pakistan, 2001); (16) Mr. Li Kungang (China, 2001); (17) Prof. Josip Petras (Croatia, 2002); (18) Mr. S. Sastrodiharjo (Indonesia, 2002); and (19) Mr. Bruce C. Moore (USA, 2002).

Permanent Observers

(1) FAO representative; (2) UNDRO representative; (3) WMO representative; and (4) World Bank representative.

2.5 - WORKING GROUP ON SUSTAINABLE DEVELOPMENT OF TIDAL AREAS (WG-SDTA)

Mandate

(a) To collect information about the natural environment in tidal areas around the world; (b) To identify sustainable development and conservation options in the tidal areas; and (c) To find a balance between the preservation and development of tidal areas.

Members of the erstwhile Task Force

(1) Dr. Park, Sang Hyun, Convenor (Korea, 2002); (2) Mr. J. Simm, Vice Chairman (UK, 2002); (3) Ir. H.P. Ritzema, Secretary (The Netherlands, 2001); (4) Ir. Mohd. Azhari Ghazalli (Malaysia, 2002); (5) Mr. Hugh Turrall (Australia, 2002); (6) Mr. Cai Ling (China, 2002); (7) Dr. Indreswari Guritno (Indonesia, 2002); (8) Dr. S. Taniyama (Japan, 2002); (9) Dr. Harry Denecke (IPTRID, 2002); (10) Mr. E.J. James (India, 2002).

Observers

(i) Mr. Daeou Eo (Korea); (ii) Mr. R.H. Susanto (Indonesia); and (iii) Mr. Ueda Kazani (Japan).

3 - Theme : 'Systems'

3.1 – WORKING GROUP ON CAPACITY BUILDING, TRAINING AND EDUCATION (WG-CBTE)

Mandate

- Compile a set of selected cases to describe the current situation, draw lessons from these cases and prepare guidelines for best practices in land and water management on (i) the creation and establishment of an enabling environment, (ii) the institutional setting including beneficiary participation, and (iii) the development and strengthening of human resources and managerial systems.
- Compile the status of training and educational programmes offered in different regions, identify the training and education requirements, identify gaps and prepare guidelines for development and appropriate modification of education and training programmes and strengthening of education and training institutions to meet the changing requirements of the sector.
- Facilitate the process of balancing education and training requirements, and provision and training services.

Members

(1) Prof. Paul van Hofwegen, Chairman (Netherlands, 1996); (2) Mr. Antonio Soares, Vice Chairman (Brazil, 1997); (3) Mr. A. Delacourt, Secretary (France, 1996); (4) Mr. T. Franks (UK, 1996); (5) Dr. I.M. Melisenda (Italy, 1996); (6) Dr. M. Satoh (Japan, 1998); (7) Mr. Hyuk-Woo Yoo (Korea, 1999); (8) Mr. Geoffrey Croke (Australia, 1999); (9) Mr. Ferri Putuhena (Indonesia, 1999); (10) Mr. Hu Heping (China, 1999); (11) Mr. Chun, E. Kan (Chinese Taipei, 1999); (12) Dr. J.M. Schaack (USA, 1999); (13) Mr. Suresh Chandra (India, 2001), and (14) Mr. Muhammad Latif (Pakistan, 2002).

Permanent Observers

(i) World Bank representative; (ii) FAO representative; (iii) IWMI representative; (iv) UNDP Representative; (v) Chairman, WG-R&D.

3.2 – WORKING GROUP ON DRAINAGE (WG-DRG)

Mandate

To determine state-of-the-art of construction and maintenance of surface and subsurface drainage systems under various conditions; investigate case histories and address issues concerning disposal and/or reuse of saline drainage water, enhance the applicability of drainage simulation models.

Members

(1) Dr. W.F. Vlotman, Chairman (The Netherlands, 2000); (2) Dr. Safwat Abdel-Dayem, Vice Chairman (Egypt, 1993); (3) Dr. Daniel Zimmer (France, 1992); (4) Prof. B. Maticic (Slovenia, 1987); (5) Prof. Daniele de Wrachien (Italy, 1988); (6) Dr. M.H. Amer (Egypt, 1988); (7) Mr. I. Dakar (Syria, 1991); (8) Mr. M.S. Adamu (Nigeria, 1991); (9) Mr. Keizrul Abdullah (Malaysia, 1994); (10) Mr. Khalid Mohtadullah (Pakistan, 1995); (11) Prof. Chung Sang-Ok (Korea, 1996); (12) Mr. Chen Hung-Kwai (Chinese Taipei, 1997); (13) Mrs. Wang Shaoli (China, 1999); (14) Dr. D. Rycroft (UK, 1999); (15) Mr. E. Christen (Australia, 2000); (16) Mr. Mohammad Beybordi (Iran, 2000); (17) Mr. S.K. Das (India, 2001); (18) Mr. Y. Matoba (Japan, 2001); (19) Dr. M.N. Bhutta (Pakistan, 2002); (20) Mr. R. Peltomaa (Finland, 2002); and (21) Mr. W.R. Johnston (USA, 2002).

Permanent Observers

(i) FAO representative; (ii) World Bank representative; (iii) Dr. C. Madramootoo (Canada); (iv) Mr. H.W. Denecke (IPTRID); (v) Mr. Aly M. Shady (Canada); (vi) Prof. dr. Bart Schultz (The Netherlands); (vii) Prof. M. Borin (Italy); (viii) Prof. Hector Malano (Australia).

3.3 – WORKING GROUP ON DEVELOPMENT AND MANAGEMENT OF IRRIGATION SYSTEMS (WG-DMIS)

Mandate

To provide a continuing focus in ICID for improvement of irrigation systems, combining design and construction with operation, maintenance and progressive modernization, managed to deliver the appropriate level of service to the users, on a financially, physically and institutionally sustainable basis.

Members

(1) Prof. Hector Malano, Chairman (Australia, 1998); (2) Mr. Jacques Plantey, Vice Chairman (France, 1998); (3) Dr. M. Burton, Secretary (UK, 2002); (4) Dr. Huh, Yoo-Man (Korea, 1999); (5) Dr. J. Goussard (France, 1999); (6) Eng. Joa Braganca (Portugal, 1999); (7) Mr. Lee Tsong Hwei (Chinese Taipei, 1999); (8) Mr. Thomas Mitchell (USA, 1999); (9) Dr. Siripong Hungspreug (Thailand, 1999); (10) Dr. Jiesheng Huang (China, 1999); (11) Mr. Yoshimitsu Yukawa (Japan, 1999); (12) Prof. C. Fasso (Italy, 1999); (13) Prof. Jose Liria Montanes (Spain, 1999); (14) Mr. M.K. Siah (Iran, 2000); (15) Ir. R. Brouwer (The Netherlands, 1999); and (16) Mr. Mahesh Chandra (India, 2002).

Permanent Observers

(i) FAO representative; (ii) World Bank representative; (iii) IPTRID representative; (iv) IWMI representative; (v) Dr. Wayne O. Deason (USA); (vi) Mr. Peter S. Lee (UK);

(vii) Dr. D. Zimmer (France); and (viii) Mr. P.J.M. van Hofwegen (Netherlands).

3.4 – WORKING GROUP ON SOCIO-ECONOMIC IMPACTS AND POLICY ISSUES (WG-SOCIO)

Mandate

To establish evaluation parameters for judging economic, social and cultural changes brought about by irrigation development; to develop appropriate criteria for quantification of economic benefits as assessment of social benefits accruing from introduction of irrigation; to formulate guidelines for economic and financial analysis of irrigation projects; and to evaluate different models for financing and amortization and financially sound management of irrigation projects.

Members

(1) Dr. T. Rieu, Chairman (France, 1998); (2) Dr. Mrs. Anisa Divine, Secretary (USA, 2000); (3) Mr. M.F. Viljoen (South Africa, 1998); (4) Mr. C. Leendertse (Netherlands, 1998); (5) Mr. Mohd. Azhari (Malaysia, 1998); (6) Mr. Mohd. Ali (Indonesia, 1998); (7) Mr. Colin Lovegrove (Canada, 1998); (8) Ing. Josef Miskovsky (Czech Rep., 1999); (9) Mr. A.D. Mohile (India, 1999); (10) Mr. Don Brown (Great Britain, 1999); and (11) Mr. S.A. Assadollahi (Iran, 2000).

Permanent Observers

(i) IFPRI Representative ; (ii) IWMI Representative ; (iii) World Bank Representative ; (iv) Asian Development Bank (ADB) Representative.

3.5 – WATSAVE WORK TEAM (WT-WATS)

Mandate

To promote successful water conservation among member countries as part of appropriate water management; to understand and compare water conservation programs and lessons from member countries; to provide guidelines to member countries on national and regional water conservation programs; to promote the building of partnerships between member countries; and to recognize water saving successes.

Members

(1) Ing. Hussein El Atfy, Chairman (Egypt, 2000); (2) Dr. A. Vidal (France, 1995); (3) Mr. John Osterberg (USA, 1995); (4) Prof. Zhang Qishun (China, 1995); (5) Dr. Jose Maria Martin Mendiluce (Spain, 1996); (6) Dr. Hsu, Shiang-Kueen (Chinese Taipei, 1997); (7) Dr. John G. Annandale (South Africa, 1998); (8) Mr. P.L. Diwan (India, 2001); and (9) Mr. Ian Bell (Australia, 2001).

Observer

(i) Mr. John Hennessy (UK).



4 - Theme : 'On-Farm'

4.1 – WORKING GROUP ON SUSTAINABLE USE OF NATURAL RESOURCES FOR CROP PRODUCTION (WG-CROP)

Mandate

To execute and promote suitable crop-water and environmental models under hydric constraints; to promote methods to optimize irrigation water supplied under different agro-pedoclimatic conditions; to study methods and techniques for irrigation scheduling and to include use of rain and irrigation for sustained crop production and environment; and to promote appropriate techniques and models for environmental enhancement following UNCED's Agenda 21.

Members

(1) Dr. Ragab Ragab, Chairman (UK, 1993); (2) Mr. James M. de Jager, Vice Chairman (South Africa, 1994); (3) Prof. A. Mermoud, Secretary (Switzerland, 1991); (4) Dr. A. Perrier (France, 1986); (5) Prof. B.I. Maticic (Slovenia, 1987); (6) Prof. Maria E.V. Scarascia (Italy, 1988); (7) Prof. B. Itier (France, 1988); (8) Mr. R.G. Allen (USA, 1991); (9) Mr. Laurie C. Tollefson (Canada, 1993); (10) Mr. Cai Ling (China, 1995); (11) Prof. Laszlo Vermes (Hungary, 1995); (12) Dr. Y. Nakano (Japan, 1996); (13) Mr. Tai Cheol Kim (Korea, 1996); (14) Prof. D. Wrachien (Italy, 1996); (15) Mr. Wen-Jung Hu (Chinese Taipei, 1998); (16) Dr. C.W.J. Roest (Netherlands, 1999); (17) Prof. Rui Morcel Fernando (Portugal, 1999); (18) Mr. R. Lal Yadav (India, 2000); (19) Mr. Chen Yih-Rong (Chinese Taipei, 2001); (20) Dr. Shahid Ahmad (Pakistan, 2002); and (21) Dr. I.I. Onwabuya (Nigeria, 2002).

Permanent Observers

(i) FAO representative; and (ii) Mr. Herbert H. Van Lier, CIGR.

4.2 – WORK TEAM ON USE OF POOR QUALITY WATER FOR IRRIGATION (WT-PQW)

Mandate

To produce guidelines on irrigation management under poor quality waters, including saline and brackish water.

Members

(1) Dr. Ragab Ragab, Chairman (UK, 1997); (2) Mr. Geoff Pearce, Secretary (UK, 1997); (3) Dr. K. Amer (Egypt, 1997); (4) Dr. K. Shiati (Iran, 1997); (5) Dr. Dia El-Din Ahmed El Quosy (Egypt, 1997); (6) Dr. Jan Salek (Czech Republic, 1998); (7) Dr. Heinrich Meiring du Plessis (South Africa, 1998); (8) Dr. Narendra K. Tyagi

(India, 1998); (9) Mr. Jose Manuel Arango Maldonado (Mexico, 1998); (10) Dr. Wen-Lin Chang (Chinese Taipei, 1998); (11) Mr. Gao Zhanyi (China, 1998); (12) Dr. Tsaghiro Watanabe (Japan, 1999); (13) Mr. Frans Huibers (Netherlands, 1999); (14) Mr. Samia El-Guindy (Egypt, 2000); (15) Mr. Ramzan Choudhry (Pakistan, 2000); (16) Dr. S. Seyama (Japan, 2001); (17) C. G. Croke (Australia, 2001); (18) Dr. Martin Roche (USA, 2002); and (19) Mr. E.O. Ogunniyi (Nigeria, 2002).

Permanent Observer

FAO representative.

4.3 – WORKING GROUP ON ON-FARM IRRIGATION SYSTEMS (WG-ON-FARM)

Mandate

To promote the science and art of on-farm technology (mechanized and micro irrigation) to improve irrigation management and optimal use of resources, and its technology transfer and to study its impact on crop yields and water usage under various situations and conditions.

Members

(1) Prof. F. Ligetvari, Chairman (Hungary, 1998); (2) Dr. Peter Kovalenko, Vice Chairman (Uzbekistan, 2001); (3) Mr. Felix Reinders, Secretary (South Africa, 1998); (4) Dr. Jan Hribik (Slovak Rep., 1998); (5) Prof. M. Kuroda (Japan, 1998); (6) Dr. Heinz Sourell (Germany, 1999); (7) Dr. Kim Sun-Joo (Korea, 1999); (8) Dr. Saeed Nairizi (Iran, 1999); (9) Mr. Yun Shu-Shr (Chinese Taipei, 1999); (10) Mr. Pierre Ruelle (France, 1999); (11) Prof. Pedro Liao de Sousa (Portugal, 1999); (12) Mr. H.N. Varma (India, 2000); (13) Mr. Steven Mills (Australia, 2001); (14) Mr. J. Dunn (UK, 2002); (15) Mr. Y. Guangu (China, 2002); (16) Eng. M.S. Bala (Nigeria, 2002); and (17) Dr. A.F. Mauderli (Switzerland, 2002).

Permanent Observers

(i) Mr. M. Mesny (ISO representative); and (ii) FAO representative.

PERMANENT FINANCE COMMITTEE (PFC)

Mandate

The Permanent Finance Committee shall be concerned with the financial matters of the Commission and matters having significant financial implications to the Commission. It will review the receipts and expenditures, advise the Council on the previous year's accounts and on the proposed or provisional budget, and will make recommendations on the annual subscriptions and other

support of the participating countries for the current and future years. It may give its opinion to the President and the Secretary -General on the elements to be taken into account to prepare the budgets of the future years.

Members

(1) Dr. Fatma Abdel-Rahman Attia, Chairperson (Egypt, 1997); (2) Mr. Peter S. Lee, Vice Chairman (Great Britain, 2000); (3) Mr. Rick L. Gold (USA, 1997); (4) Prof. R. Brouwer (Netherlands, 1997); (5) Dr. S. Taniyama (Japan, 1997); (6) Mr. F. Ligetvari (Hungary, 1997); (7) Prof. Dr. Stjepan Madar (Croatia, 1998); (8) Mr. Anayat Sabeti (Iran, 1998); (9) Mr. M. Mesny (France, 1999); (10) Mr. A.D. Mohile (India, 1999); (11) Mr. Jose M. Martin Mendiluce (Spain, 2000); and (12) Secretary General, ICID.

**PERMANENT COMMITTEE ON
STRATEGY PLANNING AND
ORGANIZATIONAL AFFAIRS (PCSPOA)**

Mandate

The Permanent Committee on Strategy Planning and Organizational Affairs shall be concerned with increasing the number of member countries and assisting the National Committees to become more active in their own countries to achieve the goals set for them from time to time by the Council. The Committee will also coordinate the activities of Vice Presidents in their areas.

Members

(1) Vice President Prof. C. Madramootoo, Chairman, Canada (2000); (2) Mr. Keizrul bin Abdullah, Vice President (Malaysia, 1999); (3) Dr. Ricardo Graino Segura, Vice President (Spain, 1999); (4) Prof. F. Ligetvari, Vice President (Hungary, 1999); (5) Mr. Soon-kuk Kwun (Korea, 2000); (6) Mr. H. Malano (Australia, 2000); (7) Dr. S. Taniyama (Japan, 2001); (8) Ing. Manuel Contijoch Econtria (Mexico, 2001); (9) Dr. S. Nairizi (Iran, 2001); (10) Mr. Cai Linggen (China, 2002); (11) Eng. I.K. Musa (Nivegia, 2002); (12) Prof. André Musy (Switzerland, 2002); and (13) Secretary General, ICID.

Ex-Officio Members

(1) Chairman, African Regional Working Group (2) Chairman, European Regional Working Group; (3) Chairman, Asian Regional Working Group; (4) Chairman, Latin American Regional Working Group; (5) Chairman, Working Group on Young Irrigation Professionals; (6) Chairman, Committee on Congresses/Conferences; (7) Chairman, Special Work Team on Aral Sea Basin.

Permanent Observers

(i) FAO representative; (ii) World Bank representative; (iii) GWP representative; (iv) WWC representative.

LATIN AMERICAN REGIONAL WORKING GROUP (LARWG)

Mandate

(1) To assist in the development of broad-based ICID National Committees in each Latin American country. (2) To obtain and disseminate information on irrigation and drainage in Latin America. (3) To organize national and international discussions on relevant scientific and technical issues. (4) To provide the catalyst for promoting better contact with the ICID and other relevant international organizations.

Members

(1) Dr. Ricardo A.L. Brito, Chairman (Brazil, 1999); (2) Mr. Jorge Galvez Blanco (Chile, 1999); (3) Mr. Fernando Cepeda Sarabia (Colombia, 1999); and (4) Mr. Antonio Alvez Soares (Brazil, 1999).

Permanent Observers

(i) Vice President Hon. Luis S. Pereira (Portugal); (ii) Vice President Hon. Peter Lee (Great Britain); (iii) Mr. Julio Prado Perez -alternate Javier Lujan Garcia (Spain); (iv) Vice President Hon. Frank Dimick (USA); (v) Dr. Julian Martinez Beltran (FAO); (vi) Vice President Hon. J.M.M. Mendiluce (Spain); (vii) Mr. Laurie C. Tollefson (Canada).

ASIAN REGIONAL WORKING GROUP (ASRWG)

Mandate

To focus on common topics and issues and to enhance the transfer of appropriate technology in irrigation and drainage to and from the Asian Region. The mission of ASRWG is to encourage membership and to coordinate activities in the region.

Members

(1) Dr. S. Taniyama (Japan, 1997); (2) Ir. Mohd. Azhari Ghazali, Secretary (Malaysia, 1997); (3) Mr. Anthony J. Horton (Australia, 1997); (4) Dr. Karim Shiasi (Iran, 1997); (5) Dr. Cheong, Byeong-Ho (Korea, 1997); (6) Mr. Khem Raj Sharma (Nepal, 1997); (7) Eng. A.S. Manoharadas (Sri Lanka, 1997); (8) Mr. Tauhidul Anwar Khan (Bangladesh, 1998); (9) Dr. Siripong Hungspreug (Thailand, 1998); (10) Mr. Bakhodyr M. Yusupov (Uzbekistan, 1998), (11) Dr. Suhail M.M. Wahsheh (Jordan, 1998); (12) Mr. Waseem Nazir (Pakistan, 1999); (13) Mr. Dao-Trong-Tu (Vietnam, 1999); (14) Mr. Feng Guang Zhi (China, 2000); (15) Mr. Kuo, Sheng-Feng (Chinese-Taipei, 1997); (16) Mr. M.S. Menon (India, 2001); and (17) Mr. Sastrodihardjo Siswoko (Indonesia, 2002).

**Permanent Observers**

(i) Dr. Tu Phuc Tuong (IRRI); (ii) Dr. Klaus Siegert (FAO); (iii) Mr. Nanda Abeywickrema (IWMI); (iv) Mr. H.W. Denecke (IPTRID); (v) Mr. Geoffrey Spencer (World Bank); (vi) Dr. Theib Oweis (ICARDA); (vii) Dr. David J. Groenfeldt (INPIM); (viii) Mr. Peter P.C. Sun (INPIM) (Alternate Permanent Observer); (ix) Dr. W.F. Vlotman (ILRI).

**EUROPEAN REGIONAL WORKING
GROUP (ERWG)**

Mandate

To promote awareness about critical ICID relevant water issues at all levels in Europe and to pay special attention to the environmentally sustainable water management in Europe.

Members

(1) Dr. Ing. Eiko Lubbe, Chairman (Germany, 2002); (2) Dr. Brane Maticic, Vice Chairman (Slovenia, 1996); (3) Prof. Dr. I. Ijjas, Secretary (Hungary, 1996); (4) Prof. Waldemar Mioduszewski (Poland, 1996); (5) Dr. Michele Angelo Cuccaro (Italy, 1996); (6) Prof. A. Musy (Switzerland, 1996); (7) Mr. Yevgeny P. Goussenkov (Russia, 1996); (8) Prof. Ion Nicolaesco (Romania, 1996); (9) Prof. Robert Brouwer (Netherlands, 1996); (10) Dr. H. Tardieu (France, 1999); (11) Mr. Pedro Eduardo de Cunha Serra (Portugal, 1996); (12) Mr. Nicos Tsiourtis (Cyprus, 1996); (13) Mr. Aleksandar Radevski (Macedonia, 1996); (14) Dr. Svatopluk Matula (Czech Republic, 1997); (15) Dr. Stefan Rehak (Slovak Republic, 1997); (16) Dr. Antanas Maziliauskas (Lithuania, 1997); (17) Mr. Peter Borros (UK, 1998); (18) Dipl. Ing. Frederick M. Cate (Austria, 1998); (19) Dr. Ricardo Segura (Spain, 1999); (20) Mr. Peter Kovalenko (Ukrain, 1999); (21) Mr. Jaakko Sierla (Finland, 2001); (22) Dr. Zvonimir Vukelic (Macedonia, 2002); (23) Mr. Mati Tonismae (Estonia, 2002); and (24) BNCID representative (Bulgaria).

Observer

(i) Mr. Mohammad Binbilidia, IME (France).

**AFRICAN REGIONAL WORKING
GROUP (AFRWG)**

Mandate

To promote links and networking among the African countries as well as regional and international institutions for enhancing cooperation and coordination, and to support integrated river basin development, training and research issues and information system for African needs.

Members

(1) Engr. I.K. Musa, Chairman (Nigeria, 1996); (2) Dr. H. Fahmy, Vice Chairman (Egypt, 1996); (3)

Eng. M.S. Bala, Secretary (Nigeria, 2002); (4) Mr. W.P. Field (UK, 1996); (5) Ms. Raphaelae Ducrot (France, 1999); (6) Dr. Sizwe Michize (South Africa, 2001); (7) Mr. Mekonnen Loulseged (Ethiopia, 2002); (8) Kenyan Representative; and (9) Morocco Representative.

Permanent Observers

(i) FAO Representative; (ii) World Bank Representative; (iii) IPTRID Representative; (iv) Mr. Jean Syrogianis Camara (Italy); (v) Mr. A. de Vito (Italy); (vi) Mr. Deric. S. Mono (Zambia).

**SPECIAL WORK TEAM ON ARAL
SEA BASIN (ST-ARAL)**

Mandate

To assist in establishing broad based ICID National Committees in each Aral Basin country; to obtain and disseminate information on problems of Aral basin to other ICID countries with similar problems; to organize national and international discussions on related scientific and technical issues in the basin; and to cooperate with other international organizations in related activities.

Members

(1) Prof. C. Madramootoo, Chairman (Canada, 2002); (2) Prof. V. Dukhovny, Vice Chairman, (ICWC, 1994); (3) Mr. Geoff Pearce, Secretary (UK, 1997); (4) World Bank Representative (1994); (5) Mr. John Osterberg (USA, 1996); (6) Ing. A. de Vito (Italy, 1996); (7) Tajikistan Representative (1997); (8) Mr. M. Mesny (France, 1998); (9) Mr. M.G. Bos (Netherlands, 1998); (10) Prof. N. Hatcho (Japan, 2002); (11) Eng. M.S. Adamu (Nigeria, 2002); (12) Accd. Boris Kizyaev (Russia, 2002); and (13) Secretary General, ICID.

Permanent Observers

(i) Prof. Daene C. McKinney (IWRA); and (ii) Mr. H.W. Denecke (IPTRID).

**WORKING GROUP ON YOUNG IRRIGATION
PROFESSIONALS FORUM (WG-YPF)**

Mandate

- To provide an international platform for young irrigation and drainage professionals and to encourage and promote amongst the young professionals a high standard of professional development in the subjects of irrigation, drainage and environment.
- To facilitate the development, acquisition and wider dissemination of knowledge and information about irrigation, drainage, flood control and environment amongst the young professionals.
- To maintain and enhance links with national and

international youth having interests in the related subjects or the activities relevant to ICID objectives.

- To educate young professionals about ICID's role, objectives, activities, structure, Constitution and Bylaws.

Members

(1) Dr. Gao Zhanyi, Chairman (China, 1998); (2) Mr. A.R. Salamat, Vice Chairman (Iran, 2000); (3) Ms. Nepveade Villemarace Au Audrey, Secretary (France, 2002); (4) Dr. Hesham Kandil (Egypt, 1998); (5) Dr. B. Boteva Mileva (Bulgaria, 1995); (6) Mr. Megat Johari Megat Mohd. Zoor (Malaysia, 1998); (7) Mr. Jong Min Park (Korea, 1998); (8) Dr. Antonin Tuma (Czech Republic, 1999); (9) Mr. O. Katsucoshi (Japan, 1999); (10) Dr. Masaya Ishikawa (Japan, 2000); (11) Mr. Mohd. Ali Fulazzaky (Indonesia, 2000); (12) Ir. M. Ertsen (Netherlands, 2002); (13) Mr. T. Karkkainen (Finland, 2002); and (14) Ms. E.O. Ogunniyi (Nigeria, 2002).

COMMITTEE ON CONGRESSES / CONFERENCES (C-CONGR)

Mandate

To recommend general improvement in conduct of

Congresses/Conferences sessions; to recommend tasks and duties for General Reporters and Panel of Experts for Congress Questions and Special Session; to study and establish, if needed, the basic guidelines for recommending the tasks and responsibilities of National Organizing Committees; to establish appropriate procedures for selection of Congress Questions, Special Sessions and Symposia; to establish procedures for scheduling of most appropriate workshops, seminars, etc. to be held at the time of Congress; to make recommendations on the number and type of simultaneous meetings at Congresses/Conferences in order to improve effectiveness and attendance; to study and accord advice to the National Committees, for methods to be adopted in each case for an effective follow-up of the Conclusions and Recommendations of Congresses/Conferences; and to make recommendations on printing the proceedings for distribution of abstracts in advance.

Members

(1) Dr. Gao Zhanyi, Chairman (China); (2) Mr. Aly M. Shady (Canada); (3) Dr. Park Sang-Hyun (Korea); (4) Mr. Thierry Rieu (France); (5) Dr. M.H. Amer (Egypt); (6) Russian Representative; (7) Australian Representative; and (12) Mr. S.P. Goyal, Deputy Secretary, ICID.

Activities of ICID Work Bodies

A. WORK BODIES COVERED BY THE STRATEGY THEME "KNOWLEDGE"

IPTRID ADVISORY COMMITTEE (AC-IPTRID) - ESTD. 1995

Dr. Alain Vidal expressed that R&D priorities from WGs and NCs should reach IPTRID through AC-IPTRID, it was proposed that Central Office should request all Chairs of WGs. & TFs. to collate R&D priorities in their areas of responsibility and forward these to Chair AC-IPTRID for review and communication to IPTRID by AC-IPTRID. Dr. Olivier Cogels was elected as new Program Manager of IPTRID who has taken over his charge in June 2002. Dr. Cogels stated that he had undertaken a detailed review of the previous operation of the Program, current budget status and begun to develop a strategic vision for the future of the Program. In his view the priority for IPTRID was to become more responsive to the needs of the stakeholders (both developing countries and donor

organizations) by providing services to these groups and filling the gap between the research community and the implementing agencies.

Mr. Geoff Pearce, IPTRID Network Coordinator reported that the Text Delivery Service (TDS) was now publicized in editions of GRID. Future editions will give more prominence to the service.

Mr. Peter Lee gave a brief summary of the history of the Text Delivery Service and outlined the current status. Since transfer from HR Wallingford to Central Office, the service had been funded by a grant from DFID and currently by a grant from the Government of The Netherlands. This will support the service till the end of 2002. ICID has made a commitment to continue the service beyond this time from within the ICID resources. Mr. Peter Lee noted that this was a substantial, open-ended, commitment and ICID was seeking additional funds to maintain the service.



Mr. Geoff Pearce agreed to prepare the content for the initial page summarizing AC-IPTRID's mandate and submit this to Central Office for conversion to a web page for inclusion on the ICID website.

The discussions were focused on the progress of the Asia Drainage Program for Humid Tropics (ADPHT). Mr. Jan Vlaar confirmed that The Netherlands had committed to provide 50% funding for this program, subject to a matching contribution from other donor or donors. Dr. Reto Florin (FAO) indicated that discussions with other potential donors were progressing and it is hoped that matching funds will be committed before the end of the year.

Dr. Cogles noted that IPTRID remained interested in the Country Networks, however the Program must review the request for support received from the Indian National Committee and possible funding sources before making any commitments for further support.

Mr. Peter Lee proposed that Central Office be requested to include a specific agenda item for future AC-IPTRID meetings on 'advice to IPTRID on research priorities'.

Mr. Fernando Gonzales informed that the World Bank was seeking assistance for research on minimum conditions for volumetric water delivery; and also research on regulatory processes for effective irrigation services.

WORKING GROUP ON RESEARCH AND DEVELOPMENT (WG-R&D) - ESTD. 1994

A Summary Report on 'Impact Evaluation of Past Research in Irrigation and Drainage' was presented at the Special Session on 'Research and Development in Irrigation, Drainage and Flood Control' on 26 July 2002 at Montreal in Canada.

Proceedings of a Workshop on 'Integrated River Basin Management' held at Cape Town, South Africa in October 2000 are now available through ICID Website under ICID Workbodies : WG-R&D. In addition, the Institutional Support System Project (ISSP) is also publishing a book on "Governing River Basins" based on the ISSP Research. The book has been accepted by CAB International (CABI) for publication. The WG

intends to ask the National Committees to identify priorities for R&D. The plan is then to deliberate on information received and focus on the thrusty issues during 2003 and 2004. The mechanisms for providing ICID input to IPTRID is being revised in consultation with AC-IPTRID. The WG intends to collaborate with WG-CBTE in area of Capacity Building. Mr. A. Delacourt (France) presented a flyer for Montpellier meetings at Montreal, which included an R&D topic on 'Improved Irrigation Technologies and Methods : Research, Development and Testing'. Further details can be accessed at URL <http://afeid.montpellier.cemagref.fr/techws2003.htm>.

ICID JOURNAL EDITORIAL BOARD (EB-JOUR) - ESTD. 1994

Mr. Charles L. Abernethy and Dr. W Dirksen resigned from the Membership of the Editorial Board and the Chairman expressed his thanks for their contribution to the Journal. Chairman John Hennessy also stepped down as Chairman and Member of the Editorial Board, President Hon. Bart Schultz assumed the Chairmanship of EB. The Joint Editors, Ir. Paul van Hofwegen and Dr. Daniel Zimmer , presented their report to EB covering the Volumes 51/1 to 51/3 Issues. It was reported that the main event since the EB-JOUR meeting in Seoul was the transfer of editorship from Prof. Janusz Rydzewski to two joint editors. In Vol 51 upto issue 3; 22 papers and one book review were published. An interesting development was that beside ICID contributions, more and more contributions were received from academic institutes in various countries. Joint Editors reported that the preparations were underway for a conference issue where the best papers from various sessions were proposed for publication in the journal after the normal review procedures had been carried out. The Joint Editors felt that it was important to encourage the publication of more position papers from the ICID family as it was important to share views and opinions. While reviewing the Editorial Process, the Chairman felt the need for a complaint procedure to be in place and proposed the procedure to EB. Prof. Xu Zhifang proposed to translate a detailed abstract of the Journal papers into Chinese for local distribution.

The proposal to include book reviews in the Journal was accepted as the EB felt that book reviews were an

interesting element in any Journal. The Chairman tabled the reports by Chairman and Joint Editors of meetings with Wiley since September 2001 including Management Team (MT-Journal) activities. It was reported that the publication schedule of volume 52 was same as for volume 51: March, June, September and December 2002.

Wileys sales in 2002 were up by 12% compared to first year and agreed that membership rate for personal use for ICID members will remain the same for 2003. The EB agreed that the Journal is an interesting outlet of Working Groups' and Regional Groups' output and the Chairpersons of the working groups were encouraged to prepare their output in paper format for possible publication in the Journal. It is essential that for the status of the Journal these papers are treated as any other paper and will be reviewed accordingly.

Since the Seoul meeting the ICID Journal, Volume 50, Issue No. 3 and 4 and Volume 51, Issue No.1 and 2 were published by M/s. John Wiley and Sons Ltd. and the complimentary copies were distributed to all National Committees/Committee of ICID, Office-Bearers, the members of Workbodies and to the Editorial Board members. The National Committees were requested to inform Wileys on any problems related to the shipments and copy the correspondence to the Chairman EB.

The Role of the Editorial Board was approved at the Editorial Board's meeting held at Cairo in 1996. The Board approved the change proposed in number 10 as "Members of the Board should be prepared to review papers and books submitted for publication in the relevant subject area."

The chairman expressed thanks to the members standing down from the EB. The Chairman was also thanked for his contributions to the Journal.

WORKING GROUP ON COORDINATION OF DICTIONARIES (WG-CD) - ESTD. 1998

Mr. Michel Mesny (France) was elected as new Chairman of WG-CD. He mentioned that he would continue in this capacity until the next meeting in Montpellier. He suggested that Mr. Burno Molle(France) may be invited for the membership of the WG in his place next year.

Out of the 22 chapters, 2 new chapters on Water Management were carved out by relocating some related terms from the existing chapters. These additional chapters are on Project Water Management and On-Farm Water Management. The new updated version of the CD-ROM now contains revised chapters.

A new improved and updated version of ICID's MTD on CD-ROM was prepared by Central Office in July 2002. The CD was presented by the ICID Central Office at the meeting. The members expressed their satisfaction and appreciated for the new version.

It was suggested that for the next revision of the MTD, the new version of ISO terminology be kept in view and used wherever appropriate. Chairman of WG will keep the WG members informed about the ISO definitions.

It was also recommended to ask the vendor who developed the software for the present version of CD-ROM, if all the terms could be arranged alphabetically in both languages as indexes in addition.

The WG expressed its happiness that several National Committees such as Russian, Spanish, Indian, Bulgarian, Vietnamese, Pakistani, Lithuanian and Chinese had expressed their keen interest in translation and production of the Dictionary on CD-ROM. The WG was happy to note that Japanese version and the Arabic version of the MTD have been published on CD-ROM by the Japanese National Committee and the Egyptian National Committee respectively.

COMMITTEE ON PUBLIC RELATIONS AND PUBLICATIONS (C-PR&P) - ESTD. 1992

The Chairman acknowledged with thanks the long-term support the Committee had received from Dr. Dirksen, who retired from the Committee following the Montreal meeting. The Committee agreed that additional members were needed to assist in the work of the Committee and asked the Central Office to invite all the National Committees to consider naming a representative for the Committee.

The statement of ICID publications sold during 2001 was reviewed. The Committee noted that the Central Office



had undertaken several steps to improve sales, with some success and commended Central Office for these efforts.

The Committee reviewed the publication of the new CD version of the Multilingual Technical Dictionary (MTD) and recommended that a sample of the new Dictionary, including the French and English definitions of several terms, be placed on the website, as an effort to help market the new CD version of the dictionary. The Committee commended Central Office for their work in developing the new CD. The synoptic table was reviewed.

The Committee Chairman reviewed the key issues of the meeting of the Editorial Board including the retirement of Mr. John Hennessy and the nomination of President Hon. Bart Schultz to serve as Chair of the Board. That the Journal is being published on time, and it has a schedule for future issues and that ICID had received a royalty payment from Wiley. The Committee noted that Central Office had taken several steps to improve sales of the Journal.

The Committee noted that little a progress has been made on the publication "Irrigation and Drainage in the World - A Global Review" and suggested that the Chairs of PODIUM, Benchmarking Task Forces and IPTRID be asked to determine if their data collection efforts could be used for updating Irrigation and Drainage in the World.

The Committee discussed the need for a position paper on the value of irrigation and agreed that the lay public has little concept of the importance of irrigation for the production of food and fiber. It was agreed that a small Work Team would be convened during the Montreal meeting to develop a list of topics to be addressed in the position paper.

The Committee reviewed the work accomplished by Central Office to improve the website during the past year, and commended Central Office staff for their efforts. A number of suggestions were developed and would be given to Central Office for implementation.

The Committee noted that the papers accepted for the 18th ICID Congress were included on a CD-ROM and distributed to Congress participants. The Committee agreed that a print version of the Directory was useful,

but print Directories were expensive, and quickly go out of date, as the information changes continuously. It was decided that the Directory be prepared in PDF format. The Committee recommended that information formerly included in the print Directory be placed on the website in PDF format, so that National Committees and others could download and print the information. Central Office was asked to implement this suggestion and then ask the National Committees if this option would meet their needs for a print Directory.

The Committee appreciated the Central Office efforts to implement the Committee's recommendations to establish Workbody Websites.

WORKING GROUP ON HISTORY OF IRRIGATION, DRAINAGE AND FLOOD CONTROL (WG-HIST) - ESTD. 1980

Prof. N. Hatcho (Japan) was elected as new Chairman of Working Group on History of Irrigation, Drainage and Flood Control (WG-HIST) in Montreal, July 2002. While Prof. Fahlbusch is to continue to contribute as a regular member of the WG-HIST.

The progress made by various National Working Groups (NWGs) on their assignments was reviewed. It was decided that the US National Committee would be approached for establishing a US National Working Group for taking steps to publish the documents on three topics, namely, 'History of Irrigation in California', 'History of the US Bureau of Reclamation', and 'History of the International Water Management Institute'. Mr. G.H. Hargreaves presented a status report at the Montreal meeting and looked forward to a pragmatic way and to publish information collected.

Mr. Himel (USA) presented the developments in Cambodia during the History Seminar on 'lessons learned'. Mr. Graino (Spain) established contacts to incorporate the contributions from Algeria and Tunisia in the draft Mediterranean Volume and submitted an impressive volume (Spanish language, 2nd edition) on the History of Irrigation and Drainage in Spain. Mr. Lusquelles (France) submitted a booklet (In French language) written by Mrs. Conac on Water Management Systems in France.

The publication on Indus Basin and Danube Basin are almost in the final stage of completion. It was decided that the publication on 'Indus Basin' be made available at WWF-3 Conference in Kyoto, March 2003 and the publication on 'Danube Basin' may be expected in Montpellier, September 2003. It was also decided that the publication on 'History of Irrigation in Eastern Asia' will be published in two reports, Report-1 will be ready on a CD-ROM at the time of WWF-3 in Kyoto with contributions from Japan, Korea, Malaysia & Thailand while the Report-II will be released at the time of Beijing Congress in 2005.

A Seminar on 'History of Irrigation' was held at the time of 18th Congress, Montreal, July 2002. In this seminar, 9 papers were presented during a full day program while a total of 26 papers had already been published. A CD had been developed for all Congress papers and other events in which the papers pertaining to Seminar on History of Irrigation were also included.

A Seminar on History organized at WWF-3, Kyoto in collaboration with International Water History Association (IWHA) and United Nations University (UNU) titled 'Lessons to learn from History'. Prof. N. Hatcho coordinated the contributions from WG and Dr. Janski acted on WG's behalf.

It was decided that full-day Seminar on History to be held at the time of 19th ICID Congress in Beijing in 2005 on 'Management of Traditional/Historical Irrigation and Drainage Projects'. Publication of a call for papers will be done on the website, the Internet and through IWHA.

The 3rd IWHA Conference is to be held in Cairo, Egypt from 11-14 December 2003, on the subject 'History of Water in Civilization'. The WG will closely cooperate with IWHA.

**B. WORKBODIES COVERED BY
STRATEGY THE THEME "BASIN"**

**WORKING GROUP ON INTEGRATED LAND
AND WATER RESOURCES MANAGEMENT
(WG-ILWRM) - ESTD. 1973**

Prof. Joachim Quast (Germany) presented three case studies from his institute on precision farming, water

quality concerns from non-point sources, and issues facing integrated water resources management during the Montreal meeting. Presentation on the "Spanish-Portuguese Experience in the Integration of River Basin Plans for Transboundary Rivers" was made by Mr. Aderito de Jesus Mendes (Portugal) and Sr. Ricardo Segura Graino (Spain) at the 18th Congress in July 2002. Mr. L.K. Oosthuizen (South Africa) presented his country case study on 'Changes in the Legal Framework Governing Water in South Africa'.

The WG has established a website <http://www.afeid.montpellier.cemagref.fr/ILWRM/wg-ilwr.htm> exclusively for its activities. The website is also linked with ICID website and can also be accessed directly through <http://www.icidonline.org/~wg-ilwr.htm>. The country case studies would be posted on WG's website to be eventually published.

**WORKING GROUP ON ENVIRONMENTAL
IMPACTS OF IRRIGATION, DRAINAGE
AND FLOOD CONTROL PROJECTS
(WG-ENV) - ESTD. 1986**

The WG agreed that Climate change was a very important aspect that caused hazards to agriculture and water resources. Dr. Perrier (France) presented the English version of the status paper on climate change together with "Application of Probability of Impact of Climate Change to Agro-Economy", using European country case for small region. The research results among others conveyed that even though the general climate change impact on agriculture is for the better, the change will cause more erratic rainfall, making water management far difficult.

Prof. Kwun, Soon-Kuk (Korea) and Dr. Hu Heping (China) presented case studies of Korea, Japan and China. The research results in Korea and Japan found that the methane flux caused by the irrigated rice field had been far less than that caused by the industries, particularly as the rice area is declining due to the urbanization and industrialization. China has already found measures to mitigate rice field methane flux, among others by (1) using a high yield variety rice; (2) not using organic fertilizer.



The Working Group considered the need of evolving an action plan to associate this WG with the impact of climate change on water management activity as its further program.

The Working Group recommended that suitable actions be taken to address the subject of desertification. The Working Group considered the need and advisability of drawing up an action plan to associate ICID in this important activity to face the omni-potent threat to water resources sector and the manner in which the agricultural land water management, drainage and flood control could be adopted in coastal zones to mitigate the repercussions of early warming. This mandate was recommended to be given to the WG on Tidal Areas. The WG reviewed the three-year plan adopted by the Working Group at Seoul further critically in light of the developments during the year.

The WG-ENV has so far conducted two Workshops on Wetland — one was on “Wetland Sustainability for Agriculture Development” in June 1997 at Bali, Indonesia and the other was on “Agricultural Based Development in Tidal Swamps and Estuaries and Environmental Considerations” in 2001 at Seoul. The WG recommended that these publications/proceedings may assist the Working Group on Sustainable Development of Tidal Areas in their aim to publish a “Handbook on Tidal Management” to guide the planning, design and management of irrigation and drainage projects in tidal areas. Mr M. Kashem Siah (Iran) presented a case study on “Impacts of Reuse of Water on Agricultural Production and on Human Health in Rural Areas”. The Working Group deliberated on the case studies and made recommendations. Mr. C. Kamolratana (Thailand) presented the Thailand case study on “Improvement of Agricultural Return Flow”. The recommendations required for the research covered (a) periodic 2 times yearly monitoring programme; (b) Training and education of stakeholders; (c) Pilot sewage treatment.

To fully comprehend Hydrological impact of sea water rise, the WG agreed that steps were needed to identify the areas where such conditions had arisen to evolve the technological solutions to address the issues. The Working Group felt that the agenda item was necessary for coastal areas and therefore recommended to PCTA to give the responsibility to the WG on Tidal Areas (SDTA). The

WG considered the Group’s response to Agenda 21 and delved into them in Montreal.

**WORKING GROUP ON IRRIGATED
AGRICULTURE UNDER DROUGHT AND
WATER SCARCITY (WG-IADWS) - ESTD. 1996**

Dr. S. Nairizi (Iran), Chairman of the WG has prepared a summary report of about six completed General Questionnaire on “Water Status of ICID Member Countries” which were received from India, Hungary, Uzbekistan, Lithuania, Australia and Iran. Prof. Vermes (Hungary) also presented a brief outcome of the Bled Conference on “Drought Mitigation” which was held in April 2002 in Slovenia. The guideline on “How to Work out a Drought Mitigation Strategy” was prepared by Prof. Dr. Laszlo Vermes (Hungary) and members were encouraged to use this guideline and give a feedback to Chairman. Mr. A. Villocel (France) presented a document on ‘Guidelines for the Evaluation of Social, Economic and Political Impacts of Drought and Water Scarcity’ during the Montreal meeting. A half-day technical workshop on “Rain Water Harvesting and its Utilization for Sustainable Agriculture” is being planned jointly with FAO during 55th IEC meeting at Moscow, Russia in 2004. Dr. Mohammed Bazza and Dr. Martin Smith, FAO made a presentation on FAO activities on Drought Preparedness and Mitigation, on the Reuse of Non-conventional Water Resources in Irrigation and other subjects of interest to the WG. The WG was informed on the establishment of regional networks in the Near East Region, one on Drought Management and the other on Wastewater Reuse in agriculture. The WG now has its own website (<http://www.wg-iadws.icidonline.org>) where latest activities of WG can be reviewed. Establishment of close cooperation with other International and Regional Associations, namely, WMO in Switzerland, ICARDA in Syria, SCWMRC in Iran and ICRISAT in India will be initiated.

**WORKING GROUP ON COMPREHENSIVE
APPROACHES TO FLOOD MANAGEMENT
(WG-CAFM) - ESTD. 1985**

The Chairman of the WG Dr. J. van Duivendijk (The Netherlands) has prepared and circulated draft position papers on (1) Flood parameters vs. inundation; (2) Flood parameters vs. damage; (3) Desired level of protection;

(4) Mathematical modeling; and (5) Flood plain zoning. Comments have been invited from all members as well as National Committees. Draft position papers can be accessed through ICID website. After receiving reviews/comments, the WG intends to publish the position papers for wider dissemination of CAFM.

A Workshop on “Comprehensive Approaches to Flood Management” will be held on 17 September 2003 in Montpellier, France during the 54th IEC meeting.

The Central Office had prepared a proposal for holding an “International Seminar for promoting the Non-Structural Approach to Flood Management in Flood Prone Countries of Asia”. The proposal remains unfunded at present. It could be held anywhere in Asia. Any interested country could contact Dr. J. van Duivendijk, Chairman (The Netherlands) and Central Office to discuss possibilities of hosting such a seminar.

**WORKING GROUP ON SUSTAINABLE
DEVELOPMENT OF TIDAL AREAS
(WG-SDTA) - ESTD. 2002**

At the 52nd International Executive Council held at Seoul in September 2001 approved formation of the new Working Group on Sustainable Development of Tidal Areas (WG-SDTA). Dr. Park, Sang (Korea, Rep. Of) became the 1st Chairman of the WG. The WG members endorsed the objectives of WG-SDTA as below :

- (a) To collect information about the natural environment in tidal areas around the world.
- (b) To identify sustainable development and conservation options in the tidal areas.
- (c) To find a balance between the preservation and development of tidal areas.

The WG also endorsed eight study items covering various aspects of Sustainable Development of Tidal Areas.

The WG is considering publishing a ‘Handbook on Tidal Areas’ to improve the planning, design, management and development of tidal areas. The contents of the handbook will be based on various studies and workshops planned up till 2005.

An International Workshop on ‘Sustainable Development for Tidal Areas’ was held on 22 July 2002 at Montreal. Fourteen papers were contributed from Britain, Japan, Korea and The Netherlands. The proceedings of the workshop have been published with the support of KCID.

The WG would hold second Workshop in September 2003 at Montpellier, France in cooperation with the French National Committee of ICID (AFEID) and the Working Group on Environment (WG-ENV). This workshop would focus on : (1) Operation and maintenance issues in reclaimed area including acid sulphate and heavy clay soil management; (2) The physical and biotic characteristics before and after the sustainable development in the tidal areas; (3) The chemical and water quality characteristics of tidal swamps and estuaries. The third workshop is also being planned for Moscow meetings in Russia during 2004.

ICID has now joined hands with Global Peat Initiative (GPI) through WG-SDTA and will be nominating an ICID member on the GPI Steering Committee. Co-operation with Scientific Technical Review Panel (STRP) is also being discussed.

The WG now has its own website (<http://www.wg-sdta.icidonline.org>) through which WG activities are projected.

**C. WORK BODIES COVERED BY THE
STRATEGY THEME “SYSTEMS”**

**WORKING GROUP ON CAPACITY
BUILDING, TRAINING AND EDUCATION
(WG-CBTE) - ESTD. 1995**

Ir. Paul van Hofwegen, Chairman of WG-CBTE proposed to retire at the end of the meeting. Finally, it was decided that the WG-CBTE will remain functional till its Montpellier meeting in September 2003 and he will continue as Chairman for another year.

WG agreed that capacity building concept involved a wider context than training and education, namely, including development of farmers or users institutions, institutional frameworks, assistance system, etc. It was agreed to be necessary to continue to collect case studies in various countries to identify needs and requests. At



Montreal, it was proposed to organize a specific workshop in near future with the object to identify issues in irrigation and drainage management. Different partners i.e. FAO, CAPNET etc. could be interested to contribute to the organization of such a Workshop.

Different documents presenting training courses and education programs were sent by Chinese and Indian NCs for checklist on formulation of education and training programmes and capacity building of institutions. These papers will be included in the final issue. A standard format was prepared during 2001 which would be completed with further information about capacity building constraints and training need of all sectors involved in irrigation management.

It was desired that information on relevant education training programs would be more and more provided more and more through Internet. The ICID website was linked with IPTRID and FAO sites for improving with new information material. It was proposed that NCs would be requested to update the contents of the information they provided to the ICID website or other connected sites.

FAO representative presented information on training programs of end users and mentioned numerous field projects and training experiences in this regard. Most of this information is accessible through FAO website. CD-ROM on regional initiatives for training farmers in Africa was also available.

Chairman informed that CAPNET was operational now and its Secretariat is located in Delft, The Netherlands. ICID has links with CAPNET and emphasized further strengthening.

At Montreal, it was decided to organize a Workshop on "Capacity Building in Irrigation & Drainage - Issues, Challenges, and the Way Ahead" during the 54th IEC and 20th European Conference in Montpellier (France) on 16 September 2003.

WORKING GROUP ON DRAINAGE (WG-DRG) - ESTD. 1983

The document "Drainage and Hydrology of Agricultural Catchments" was posted on the DRAINLINE website. Dr. Vlotman and Dr. Indreswari reported that two

Workshops had been held on wetland development for sustainable agriculture and that a handbook on wetlands in tidal areas is being prepared by the WG-SDTA. Dr. Vlotman would attempt to produce a synthesis of material and ideas that had surfaced at recent workshops and would work with Mr. Henk Ritzema, Secretary, WG-SDTA.

Besides the drainage need database, there was also a database on irrigation and drainage projects of the World Bank. Dr. Daniel Zimmer reported that several more submissions from National Committee's were received since the Seoul meeting and that Mr. Sami Bouarfa (Cemagref, France) would incorporate these in the database. It was agreed that various databases could be linked and that the Chairman Vlotman will add the database to The DRAINLINE and provide link to the World Bank website. Messrs. Daniel Zimmer and Safwat Abdel Dayem would produce an article on drainage needs for submission to the ICID Journal. The Group agreed to continue listing of videotapes and CD-ROM in database on the web, while include their full contents.

Mr. Mohd. Azhari bin Ghazalli reported on the Asian Drainage Programme for the Humid Tropics (ADPHT) which had been established in co-ordination with the Central Office with National Focal Points (NFP) in seven ICID member countries viz. Malaysia, India, Vietnam, Indonesia, China, Sri Lanka and Thailand. The main function of the NFP was to facilitate establishment of the programme at National level. It was proposed that the NFPs could establish their national network by hosting a webpage, which could further be linked to ADPHT website (<http://agrolink.moa.my/did/mancid/adpht>) or to IPTRID's website.

The 9th International Drainage Workshop (9th IDW) would be held at Utrecht, The Netherlands on 10-13 September 2003. The main theme of the Workshop is "Drainage for a Secure Environment and Food Supply". Both scientific and organizing committees of the 9th IDW have been established and Dr. Vlotman is coordinating all the activities and the updated information was posted on the DRAINLINE as well as www.icid.org.

Mr. H.W. Denecke, (IPTRID) reported on four IPTRID publications, viz. (1) Drainage Sustainability, (2) Capacity Building for Drainage in North Africa, (3) Pakistan-Development of a Research Programme, and (4) Bio-drainage.

Dr. Amer, Chairman, ENCID, reported on the African Regional Drainage Training Center (ARDTC) which would be hosted by Ministry of Water Resources and Irrigation (MWRI), Egypt. The training programmes would be arranged in phases spread over five years.

Dr. Vlotman updated the Group on the possibility of holding the 10th International Drainage Workshop in Russia in 2006. Mr. Denecke (IPTRID) offered to look into funding for the workshop and possibility of holding it in Tashkent. Dr. Vlotman also discussed as to how could the topic of drainage be advanced at the WWF3. He stressed the need of creating awareness of drainage issues on world community.

**WORKING GROUP ON DEVELOPMENT AND
MANAGEMENT OF IRRIGATION SYSTEMS
(WG-DMIS) - ESTD. 1998**

Dr. Siahi (Iran) informed the Group that the document 'World Bank Paper No.389' had been translated into Farsi. Mr. Aderito Mendes reported that the Portuguese National Committee (PNCID) had printed 100 copies of translation of the publication "Checklist on Small-scale Irrigation" and were distributed amongst appropriate personnel in the five-lusaphone African countries. Dr. Siahi reported on use of the Farsi document in Iran. It was found useful, particularly for farmer's participation in the development process.

It was decided that the Group would consider aspects of Asset management. Messrs. Burton, Mitchell and Malano would identify case studies and members would ascertain the availability of others. Mr. Mitchell reported that further work was planned in the USA on underwater lining of in-service canals. He also reported that the US Water Group was in the process of publishing a collection of case studies on rehabilitation of in-service irrigation systems.

**WORKING GROUP ON
SOCIO-ECONOMIC AND POLICY ISSUES
(WG-SOCIO) - ESTD. 1998**

Mr. Mahesh Chander (India), presented a paper prepared by Mr. Suresh Chandra on Indian experience and practices related to cost-benefit analysis of irrigation projects. Dr. Rieu, Chairman circulated and gave an oral presentation

of the Draft Worksheet, including guidelines for assessing existing and future costs of irrigation services. The worksheet and guidelines were to be used to calculate full cost of irrigation services in order to support the implementation of water pricing evaluation in different countries. Dr. Rieu requested members to apply the worksheet methodology in their respective country situations to test its adaptability and utility.

The revised questionnaire i.e. "Gender in Irrigation and Drainage" was discussed thoroughly. Dr. Hilmy Sally (IWMI representative) presented research compiled by Ms. Barbara van Koppen, regarding the impacts of gender on irrigation system operation. It was found that in Female farm systems, the major source of change and empowerment was the irrigation agency; whereas, in Male farm systems, the major source for inertia were the traditions associated with the community. The IWMI research paper No.59, "A Gender Performance Indicator for Irrigation: Concepts, Tools and Applications" was available on the IWMI website: <http://www.iwmi.org>.

Dr. Henri Tardieu (France) informed that the Task Force paper on "Irrigation and Drainage Services : Some Principles and Issues Towards Sustainability" would consist of three chapters' viz. Chapter 1 - Definition of the main concepts, Chapter 2 - Practices and procedures for pricing services, and Chapter 3 - Some principles and issues towards sustainability.

**WATSAVE WORK TEAM
(WT-WATS) - ESTD. 1994**

A sub-team comprising Dr. Alain Vidal (France), Dr. John G. Annandale (South Africa), Mr. Ian Bell (Australia), and Mr. John Osterberg (USA), would revise the existing questionnaire. The revised questionnaire would be circulated amongst National Committees for filling up and the Central Office will compile the information.

It was unanimously agreed that the winners of WatSave Awards be declared at least two months in advance so that they could get ample time to remain present at IEC and receive the award and the citation. Further it was also felt that nomination for WATSAVE Awards be open to all those who surf the website but they should have to send their entries through their respective National Committees.



Presentations were made by Prof. Tai C. Kim (South Korea) winner of the Technology award 2001 for his work on 'Water Balance in Paddy Field considering Watershed Management and Application of Rotational Irrigation System', and Er. S.M. Belsare (India) winner of the Young Professionals award 2000 for his work on 'Participatory Irrigation Management in Maharashtra State of India'. Presentation was made by Dr. A. Vidal, representing IPTRID, on water saving experiences from Jordan, Egypt, Morocco, Algeria and Tunisia. Further discussions were held regarding experiences in India, Egypt, Australia, and China on water conservation practices. The International Workshop on 'Crop Water Management for Food Production Under Limited Water Supplies', was held at Montreal in line with the earlier decision to promote worldwide water savings/conservation activities. The Chairman apprised the Work Team about the next WATSAVE workshop being organized by ENCID during the 1st African Regional Conference scheduled in 2004 and invited all for participation.

Members strongly supported continuing of activities of the WATSAVE Work Team for the benefit of irrigated agriculture around the world.

Mr. T.M. Stein representing FAO made a detailed presentation on achievements of WCA InfoNET and was supported for making the WCA InfoNET proactive with the ICID member countries. The Chairman desired various member countries to work on bilateral/multilateral efforts through MoU among National Committees like ongoing MoUs between ENCID & INCID and ENCID & IRNCID.

The Work Team proposed to hold a workshop for South East Asia Region exclusively, on the line of the workshop held for Africa. A sub-team comprising Eng. El-Atfy (Egypt) and Mr. P.L. Diwan (India) was constituted to prepare broad outlines of a web page for the Work Team.

**WORKING GROUP ON IRRIGATION
AND DRAINAGE PERFORMANCE
(WG-PERF) - ESTD. 1974**

As it was recommended to wind up the Group, no new members were accepted and the further activities of performance assessment would be transferred to and

carried out by other Working Groups such as WG-DRG, WG-DMIS and WG-ILWRM.

The members discussed each chapter of "Handbook of Measures to Evaluate and Improve the Performance of Irrigation and Drainage Schemes" in detail and provided comments / suggestions. About the case studies the Working Group decided that they should be completed and published in Journal.

Dr. Molden would contact CABI (Publisher) for the publication of the Guidelines. It was proposed that the strategy for publication would include low-cost availability for developing countries and downloadable from the website after a lead-time of say 9 months.

The Group opined that the performance assessment would remain an important activity of other ICID Working Groups. It was recommended that the subject needed to be initiated say after 3 years. This could be done by organization of a workshop jointly by the WG-ILWRM and WG-DMIS. The members thanked Dr. Bos, Chairman for providing leadership and dedicated contribution.

**D. WORKBODIES COVERED BY THE
STRATEGY THEME "ON-FARM" (ST.OF)**

**WORKING GROUP ON SUSTAINABLE USE
OF NATURAL RESOURCES FOR CROP
PRODUCTION (WG-CROP) - ESTD. 1986**

An International Workshop on "Crop Water Management for Food Production Under Limited Water Supplies" was held in Montreal. Hard copy of the proceedings and CD were prepared and distributed to the participants. Another International Workshop on "Irrigation Advisory Services and Participatory Extension in Irrigation Management" was held on 24 July 2002 in Montreal. Dr. M. Smith (FAO representative) presented the overall objectives of the workshop. The workshop had four sessions : (1) Introduction and concepts; (2) IAS country cases; (3) Water balance models and irrigation scheduling advisory services; (4) Participatory management and WUA support. Further, a Workshop on "Use of Remote Sensing to Estimate Evapotranspiration for Large Regions" will be held during the 54th IEC meeting at Montpellier (France) in September 2003. A workshop on "Effective Rice Water

Management” is being planned during IEC meetings in Moscow (2004). A publication is being prepared on “Crop Irrigation Management” by the WG as a new update of FAO-24. Individual webpage of the WG is being prepared.

**WORK TEAM ON USE OF POOR
QUALITY WATER FOR IRRIGATION
(WT-PQW) - ESTD. 1995**

At Montreal, it was reported that Dr. K. Shiati (Iran) would complete the job of compiling the draft questionnaire on use of “Treated Wastewater for Irrigation Purposes”, prepared by Dr. Nairizi.

Drs Samia El Guindy, Geoff Pearce and the Chairman Dr. Ragab were willing to carry out the task of revising the existing FAO Guidelines “Use of Saline and Brackish Water”. The Work Team welcomed the proposed cooperation with The National Salinity Research Center (NSR), Iran. The Chairman will liaise with the NSR to explore potential areas of mutual activities.

Dr. Ragab, Chairman had been collaborating in research activities on salt tolerant halophytes being carried out at BAC (Dubai), Bari Institute (Italy), California University (USA) and Onsbank University (Germany). The Chairman reported some recent advancement on use of highly saline water for irrigating crops/ halophytes. Dr. Ragab gave a demo of SALTMED model and Mr. Geoff Pearce gave a demo of the WASIM model. The Chairman encouraged members to volunteer for presentation/ demonstration of some practices and models related to use of poor quality water for irrigation at the next meeting. The Workshop on “Management of Poor Quality Waters: Institutional, Health and Environmental Aspects” was planned to be held at Moscow in 2004.

**WORKING GROUP ON
ON-FARM IRRIGATION SYSTEMS
(WG-ON-FARM) - ESTD. 1998**

A Team was constituted for preparing the ISO/CEN/ICID Handbook on Irrigation Equipment Standards.

Mr. Ruelle and Mr. Molle presented details of the Workshop on “Improved Irrigation Technologies and Methods: Research, Development and Testing” scheduled to be held on 18-19 September 2003 in Montpellier,

France at the occasion of the 54th IEC. The Working Group proposed that the 7th International Micro Irrigation Congress also be held along with the 57th IEC meeting in Malaysia in 2006. Ir. Keizrul bin Abdullah announced that MANCID was willing to hold the Congress and will submit the proposal at the 54th IEC in Montpellier.

The questionnaire for the 4th ICID Survey on “Worldwide usage of micro and sprinkler irrigation” was circulated among all National Committees by the Central Office. Mr. Stephen Mills and Ms. Sandy Robinson presented two documents on the Australian Code of Practice for On-Farm Irrigation. Dr. Saeed Nairizi volunteered to assist with the preparation of the web page. He would liaise with Prof. Ligetvari and the Chairman would circulate the draft version among members for comments.

**E. REGIONAL WORKING GROUPS
AND OTHERS**

**LATIN AMERICAN REGIONAL WORKING
GROUP (LARWG) - ESTD. 1999**

Dr. Ricardo L. Brito (Brazil), Chairman of LARWG participated in IWMI meeting at Colombo (Sri Lanka) in May 2002 where he suggested to include the Sao Francisco Basin in the Program on Water and Food.

Dr. Brito contributed a paper on Brazil in the Special Event for the “Vision on Water for Food and Rural Development” during the 18th ICID Congress at Montreal. At the meeting Dr. Jose A. Ortiz Fdz.-Urrutia offered to prepare the Spanish ICID Newsletter which could be used to publicize the LARWG. The Chairman exhorted professionals from Latin America to prepare respective country profiles giving information on national resources, agriculture production, irrigation and drainage feature etc.

**ASIAN REGIONAL WORKING GROUP
(ASRWG) - ESTD. 1996**

The ASRWG thanked the outgoing Chairman Ir. Keizrul bin Abdullah for his efficient management of the Working Group, Dr. Shigetaka Taniyama accepted the Chairmanship of ASRWG for the term upto the 19th Congress in China. At Seoul, Korea, outcome of the 1st Asian Regional Conference and various workshops were



brought out in the form of “Seoul Declaration”. The member countries of ASRWG agreed to take actions on the ‘Seoul Declaration’ and would update the Central Office. The proposal for the first call for papers for the International Workshop on “Sustainable development of water resources and management of irrigation association” in Taiwan was accepted by the Working Group. The organizing committee was requested to re-examine the sub-themes so as to tie with the Seoul Declaration accordingly and to emphasize on irrigated agriculture at the strategic level.

It was agreed that the gaps in information and training requirements to overcome deficiencies need to be identified by each country for initiating remedial activities. Training courses and interesting projects developed by the member countries are available in the home page. The WG agreed to further review the causes and remedies.

Under Asia Drainage Programme for the Humid Tropics (ADPHT), a National Focal Point (NFP) is established in each of the participating countries. The main function of the NFP is to facilitate the establishment of the programme at national level. The NFP would assist (a) the establishment of a Network to facilitate the exchange and sharing of knowledge and experience in drainage; (b) the identification of R&D need and formulation of framework proposals in drainage; and (c) other functions that promote the objectives of ADPHT. Iran requested that a similar programme to that of ADPHT be set up for the arid and semi-arid area of Asia. The IPTRID representative acknowledged in the meeting that there has been some work to establish a programme similar to ADPHT for the arid and semi-arid area of Asia to be based in Cairo, Egypt.

ASRWG has been encouraging the co-operation of Land and Water Professionals in various countries in Asia to foster co-operative link for mutual benefit from solutions of various technical issues. To initiate the effort, it was suggested that member countries would submit a list of contact persons to the Secretariat. Australia had initiated effort to list its land and water-related professionals, which would be made available on its web page. Other member countries were requested to do the same and submit their list of contact persons to the Central Office or link-up with ASRWG homepage.

ASRWG have excellent relationship and cooperation arrangements with WMO who are represented in each other’s activities, a list of members of WMO was supplied at Seoul and member countries were encouraged to work together with their sister agencies.

Asian Regional Countries were requested to translate the updated and revised version of Multi-lingual Technical Dictionary (MTD) into their local language(s). The NCs of China, Iran, Korea, Japan and Vietnam had translated the MTD into local languages. The progress on implementation of ICID Strategy on ICID Vision was reviewed at the Group’s meeting and members were encouraged to attend the Task Force meetings.

At Seoul, the International Executive Council accepted Australian National Committee’s offer to host the 2^d Asian Regional Conference in March 2004 at Maoma, Echuca and the theme of the Conference is “Irrigation in the Total Catchment Management”. A copy of the brochure was distributed at the meeting and can be seen on the ANCID website : www.ancid.org.au.

It was reported that Indonesia, Pakistan and China had taken initiatives to participate in World Summit on Sustainable Development (WSSD). Member countries were reminded of their opportunities for publishing on the Website as well as in print and had agreed to provide list of publications to the Central Office. A symposium preparatory to WWF3 was organized on 20-21 March 2002 at Kyoto by ICID. About 400 participants deliberated on multi-functional roles of paddy irrigation.

The ASRWG supported the offer by Malaysian National Committee (MANCID) to host the 3^d Asian Regional Conference. The tentative month for the Conference will be September 2006 to coincide with the 57th IEC Meeting and Micro Irrigation Conference.

The ASRWG would make arrangements with the Central Office to get its website posted onto the ICID website. Dr. Henk Ritzema conveyed a request from the Global Peatland Initiative to have someone from the region to sit on its steering committee. The meeting nominated and accepted Malaysia to take the seat.

EUROPEAN REGIONAL WORKING GROUP (ERWG) - ESTD. 1995

Prof. Istvan Ijjas (Hungary), Secretary of ERWG, is also the international coordinator of the EUWATERMAN project, reported on the Symposium "Power of Networking for Water" organized by the ETNET21, TECHWARE and EUWATERMAN European Water Networks during 28th June - 1st July, 2002 in Budapest, where the results and conclusions of EUWATERMAN were presented and discussed.

A workshop for the Dialogue on Water for Agricultural Production and Environmental Security in Central and Eastern Europe was organized by GWP-CEE, ICID-ERWG and WWF Danube-Carpathian Programme in Bled on 23 April 2002. European Work Team on Drought (EWTDR) has edited the ICID Guide "How to work out a drought mitigation strategy" which has been translated into Spanish language and is now available on website (<http://www.aeryd.serina>).

At Montreal, Prof. Laszlo Vermes gave detailed information about the results of the Bled Meeting, especially about the new research project on an international cooperation for drawing the European drought sensitivity map.

The European Work Team on Drainage (EWTDR) held its 1st meeting. The Work Team agreed on following Terms of References in Bled : (1) analysis of the existing drainage and lowland management experiences of the European countries, (2) the new approaches for rehabilitation, reconstruction, technical and ecological improvements of drainage systems, (3) the new approaches for monitoring of the technical and ecological status of the drainage systems, (4) the new approaches for the improvement of the agricultural landscapes, (5) the strategies for drainage systems and lowland management, (6) conducting seminars on the key issues of drainage systems and lowland management, (7) improvement of the data base for drainage statistics. The International Conference on Drought Mitigation and Prevention of Land Desertification held in Bled, Slovenia from 21-25 April 2002, organized by Prof. Brane Maticic and the Slovenian National Committee of ICID, was strongly supported by the EWTDR.

ERWG supported and promoted the following international conferences during 2002 :

- International Conference on Drought Mitigation and Prevention of Land Desertification, 21-24 April 2002, Bled, Slovenia.
- International Conference on Soils under Global Change - A Challenge for the 21st Century, 3-8 September 2002, Constanta, Romania.
- 5th International Conference on Water Resources Management in the Era of Transition, 4-8 September 2002, Athens, Greece.

Further, the 10th National Congress of Irrigators Community was held during 8-13 April 2002 in Seville, Spain. At the end of the Congress the new Euro-Mediterranean Community of Irrigation Associations was created.

The 1st International Workshop on "Irrigation Management Transfer in Countries with Transition Economy" was held at Yalta from 18-22 May 2002. The ICID Yalta Declaration was adopted during the workshop.

Prof. Brois V. Popov (Bulgaria) passed away on 16 May 2002 and ERWG together with ICID Central Office expressed their sympathy and condolence by observing one-minute silence.

AFRICAN REGIONAL WORKING GROUP (AFRWG) - ESTD. 1994

Dr. Amer, Chairman, ENCID, informed the group about the steps taken so far towards the establishment of the African Regional Draining Training Center (ARDTC). Although major steps were taken, the center was not yet operational. The ENCID had obtained approval and support from the Government of Egypt and was still seeking fund through Nile Basin Initiative (NBI) and international donors.

A regional conference with the theme "Water for Sustainable Development in Africa" was held on 15-17 April 2002 in Accra, Ghana. Engr. I.K. Musa, Chairman was invited to represent ICID. Mr. Tom Franks (UK) shared some information from the conference

meeting. Two major outputs of this meeting were - (a) African Water Resources took a high political profile and the output of the meeting was used as a significant input to Abuja Ministerial meeting; (b) Water supply for domestic purposes took the highest priority rather than water for food.

The first announcement for the 1st African Regional Conference was issued. Dr. Amer, Chairman, ENCID reported that a national organizing committee had been established.

This group discussed on Canada's initiative on New Partnership for Africa Development (NEPAD). Mr. Grenier made presentation on Canada's interest in NEPAD and the importance of water management for Africa. All the African Ministers responsible for water resources, met in Nigeria on 29th - 30th April 2002 and adopted a resolution called, the "Abuja Ministerial Declaration on Water – a key to Sustainable Development in Africa".

The Chairman registered the appreciation of the group towards CIDA and CANCID for sponsoring very large number of African delegates to attend Montreal meeting. He hoped that this should increase the interest of the African countries in joining ICID family. The group was also willing to start a web page. Dr. Safwat Abdel-Dayem, World Bank representative brought to the attention of the group the new IPTRID publication on "Capacity Building for Drainage in Africa", which was partially attributed to activities of the group. Dr. Safwat Abdel-Dayem told the group that the bank was launching a major effort to develop a "Africa Development Strategy".

SPECIAL WORK TEAM ON ARAL SEA BASIN (ST-ARAL) - ESTD. 1994

Mr. Peter S. Lee stepped down as the Chairman of the ST-ARAL at the end of the Montreal meeting and Prof. Chandra Madramootoo was accepted as the new Chairman.

Mr. Denecke (IPTRID Drainage and Sustainability Theme Manager) described a proposal presently being facilitated by IPTRID on holding a high-level workshop on a "Strategy for Sustainable Irrigated Agriculture with Minimum Investment in Drainage". The objective of the

workshop would be to help develop an appropriate solution to the present drainage and salinity problems in Uzbekistan based on choosing a middle path between impossibly high investment and laissez-faire. The funding had been approved by EC.

Mr Pearce explained that IPTRID had sought to deal with the needs of technical information through the development of a virtual library of scientific outputs available via a specially developed Internet search engine – WCA-infoNET. This has been significantly improved over the last year and was available to technical irrigation staff in CAS, as well as to the rest of the world. Mr. Denecke presented Director SIC ICWC with a set of four drainage technical publications, very recently produced by IPTRID. Dr. Dukhovny drew attention to the good work carried out by the ICID National Committees of Uzbekistan and Tadjikistan. He reported that the representatives of all water ministries were working together on two regional committees – one technical and one administrative.

The Work Team reviewed the reformulated work plan. Dr Dukhovny announced that Swiss funding had been approved for a CAS team to visit Pakistan. This reflected the need in CAS to cooperate with countries that have similar problems. Mr Lee felt that ST-ARAL should continue to be effective in opening doors for CAS experts to access other areas. Dr. Dukhovny identified the need for local staff to receive training and described ICWC/ Dutch programme which would cover sustainable livelihoods for Aral Sea area population. The CAS representatives informed that reform of the irrigated agriculture sector was well advanced with the deployment of new economic units such as private farms and the removal of "cooperative" farms. Dr. Dukhovny confirmed that this mobilisation was based on a bottom-up approach, and that local specialists were examining environmental damage to and around the Aral Sea. Also there is a need to look at the Aral Sea, rather than the Aral Sea Basin, for the sake of the local ~1M inhabitants. The ST-ARAL members were reminded of the work carried out in conjunction with Dr Bos to identify the priorities for the development of the Regional Vision for Water. The WT felt that there was no need for a work-body web page for ST-ARAL. It was suggested that instead, a link be made to the SIC-ICWC web-site.

**WORKING GROUP ON YOUNG
IRRIGATION PROFESSIONALS FORUM
(WG-YPF) - ESTD. 1993**

The WG reviewed the progress made by the National Committees in establishing the YPF and the Chairman stated that 22 National Committees had established YPF. The representatives from Pakistan, Nigeria and the observer from Ghana expressed their interests in establishing YPF in near future. The Canadian National Committee was also supposed to set up the YPF before the end of 2002. The WG reviewed the progress of preparation of a directory of young professionals, so far 22 National Committees had prepared their YPF directory.

The IRNCID representative explained about the new version of IRNCID homepage. He requested all National Committees to send the same to the Iranian National Committee so that he could collect and compile the required data. This homepage would be linked to ICID homepage. It was suggested to consider it as a part of the homepage for the agenda and minutes of the WG-YPF. The Secretary of the WG stated that various efforts had been made for collecting subscriptions for the ICID Journal. The Chairman of YPF stated that the participation of young professionals in ICID annual meetings has increased these years and more and more young professionals were involved in the working groups of the ICID. The YPF Chairman emphasized the preparation of YPF homepage to be posted on the ICID website.

**COMMITTEE ON CONGRESSES/
CONFERENCES (C-CONGR) - ESTD. 1990**

President Hon. Aly Shady stepped down as Chair of the Committee and Dr. Gao Zhanyi (China) assumed Chairmanship of the Committee.

A discussion was held on the guidelines proposed by Canadian National Committee for writing and presenting papers and it was concluded that issuing comprehensive

guidelines would be a difficult task due to different cultural backgrounds and fast changing technology. The Committee suggested that current guidelines be maintained and posted on the ICID website for use as there are no further modifications.

CANCID presented its experience about the organization of a Congress. CANCID advised the maximum use of electronic correspondence with National Committees and individual persons during the organization of a Congress. The Committee invited the Organizers and National Committees of the ICID Events to explore electronic media further to reduce costs.

The Committee discussed the progress on implementation of ICID Strategy on Vision and a full report from the Task Forces was presented before the Committee for further consideration.

The French National Committee presented their plans for the 20th Regional ICID Conference and 54th IEC meeting to be held in Montpellier, France, from September 14-19, 2003.

A presentation was made by the Egyptian National Committee (ENCID) regarding the organization of the first African Regional Conference on "Drainage: Challenges and Opportunities for Enhancing Quality of Life". The planning for the conference was at an advanced stage and topics were tentatively identified. The first announcement and call for papers was issued at the 18th Congress.

A revised text of the Guidelines for the Conduct of Congress Sessions was presented. The Committee agreed that there was still a need to add a section on the method of presentation of papers to take advantage of the developments in technology. The Committee agreed to the creation of a website for each working group so as to facilitate communication between the members of working groups.



Network of Members as on 31 March 2003

<p>Active Members</p> <ol style="list-style-type: none"> 1. Argentina 2. Australia 3. Austria 4. Bangladesh 5. Bulgaria 6. Canada 7. Chile 8. China 9. Chinese Taipei Committee 10. Croatia 11. Cyprus 12. Czech Republic 13. Egypt 14. Estonia 15. Ethiopia 16. Finland 17. France 18. Germany 19. Great Britain 20. Greece 21. Guyana 22. Hungary 23. India 24. Indonesia 25. Iran 26. Ireland 27. Israel 28. Italy 29. Japan 30. Korea, Republic of 31. Lithuania 32. Macedonia, Former Yugoslav Republic of 33. Malawi 34. Malaysia 35. Mexico 36. Morocco 	<ol style="list-style-type: none"> 37. Mozambique 38. Myanmar 39. Nepal 40. Netherlands 41. Nigeria 42. Pakistan 43. Philippines 44. Poland 45. Portugal 46. Romania 47. Russia 48. Saudi Arabia 49. Slovak Republic 50. Slovenia 51. South Africa 52. Spain 53. Sri Lanka 54. Switzerland 55. Syria 56. Tanzania 57. Thailand 58. Turkey 59. Ukraine 60. USA 61. Uzbekistan 62. Yugoslavia 63. Zambia <p style="text-align: center;">Members Deemed to have Withdrawn</p> <ol style="list-style-type: none"> 64. Algeria 65. Angola 66. Belgium 67. Brazil 68. Colombia 69. Dominican Republic 70. Ecuador 71. Ghana 	<ol style="list-style-type: none"> 72. Honduras 73. Iraq 74. Ivory Coast 75. Jordan 76. Kenya 77. Lebanon 78. Libya 79. Madagascar 80. Panama 81. Peru 82. Senegal 83. Sudan 84. Surinam 85. Tajikistan 86. Tunisia 87. Uganda 88. Venezuela 89. Vietnam 90. Zimbabwe <p style="text-align: center;">Members Withdrawn in Past on their Own</p> <ol style="list-style-type: none"> 91. Cuba 92. Denmark 93. New Zealand <p style="text-align: center;">Members Admitted but Not Paid Subscription</p> <ol style="list-style-type: none"> 94. Burkina Faso 95. Kazakhstan 96. Kyrgyzstan 97. Mauritius 98. Mongolia 99. Sao Tome & Principe 100. Turkmenistan 101. Yeman
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Activities of Member Committees

National Committee of Burkina Faso (CNID-B)

Burkina Faso has established a National Committee on Irrigation and Drainage (CNID-B), with Mr. Francois D. Ouango as the President. Application of the CNID-B for the membership was accepted in the 51st IEC meeting held at Cape Town in October 2002. The Committee organized its first 'Technical Tour of Irrigation' at Ouagadougou on 15 February 2001. Large number of engineers, technicians, professionals from design department, agricultural enterprises, development projects, financing institutions, both from public and private institutions participated. Representatives from National Committees of Mali and Niger as well as manufacturers and dealers of irrigation equipments also participated the events. It was hoped that the event would facilitate promoting science and technology in the field of Irrigation and Drainage in Burkina Faso.

Chinese National Committee (CNCID)

12th International Soil Conservation Organization Conference was held on 26-31 May 2002 in Beijing, Peoples Republic of China. The theme of the Conference was "Sustainable Utilization of Global Soil and Water Resources".

China Session - Irrigation, Drainage and Flood Control in China in the 21st Century

The Chinese National Committee organised a Special Session on "Irrigation, Drainage and Flood Control in China in the 21st Century" at Montreal. The Session was devoted to water resources in China, its challenges and development for agriculture, food production and rural development. The presentations and discussions took place on the following topics:

The Three Gorges Project is the largest water project ever built in China. The main objective of the project is flood control, power generation and navigation improvement. The presentation focused on environmental impacts and resettlement program. The environmental impact assessment will show that the project will have positive and negative impacts on environment and ecological systems. It was concluded that most of the negative impacts can be alleviated by taking suitable measures.

The South-North Water Transfer is one of the five largest projects to be constructed in 21st Century in China. The project is planned to transfer 38-48 billion cubic meters of water per year from the Yangtze River to North and Northwest China. Presentations and discussions indicated that inter-basin water transfer required to meet the challenges from water shortage.

Achievements and roles of irrigation and drainage in China were discussed. Also water saving in irrigation was discussed. The problems of rural water supply with issues related to the supply of clean drinking water and sanitation for rural areas in China was also discussed. The Heihe River Project with a special presentation and discussions on the recent development and challenges faced under water scarcity conditions was also discussed.

Indian National Committee (INCID)

A Special Session on India was hosted on 26th July 2002 at Montreal. The presentations made during the Session include activities of INCID, pre and post independence scenario of Irrigation and Flood Control activities, National Water Policy, Water Supplies and Energy, Environmental Aspects, Sardar Sarovar Project and PODIUM studies of various basins. Mr. B.N. Navalawala, Mr. P.L. Diwan, Mr. S.V. Sodal, Mr. Sanjay Belsare and Mr. A.K. Shukla participated in the Session.

Iranian National Committee of ICID (IRNCID)

The members of the IRNCID Working Groups on Environmental Impacts of Irrigation, Drainage and Flood Control Projects and Young Irrigation Professionals Forum have translated and compiled the following three publications in Persian.

1. Management of Agricultural Drainage Water Quality
2. Wastewater Treatment and Use in Agriculture
3. How to Workout a Drought Mitigation Strategy: An ICID Guideline

Italian National Committee (ITAL-ICID)

The Italian National Committee sponsored the 2nd International Conference on "New trends in water and environmental engineering for safety and life: eco-



compatible solutions for aquatic environments”, held in Capri from June 24-28, 2002. The Conference was organized by the University of Napoli, the National Hydrotecnic Association and “Terra”.

The Italian National Committee organized a two months training Course in “Water resource management” (April-May 2002).

The training Course was properly designed for water resources operators, engineers managers and for central and regional administration officers, interested in the updated methods of integrated water resource management.

The main items of the training Course were:

- General legal outline and water resources planning
- Land reclamation, irrigation and soil conservation
- Municipal water systems
- Waste water reuse

Project “Gender Analysis in Farmer’s Water Management”

The Italian Government decided to support the Project “Gender Analysis in farmer’s water management”, jointly proposed by ICID (namely by the permanent representative of ICID to FAO) and FAO (Land and Water Dep. and Gender Dep.), with the aim to organize four training courses in four African and Asian Countries on “The irrigation water management”.

Japanese National Committee (JNC-ICID)

Pre-Symposium on Paddy Field Irrigation for the 3^d WWF, 20-21 March 2002, Shiga, Japan

A Pre-Symposium for the 3^d World Water Forum (3^d WWF) on “Multi-functional Roles of Paddy Field Irrigation in the Asia Monsoon Region” was held on 20-21 March 2002 at Shiga, Japan. The purpose of the pre-symposium was to discuss (1) values of multi-functional roles of paddy field irrigation in the Asian monsoon region, and (2) advantages and means of disseminating the findings of the pre-symposium to the world.

Presentation on multi-functional roles of irrigation were made during the Symposium in three sessions viz. (1) small scale/traditional rice cultivation, (2) large scale/modern rice cultivation, and (3) tradition, culture, environment, gender, economic and water quality aspects.

Dr. C.D. Thatte, Secretary General, ICID participated in

a panel discussion. An exhibition showing various characteristic aspects of “land and Water” common to Asia monsoon region and a study tour to see the ‘Irrigation and Farmland Consolidation Project’ and ‘Yasu river basin and water environment improvement project kourakattori’ were organized.

The pre-symposium was sponsored by the Japanese Society of Irrigation Drainage and Reclamation Engineering (JSIDRE), Japanese Institute of Irrigation and Drainage (JIID), and Shiga Prefectural Government. The event was attended by about 400 researchers, scientists, engineers, government officials, beside Japan, from Cambodia, P.R. China, Indonesia, Korea, Malaysia, Myanmar, Philippines, Sri Lanka, Taiwan, Thailand and Vietnam.

The Netherlands National ICID Committee (NETHCID)

The last edition of the book ‘Man-made lowlands’. History of water management and land reclamation in The Netherlands’, was prepared on the occasion of the 15th ICID congress in The Hague. In consultation with the publisher it has been agreed to prepare a fifth edition of the Dutch version and a fourth edition of the English version. It has also been agreed to update the book based on recent developments and new findings.

The division of Water Management of the Royal Institution of Engineers in The Netherlands is publishing a quarterly newsletter, called ‘Waterblad’. In this newsletter information on ICID activities is published as well. NETHCIDs information is also published on internet.

Slovenian National Committee (SINCID)

International Conference on “Drought Mitigation and Prevention of Land Desertification” was held at Bled, Slovenia from 21-25 April, 2002. It was reported that 112 papers were presented and 200 participants from 30 countries attended the Conference.

Spanish National Committee of ICID (CERYD)

(1) The 10th National Congress of Irrigators’ Communities was held during 8-13 April 2002 at Seville, Spain. The main topics of presentations were (1) Irrigation and Environment : The EU Framework Water Directive, (2) Financing the Modernization of Irrigation Schemes through State Societies and Regional Autonomous Communities, and (3) The Groundwater Users Communities.

The Congress opening ceremony was presided by Mr. Jaume Matas, Minister for Environment, while Mr. Miguel Arias, Minister for Agriculture addressed at the closing of Congress. A new Euro-Mediterranean Irrigators Community comprising members from France, Greece, Italy, Morocco, Portugal, Spain and Tunisia was launched on the occasion. The objective of this new community is to strengthen the position of Mediterranean irrigators in the European Union (EU) and protect the water rights of farmers from disallowing diverting it to other sectors. Mr. Juan Valero, Secretary General of the National Federation of Irrigators Communities, Spain presented the conclusions and recommendations of the Congress.

(2) The 20th National Congress on Irrigation attended by more than 270 delegates was held in Ciudadreal, La Mancha, Spain. A round table on the topic “Ground water irrigation and sustainability” was organized on the occasion to discuss and suggest solutions to the problems of over-exploited aquifers in the La Mancha region. An exhibition of latest irrigation equipments and advanced irrigation technology was also organized. A study tour to a fully automated micro-irrigation installation for a vineyard and olive trees and a visit to an area using treated urban wastewater for irrigation was also organized. The Congress was sponsored by Spanish Association of Irrigation and Drainage (AERYD) and Spanish National Committee (CEYRD) with the support of the Regional Government of Castilla-La Mancha. The Congress recommended to (i) establish more agro-climatic stations to intensify investigation on crop coefficient and water requirements; (ii) enhance the use of poor quality and treated wastewater for irrigation; (iii) achieve improved control on the use of potential agricultural non-point pollution sources; (iv) adopt use of GIS and teledetection

system for water resources planning, and (v) encourage studies regarding economic aspects of irrigation.

Ukraine National Committee (UKCID)

The 1st International Workshop on “Irrigation Management Transfer in Countries with a Transit Economy” was held on 18-22 May 2002 in Yalta, Crimea, Ukraine. Irrigation management transfer is the process to delegate the management responsibility and authority for irrigation systems, previously held by governmental institutions, to farmers or water user organizations. It may also include the transfer of ownership of parts of the systems. Such transfers are, in particular, taking place in countries with transition economies due to significant changes from their traditional centralized planning and production systems into market economy.

The workshop was attended by professionals from Czech Republic, Germany, Hungary, Macedonia, Moldova, The Netherlands, Spain, Russia besides Ukraine. The workshop was organized by the European Regional Working Group (ERWG) and was supported by the World Bank, State Committee for Water Management of Ukraine, German Agency for Technical Co-operation (GTZ), and Altera Green World Research Institute, Wageningen. The keynote presentations were made by Prof. dr. Bart Schultz, President, ICID, Vice President Prof. Ferenc Ligetvári, Dr.-Ing. Wolfram Dirksen, and Mr. Fernando Gonzalez of The World Bank. During the workshop, several basic requirements in the legal, economical and organizational structures were identified and recommendations were put forth. The conclusions and recommendations of the workshop were brought out as “ICID Yalta Declaration”.

External Support

In 2002/2003, the Commission received the following assistance:

Canadian International Development Agency (CIDA)

In term of Letter of Agreement with CIDA, a sum of CAN\$110 000 was to be received as its financial contribution towards support for participation of representatives from developing countries in transition to attend the 18th Congress at Montreal, Canada in July

2002. Out of this, a sum of CAN \$ 88 000 was received in June 2002 and the balance amount of CAN \$ 22 000 has been received in the year 2003-2004.

Government of Netherlands

A sum of US\$ 294 000 (EURO 300 000) received from the Government of Netherlands towards the first installment of Phase I of Country Policy Support Programme.

Central Office

Central Office Staff Position

The Central Office has a total sanctioned staff strength of 30 of which 24 staff members were in position at the end of March 2003, including the following professional staff:

1. Mr. K.N. Sharma, Executive Secretary
2. Mr. S.P. Goyal, Deputy Secretary
3. Dr. S.A. Kulkarni, Director (I)
4. Dr. V.K. Labhsetwar, Director (II)

Additionally, Mr. B.S. Rajvanshi, Mr. A. Nadarassan and Mr. M.L. Baweja, Officers on Special Duty provided their inputs during the period for specified activities. The Central Office Professionals' work distribution as on 31.03.2003 was as follows.

The professionals were assisted by 16 support and 4 service staff. Five of the sanctioned posts were kept unfilled for effecting economy. The resulting work was distributed amongst the current staff.

Allocation of ICID Work and Workbodies Amongst Professional Staff <i>(Effective 31 March 2003)</i>			
Executive Secretary K.N. Sharma	Deputy Secretary S.P. Goyal	Director I S.A. Kulkarni	Director II V.K. Labhsetwar
<ul style="list-style-type: none"> • IEC and Membership • Management Board • Staff Committee • Office Bearers Committee • Administration • Library • ICID Website and Text Delivery Service/WCA InfoNet • Directory/Bibliography/Mailing List • Unesco/IWALC and related organizations • ECOSOC/CSD/Rio/Dublin • WCD • Dictionary • FAO • WWC • Plaques • ICID Strategy/Vision (TF1 and TF5) • World Water Forum • Strategy Theme : Knowledge <p style="text-align: center;"><i>Comm / WGs / WTs</i></p> <ul style="list-style-type: none"> • PCTA • PCSPOA • WG-HIST • WG-CD • WG-CBTE • AC-IPTRID 	<ul style="list-style-type: none"> • IEC Schedule/Manual and Regional Conferences • Complete Planning, Organization, Printing and CD-ROM of Congresses • Accounts • ICID Journal • Annual Report • Newsletters • Renovation of Central Office • Additional Construction • Hassan Ismail Award • World Water Day • Asia Region • Sale of Publications, Catalogue • Maintenance of Vehicles, Telephones, A/Cs • Security/Electrician • Court Case • Procurement of Paper and Printing • Strategy Theme : Systems <p style="text-align: center;"><i>Comm / WGs / WTs</i></p> <ul style="list-style-type: none"> • PFC • C-PR&P • ST-ARAL • C-CONG • EB-JOUR • WG-ENV • ASRWG • YPF 	<ul style="list-style-type: none"> • News Update • IWMI/PODIUM • Benchmarking (including TF4) • Dialogue/Joint Programme • Liaison with INCID • ICID's Country Policy Support Programme. • ISO (TC23/SC18, ISO 9000 and ISO 14000) • Task Force on Sustainability (TF3) • Africa Region • WatSave Awards • Strategy Theme : On-Farm <p style="text-align: center;"><i>WGs / WTs</i></p> <ul style="list-style-type: none"> • WG-DMIS • WG-PERF • WG-DRG • WG-PQW • WG-ON-FARM • WT-SOCIO • AFRWG • WT-WATS 	<ul style="list-style-type: none"> • Maintenance of office equipment • Garden / Office Building / Maintenance • Liaison with ICAR/MoA/IRRI/ILRI /CGIAR • GWP/ WMO/Int'l Basins (including HELP Basins)/ Maps • ISO (Crops) • Task Force on Food (TF2) • Americas and Europe Regions • Strategy Theme : Basin <p style="text-align: center;"><i>WGs / WTs</i></p> <ul style="list-style-type: none"> • WG-CROP • WG-IADWS • WG-R&D • WG-CAFM • WG-ILWRM • LARWG • ERWG • WG-SDTA

Visits of Office Bearers and Other Distinguished Personalities to the Central Office

Vice President Hon. Peter S. Lee (UK) visited Central Office in April 2002 to discuss about additional construction on Central Office building. He also discussed various issues including Aral Sea Basin and ICID Journal.

Dr. Upali Amarasinghe (IWMI) visited the Central Office in October 2002 to participate in ICID's Country Policy Support Programme (CPSP) Preparatory Workshop and Podium meetings. He held discussions with Central Office professionals on various issues.

A six-member Chinese delegations headed by Mr. Jiang Kaipeng, Deputy Director General, Department of Rural Water Conservancy, Ministry of Water Resources visited India from 4-12 October 2002. The delegates participated in the ICID's CPSP Preparatory Workshop held on 4-5 October 2002 and thereafter visited the famous Sardar Sarovar Project (Narmada Dam) and its Hydropower Station under construction, Water Users Associations in Mahi Irrigation Project and Water and Land Management



Chinese delegates (L to R) Mr. Yang Yanshan, Mr. Xu Jiming, Mr. Jiang Kaipeng and Mr. Liu Yunbo

Institute (WALMI) of Gujarat State. The delegates also visited Indian Agricultural Research Institute (IARI), New Delhi and Central Soil Salinity Research Institute (CSSRI), Karnal and had meetings with Secretary, Ministry of Water Resources (MoWR), Govt. of India, Chairman, INCID/ CWC and WAPCOS (India) Ltd.

Prof. André Musy, Vice President, ICID and Président, National Committee of Switzerland (CH-AGRID) visited Central Office on 7 January 2003. Several issues related

to Constitutional Amendment Special Committee, Text Delivery Service, Dialogue, Journal on Irrigation & Drainage, participation of ICID in 3rd WWF, MoU of ICID with EurAgEng and forthcoming international events of ICID were discussed in the meeting.

Mr. Tom Franks, Member of British National Committee (BNC-ICID) and Secretary of ICID's Permanent Committee for Technical Activities (PCTA) and Member of Working Group on Capacity Building, Training and Education (WG-CBTE) visited the Central Office, New Delhi on 5 February 2003. Mr. Franks was apprised of the preparations for the 3rd WWF, proposed programme of 54th IEC, progress of various Task Forces etc.

ICID Day Celebrations

In a technical meeting to celebrate ICID's 53rd foundation day (24 June), Mr. Ramesh Chandra, Vice President Hon., ICID and Former Chairman, CWC/INCID was invited to speak on "National Water Policy - 2002". At the outset, Dr. C.D. Thatte, Secretary General introduced Mr. Chandra and informed that India's First National Water Policy was formulated in 1987 and it had been revised now, after 15 years. Various new issues, especially those of environmental concern, had been included in the new policy. Unfortunately, the new policy was being criticized by some NGOs on the pretext that India's water resources were being privatized. "In fact, not water resources but services/facilities may need to be privatized for achieving better cost recovery and efficiency," he said. Mr. Chandra said that India had 16% of world's population but possessed only 4% of world's water resources. Indian rivers carried 35% of the world's silt load. Unequal spatial availability of water, coupled with arid and semi arid climate of the country posed several challenges to crop production. Irrespective of adversities, the country could increase her irrigated area by five-fold and the food production by four-fold than that prevailed at the time of independence. At present, irrigation sector used 80-85% of water availability but at the same time it also formed a relatively inefficient water use. He emphasized that with better efficiency and improved water management and agricultural practices, it could be possible to achieve saving in irrigation water to the extent of 10-15%. This saved water quantum will be about 4-5 times the drinking water requirement of the entire country, but



will have to be used for growing the needed additional food. Mr. Chandra said that although there were several inter-state and international river agreements and tribunal awards, they were not implemented completely in practice, mainly because of political interference. He pointed out that several guidelines of the earlier water policy had not been complied with - like provision of drinking water on priority, participatory approach to water resources management, master plan for flood control and management for each flood prone basin, irrigation water supply on volumetric basis, provision of drainage component along with the irrigation project etc. Deliberating on pollution of river water, Mr. Chandra said that it was necessary to take stringent action against polluters and encourage use of treated sewage water for irrigation purposes. He concluded with a message that the present water crises were not because of shortage of policies or water but due to deficient management or lack of desire to do or will power.

The function was attended by professionals from Ministry of Water Resources (MoWR), Central Board of Irrigation and Power (CBIP), Indian National Committee (INCID), NGOs, besides the Central Office.

Publications During 2002

Periodicals

ICID Journal

Four issues of the peer reviewed Journal were released in 2002 as planned with a coverage of 376 pages and published by M/s. John Wiley & Sons Ltd.

ICID Newsletter

Four quarterly issues were released as planned during the year 2002-2003 with coverage of 84 pages.

ICID News Update

Twelve issues of the monthly News Update were published and despatched from the Central Office during the year 2002-2003.

Annual Report

The Annual Report April 2001 to March 2002 was well

received by the International Organizations and all professionals and National Committees concerned.

ICID Directory

The yearly updated ICID Directory covering the latest available addresses and contact numbers of the members of ICID workbodies and other International Organisations with whom ICID works, was compiled and posted on ICID Website in PDF format so that National Committees and others could download and print the information.

Other Publications

1. International Commission on Irrigation and Drainage, 2002, CD-ROM Version of Multilingual Technical Dictionary, ICID, New Delhi.
2. Transactions – Eighteenth Congress on Irrigation and Drainage, Montreal, Canada, 2002 on the theme “Food Production under Conditions of Water Scarcity, Increasing Population and Environmental Pressures” (Printed Volumes 1A, 1B & 1C containing abstracts of Question 50, Question 51, Special Session, Symposium, History Seminar and General Reports; and CD-ROM containing full length papers of Question 50; Question 51; Special Session; Symposium; General Reports : Question 50, 51 and Special Session; Special Event; History Seminar; and Feature Sessions : Workshops and Poster Sessions.
3. Proceedings of the International Workshop on Crop Water Management for Food Production Under Limited Water Supplies, Montreal, Canada 21-22 July, 2002, ICID, New Delhi.

Central Office Technical Library

- (a) **Additions to Library Books:** Number of acquisitions on the register of the Central Office library as on 31 March 2003 was 29664 Compared with the figure of 29401 upto March 2002. There has thus been an addition of 263 publications during the year April 2002 to 31 March 2003. All books have been accessioned in house through computer processing.
- (b) **Cooperation between ICID and IWMI Libraries:** ICID and IWMI libraries continued to exchange

lists of new additions of their library databases in accord with the Memorandum of Understanding between the two organizations.

- (c) **Text Delivery Service (TDS):** Data entry of over 3133 records in the form of bibliographic details as on 31 March 2003, abstracts and keywords as a part of Text Delivery Service (TDS) on the ICID Website. Special short bibliographies were prepared in 2002, on request, on the following subjects :

- Disaster management
- Bhakra Dams
- Watershed management
- Water security
- Mekong River Basin
- Guidelines on dam safety
- Sustainable development of wetlands
- Flood management
- Wastewater irrigation
- Interbasin transfers
- Water resources development; and
- Irrigation and drainage development

- (d) **Linkages with National and International Networks:** Presently, the ICID library is using the E-Mail facility to establish and enrich its linkages with the national and international institutions for exchange of databases. In addition to the existing arrangement with the IWMI library, the ICID Central Library has established contacts with the IPTRID Central Network Stations at HR Wallingford, UK and ILRI, Wageningen, The Netherlands, and the India Country Network on Irrigation and Drainage (INRID) at Pune.

- (e) **Slides Bank:** The library developed a large number of colour slides on various issues of interest and concerns to ICID. Slides were also made on current initiatives started by the Commission. A total of 737 slides have so far been prepared.

- (f) **News Service for Central Office Staff:** News items of interest collected from various important national newspapers were circulated through the year to the professional staff of ICID Central Office. These news clippings covered important developments in the irrigation and related sectors both within the country as well as internationally.

- (g) **Video Library:** The Central Office Technical Library has started collecting water-related video cassettes concerning new developments, operations, technology development, maintenance of irrigation works, etc. from various ICID National Committees and organizations to develop a Video Library. A total 45 cassettes have so far been procured.

ICID Website: ICID is maintaining its own website which can be accessed at: <http://www.icid.org> The Web Page furnishes information regarding ICID covering its objects and aims, organisational setup, membership, international cooperation, information exchange, new initiatives, publications and price lists, forthcoming events etc. The most recent issues of the monthly News Update, quarterly Newsletters, Abstracts of papers from current ICID Journal can also be retrieved therefrom. The Web page is updated on a regular basis.

Financial Status

After deducting the committed receipt and expenditure (i) towards ICID's Country Policy Support Programme (CPSP) out of the Dutch grant received for this purpose which will be spent, and (ii) the CIDA special grant which will be adjusted against the Central Office share of registration fee in 2003-2004, the actual deficit in the receipt for the year 2002-2003 is Rs. 0.91 M against approved surplus of Rs. 2.738 M. This deficit has resulted due to non-receipt of anticipated ICID share from 18th Congress, which is only 42% of the projected figure (as intimated vide CANCID's e-mail dated 31 March 2003 in this regard). However including the unspent Dutch grant amount and special purpose CIDA grant, the year 2002-2003 shows a surplus of Rs. 5.69 M, against approved anticipated surplus of rs. 2.738 M, because CPSP grant could not be spent before March 2003, due to late receipt.

Income Tax Exemption

The Government of India (GoI) notified on March 2003 that the 'ICID' is exempted for the purpose of the Section 10 (23C) (iv) for the Assessment Years (AY) 2003-2004 to 2004-2005.

The Commission will get further exemption in due course.

Accounts for the Year Ending 31 March 2003

INTERNATIONAL COMMISSION ON IRRIGATION AND DRAINAGE
Consolidated Receipts and Payments Account
for the Period from 1 April 2002 to 31 March 2003

	2002-2003 Rs.	2001-2002 Rs.
RECEIPTS		
Membership Subscriptions	8 518 643	11 533 937
Publications	1 809 733	763 119
Meeting Receipts	—	—
Interest	1 165 278	1 880 889
Grants	16 791 360	1 133 150
Others	1 623 594	1 241 441
Total Receipts	29 908 608	16 552 536
PAYMENTS		
Salaries and Benefits	6 833 740	8 518 630
Central Office	2 567 031	2 613 630
Printing and Distribution	2 733 875	2 721 130
Dues	97 480	70 138
Travel (Meetings)	1 123 044	565 470
Grants Utilisation	10 564 220	612 505
Others	298 000	419 670
Total Payments	24 217 390	15 521 173
SURPLUS (DEFICIT)	*5 691 218	1 031 363
	(Say Rs.5.7 M)	

INTERNATIONAL COMMISSION ON IRRIGATION AND DRAINAGE
Consolidated Balance Sheet as on 31 March 2003

	As on 31.3.2003 Rs.	As on 31.3.2002 Rs.
ASSETS		
Property and Equipment	4 884 519	4 951 649
Receivables	5 802 166	6 096 353
Stocks	1 811 660	1 891 794
Cash at bank and in hand	37 645 175	30 667 081
Total Assets	50 143 520	43 606 877
LIABILITIES		
Accounts payable	588 461	596 181
Suspense Account	–	486 174
Grants	7 276 104	1 048 964
Gratuity Fund	1 578 678	1 176 362
Superannuation Fund	984 216	966 209
Total Liabilities	10 427 459	4 273 890
NET ASSETS	39 716 061	39 332 987
RESERVES		
General Fund	39 253 029	38 924 011
Dictionary Fund	463 032	408 976

Global Cooperation

Food and Agriculture Organization (FAO)

ICID collaborates with FAO on several important issues of mutual interest. Presently, together with FAO and other 8 International Organizations, ICID is contributing to the deliberations on the Dialogue on Water, Food and Environment. Besides ICID has linkages with FAO through IPTRID program and FAO's network WCA InfoNet for the topic of WatSave. FAO is represented in ICID's 18 workbodies as Permanent Observer and is invited to its IEC meetings as an Observer.

Prof. Mrs. Elisa Venezian Scarascia (ITAL-ICID) represents ICID on various meetings of FAO as a Permanent Representative of ICID with FAO. The 123rd Session of FAO Council was held in Rome, Italy from 28 October - 2 November 2002 in which ICID participated through Prof. Mrs. Scarascia.

A Project on 'Gender Analysis in Farmers' Water Management' has been jointly proposed by ICID (through Permanent representative of ICID to FAO) and FAO (Land and Water Department and Gender Department), with the aim to organize four training courses in four African and Asian Countries on 'Irrigation water management'. Italian Government has decided to support this project.

ICID, through its working groups on WG-DMIS and DG-PERF, is assisting IPTRID's efforts in the implementation of benchmarking of irrigation and drainage systems. A Workshop on Benchmarking and Standards is being organized on 16 September 2003 at Montpellier, France.

International Programme for Technology and Research in Irrigation and Drainage (IPTRID)

At Montreal, an IPTRID Feature Session was organised in conjunction with the 18th ICID Congress. The objective of this Session was to ensure a better visibility of IPTRID among the ICID Community by sharing views on

IPTRID's achievements and future. The aim was to stimulate a debate on how IPTRID could address the major issues facing the sustainability of irrigated agriculture and how ICID, its membership and its working bodies could help and collaborate with IPTRID.

The Session included presentation of two key note papers from Doug Merrey, IWMI and from Hervé Plusquellec, France, reviewing the last few years and putting IPTRID's work into perspective with regard to smallholder irrigated agriculture and modern approaches to irrigation management respectively.

IPTRID, at the initiative of ICID's African Regional Working Group (AFRWG), made an assessment of the status of drainage and capacity building of Africa region. The IPTRID recommended to establish a training center to strengthen the capacity and skill of African professionals in planning, designing, operation and maintenance of agricultural drainage systems.

Owing to Egypt's long and successful experience in research, capacity building and implementation of agricultural drainage, the country volunteered to host the ARDTC. A workshop on "Capacity Building for Drainage in Africa" was held in March 2001, in Cairo to assess R&D and capacity building needs in select African countries. The workshop was sponsored by the IPTRID and the Drainage Research Institute (DRI), Egypt.

International Water Management Institute (IWMI)

ICID, in collaboration with IWMI, is participating in the Dialogue on Water, Food and Environment together with 8 other International Organizations.

As a part of ICID's Country Policy Support Program (CPSP), ICID is also collaborating with IWMI on latter's model PODIUM on which preliminary work in China, Egypt, India, Mexico, and Pakistan had been done. The model is being studied in greater details for India and China.

ICID's cooperation with IWMI through an MoU is already operational and IWMI's representation on various ICID working groups is continuing with mutual benefit. ICID and IWMI will be jointly publishing Guidelines for Measures to Evaluate and Improve the Performance of Irrigation and Drainage Schemes, which has been finalized. It had been agreed at the meeting of WG-PERF in Montreal that the case studies would be completed and published (e.g. in Journals). The guidelines will be published jointly by IWMI for which they will be contacting CABI and other publishers if needed, so as to ensure low cost availability of the publication for developing countries and which may be downloadable from the website after a lead-time of say 9 months.

As a part of ICID's Country Policy Support Program (CPSP), ICID is also collaborating with IWMI on latter's model PODIUM on which preliminary work in China, Egypt, India, Mexico, and Pakistan had been done. The model is being studied in greater details for India and China. ICID's cooperation with IWMI through an MoU is already operational and IWMI's representation on various ICID working groups is continuing with mutual benefit. ICID and IWMI will be jointly publishing Guidelines for Measures to Evaluate and Improve the Performance of Irrigation and Drainage Schemes, which has been finalized. It had been agreed at the meeting of WG-PERF in Montreal that the case studies would be completed and published (e.g. in Journals). The guidelines will be published jointly by IWMI for which they will be contacting CABI and other publishers if needed, so as to ensure low cost availability of the publication for developing countries and which may be downloadable from the website after a lead-time of say 9 months.

World Water Council (WWC)

ICID continues to provide its input to the activities of the World Water Council (WWC). The Commission is a Member of Board of Governors (BoG) of WWC, represented by Dr. C. D. Thatte, Secretary General, ICID. The 13th meeting of Board of Governors was held at Nara, Japan on 14-15 March 2003 where discussions on WWC's strategy for the WWF and two main reports of the forum, namely, World Water Actions and the World Panel on Financing Infrastructure were held. The 3rd BoG meeting was held in Marseilles, France on 7-8 November 2002. Under the "World Water Actions-Making Water

Flow for All", WWC had pledged to set up a monitoring system on actions that would turn the world water vision into reality. As a result, the Water Action Unit's mission had been to collect and monitor actions taken by Governments, Institutions, UN Organizations and grassroots NGOs with a significant impact on Water resources management at all levels. The President of WWC, Dr. Mahmoud Abu-Zeid introduced WWC's proposal to establish a global monitoring system to report on the state of world's water resources and progress in meeting, the Millennium Development Goals (MDGs).

The New Delhi Centre of WWC (NDC-WWC) is regularly holding its meetings and monthly brainstorming sessions on the important topical subjects. Secretary General, ICID is the Chairman of NDC-WWC.

International Water-Related Associations' Liaison Committee (IWALC)

Under the umbrella of IWALC, the International Water Association (IWA) had submitted a proposal for "collaborative pathway to Kyoto" that was discussed at the meeting of Science, Technology and Management Forum for the 3rd World Water Forum (WWF-3), in Paris on 2nd March 2002 on which ICID suggested modifications. A booklet on behalf of IWALC, titled "Solutions Through Innovations" was finalized for presentation at the WWF-3. This document has been produced by IWA, IAHR and ICID for discussion within the IWALC and for use by decision-makers worldwide.

International Standards Organization (ISO)

ICID is collaborating with ISO through WG-DMIS. Documents emanating from ISO TC 23/SC 18 are regularly received for comments/information which are circulated to the members of the WG-DMIS where required. The ISO standards in different areas are being used by ICID member countries. The use of ISO Terminology is also useful in revising ICID's Multilingual Technical Dictionary (MTD).

ISO will be organizing a Workshop on "Improved Irrigation Technologies and Methods: Research, Development and Testing" on 18 September 2003 in Montpellier, France.

**Inter-Governmental Panel on Climate Change (IPCC)**

ICID remains associated in the activities of IPCC, since these have influence on general water resources availability and food security.

IPCC strategy meeting on "Climate Change and Water" was held from 11-13 November 2002 in Geneva where Prof. André Musy, Vice President, ICID was requested to participate and represent ICID. The purpose of the strategy meeting was to bring together expert advice on most appropriate manner for the IPCC to consider implications of climate change on water resources and water policies, which changes should be involved, and what should be terms of reference and schedule of implementation. A proposal for Dialogue on Water and Climate has been initiated, which presented a synthesis document on the subject at the 3rd WWF.

Un Convention to Combat Desertification (UNCCD)

Documents and issues raised by UN Convention to Combat Desertification (UNCCD) are of interest to ICID work, although there is no direct collaboration of UNCCD with ICID. The topic of climate change is under consideration with WG-ENV in which desertification is a factor. 1st Session of the Committee for the review of implementation of the Convention to Combat Desertification was held in Rome from 11-22 November 2002. ICID was represented by Prof. Mrs. Elisa Venezian Scarascia (ITAL-ICID).

World Meteorological Organization (WMO)

The activities of WMO have indirect bearing on ICID's activities as well. WMO invites ICID at its regional meetings from time to time. The 13th Session of the Regional Association V (South-West Pacific) of WMO was held from 21-28 May 2002 in Manila, Philippines. Dr. Ricarte S. Javelosa of PNC-ICID represented ICID at the Session.

European Society of Agriculture Engineer (EurAgEng)

A Memorandum of Understanding (MoU) between

EurAgEng and ICID was signed during the 53rd IEC meeting in Montreal in July 2002. Prof. André Musy, Vice President, ICID signed on behalf of Prof. Daniele de Wrachien, President of EurAgEng, and Prof. dr. Bart Schultz. President Hon. ICID signed on behalf of ICID.

The World Summit on Sustainable Development (WSSD)

The Johannesburg Summit held on 26 August – 4 September, 2002, had a wide ranging agenda aimed at improving people's life, conserving natural resources and balancing the needs and responsibilities of the developed and developing world. The WSSD promoted the integration of three components of sustainable development – economic development, social development and environmental protection – as interdependent and mutually reinforcing pillars. The Johannesburg Summit prescribed a plan of action for sustainable development, which included poverty eradication, changing on sustainable patterns of production and consumption and protecting and managing the natural resource base of economic and social development were overarching objectives of, and essential requirements, for sustainable development.

ICID has been involved directly or indirectly in all these global summits. ICID has noticed that IWRDM has been shortened to IWRM during the past decade. Continued importance of "development" needs to be emphasized, particularly for developing countries. In order to provide our output to WSSD and WWF process, ICID set up several task forces. A strategy for action was adopted in Granada for moving from vision to action in IWRDM and sustainable development of water resources for both human and eco-systems.

In all four preparatory committee meetings were held during last year by mobilizing S&T community through International Council for Science (ICSU) and World Federation of Engineering Organization (WFEO). ICID got itself involved as far as freshwater and agriculture was concerned through the NGO caucus. On behalf of ICID, INACID participated at the 4th preparatory committee meeting at Bali and made their presence felt. An appraisal of the negotiated text has been included in the Agenda for Task Force 1 of ICID. SANCID

participated in WSSD in August-September 2002 on behalf of ICID.

3rd World Water Forum (WWF-3)

The 3rd World Water Forum (WWF-3) was held in Kyoto, Shiga and Osaka of Japan from 16-23 March 2003 in which more than 350 sessions on 38 inter-linking themes dealing with water were organized. About 24,000 participants, from 180 countries deliberated in different sessions on different days.

While inaugurating the Forum, Dr. Mahmoud Abu-Zeid, President, World Water Council and Minister of Water Resources and Irrigation, Egypt outlined, inter alia, the need for prioritizing focus on developing countries and re-emphasized the crucial need for water storages for food sustainability in the wake of growing population and vagaries of weather. The WWF recognized agriculture as the main source of food needed by the humanity and as the main livelihood for all rural communities around the globe. Dr. Abu-Zeid called for maximizing benefits for food security through irrigated agriculture in developing countries and called for increased aid effectiveness through the official development assistance funding for major infrastructural development projects. The Ministerial Recommendations adopted by the Agriculture Ministers' meeting in Shiga on 21 March highlighted the simultaneous need for development and management of water for agriculture to meet the present and future demands for food, to alleviate poverty and for sustainable economic growth. It also reaffirmed commitment to promote improved governance of agriculture water use through integrated WR development and management, including non-agricultural water use, with due consideration to environmental aspects.

ICID, in collaboration with FAO and the Japanese National Committee of ICID (JNC-ICID), coordinated the Theme 1-10 on Agriculture, Food and Water which planned 17 different sessions. An ICID Session on "Water for Food and Rural Development: Integrated Water Resources Development and Management for Ensuring Food Sufficiency and Security" was also held successfully. The Session noted with great concern the continued decline in the investments for agriculture development

by national governments, development agencies and international financial institutions and called upon them to reverse this long-standing position so that all could move forward towards a better future for all. Irrigation expansion offers excellent opportunity to achieve the level of production needed with minimal environmental consequences. The World Bank's recent decision to reverse its earlier position is therefore seen by the developing countries as a welcome change that needs to be emulated by others as well, so that large water resources development projects can be funded. It is pathetic that water resources development in most countries of Africa is only of the order of 5%. Messages from the delegates from Africa were loud and clear that wherever such development has taken place, people are better off. Mooting the concept of 'virtual water' for such poor and least developed countries is totally inappropriate and is like keeping them in perpetual dependence on others for food.

ICID, through its Working Group on History of Irrigation, Drainage and Flood Control (WG-HIST), organized a two-day Session on 'History of Water - Lessons to learn', in conjunction with UN University (UNU) and International Water History Association (IWHA). This session was held at Sayama-Ike Museum on 17 March and at Osaka Grand Hotel on 18 March 2003.

The Japanese National Committee (JNC-ICID) also organized a session on 'Water for Food and Rural Development: Multifunctional Roles of Paddy Field Irrigation in the Asia Monsoon Regions', during the 3rd World Water Forum (WWF-3).

ICID also issued a document summarizing the proceedings of ICID sessions at the WWF-3.

During the Forum, a Ministerial Recommendation adopted by the Ministerial meeting on Water for Food and Agriculture was released from Shiga on 21st March 2003. At the end of the Forum events, a Ministerial Declaration was also released on 23 March 2003 asserting the common resolve of the Ministers and Heads of Delegations, assembled in Kyoto to implement appropriate recommendations in order to achieve internationally agreed targets and goals, including the United Nations Millennium Development Goals (MDGs).

International Seminar/Workshops

International Conference on “Drought Mitigation and Prevention of Land Desertification”, Slovenia, April 2002

An International Conference on “Drought Mitigation and Prevention of Land Desertification: was held in Bled, Slovenia from 21-25 April, 2002. This was organized jointly by the European Regional Working Group of ICID and Slovenian National Committee on Irrigation and Drainage (SINCID) with the scientific support of European Regional Work Team on Drought (ERWT) of ICID and under the auspices of the Ministry of Agriculture, Forestry and Food of the Republic Slovenia.

The Conference attracted more than 200 participants from 30 countries and included an Opening Session, where six key-note presentations highlighted the scope, goals and aims of the Conference, three Topic Sessions and a Closing Round Table discussion. At the Conference, 112 papers were presented, 78 orally and 34 in poster form.

The Conference focussed on the following topics:

- Impact of climate change on Central and East European and Mediterranean countries;
- Drought as a complex phenomenon affecting society as a whole (significant economic, social and environmental impacts of drought);
- National strategies and national action programmes to mitigate drought and combat land degradation and desertification.

Conclusions and Recommendations of the Conference

- Although drought occurs at irregular intervals and its recurrence is unpredictable, a continuous effort is required to mitigate the effects of drought and improve drought preparedness.
- All countries afflicted by recurring and severe drought should have a well defined drought mitigation policy, to serve as a basis for the formulation of a National Drought Strategy and short term action programmes

for drought mitigation should be defined and implemented.

- International bi – or – multilateral cooperation among countries involved in drought mitigation is recommended for solving common problems, developing common methods, and implementing common actions for mitigating the harmful impact of drought, and preventing desertification.
- To optimise coordination of the actions required for drought mitigation a National Drought Commission should be set up in drought-prone countries, comprising representatives of all agencies involved.
- Further active research work and plant breeding activity are necessary to create new species and varieties of plants with good or even excellent drought tolerance and usable for production of fodder and food crops in drought-prone areas.
- New water saving techniques, best agricultural management practices and soil cultivation methods for both dry and irrigated farming should be developed and adopted.
- Research work for the evaluation and comparison of different indices used jointly in drought assessment/ characterization should be carried out in drought-prone areas to test their validity and effectiveness.
- Well-established as well as advanced methods for drought characterization should be developed, on behalf of the drought-prone countries in Europe, using the Standardized Precipitation Index (SPI) combined with other local indices.
- Conference delegates are ready to establish a Regional Network of Drought Mitigation/Preparedness in the Central and Eastern European region to assist each other in combating the effects of drought.
- Conference delegates expressed the need to set up an expert team or consortium for elaborating a suitable methodology and for constructing the European Drought Sensitivity Map with the involvement of representatives of the European countries concerned.

53rd IEC Meeting and 18th ICID Congress Concluded at Montreal, Canada

The 53rd Meeting of the International Executive Council (IEC) and the 18th International Congress on the theme “Food Production Under Conditions of Water Scarcity, Increasing Population and Environmental Pressures” were concluded successfully at the picturesque city of Montreal from 21-28 July 2002. Together with these mega events, the ICID Workbodies also held their annual meetings to take stock of the work done during the year and to chalk out the work plan of activities for the coming year.

About 800 delegates from 70 countries and 16 international organizations participated in the various events held during the period of the Congress. Several tours were planned for visit to various irrigation schemes and technical works.

The Opening Ceremony was graced by Ms. Susan Whelan, Hon’ble Minister for International Cooperation (Canada), who delivered the Keynote Address and inaugurated the Congress on 25th July and Dr. Ian Butler, Associate Vice Principal, Research, McGill University (Canada); Prof. dr. Bart Schultz, President, ICID; Mr. Aly M. Shady, President Hon., ICID; Dr. C.A. Madramootoo, Vice President, ICID; Dr. C.D. Thatte, Secretary General, ICID and Mr. Jean-Marcel Laferriere, Chairman, National Organizing Committee.

Vice President Chandra Madramootoo called to order the Opening Ceremony on 25th July, while Mr. Jean-Marcel Laferrière, Chairman of Canadian National Organizing Committee made the welcoming remarks. President Bart Schultz delivered the opening address, while President Hon. Aly Shady made the closing remarks.

Prof. dr. Bart Schultz, President, ICID in his opening address mentioned that amongst the most important goals for irrigation and drainage sector included integrated water management, development in irrigation and drainage, integrated planning taking into account aspirations of all sectors, sustainable development and acceptable environmental impacts. He mentioned that ICID Congress gave professionals a forum to present their findings, products and to share their experiences with colleagues as well as to discuss the relevance and application of ideas exchanged. He highlighted the

important landmarks which ICID had achieved in the past three years and the contributions the organization made to the vision on water for food and rural development. He said that a strategy for action formulated for guiding decisions and activities. President Schultz made an impressive presentation on the status of water management and food production in the worldwide scenario and discussed the food requirement for the growing population in the years to come.

Hon’ble Minister for International Cooperation, Ms. Susan Whelan in her keynote address noted that pressures on global resources were intensifying and that sustainable water resources management had become critical for improving water food security. She said that agriculture and water had become priority issues for CIDA and a new policy on agriculture was being developed. She mentioned that Canada had pledged to support a New Partnership for Africa’s Development (NEPAD) and committed \$50 million over the next three years to help improve water management and access to water and sanitation in Africa. Several other support programmes had also been initiated for the African region. She recognized water and irrigation as crucial elements in the struggle for global food security and opined that international trade had an important role to play. Canada continued to work through the WTO to develop a fair and market-oriented global trading system in agri-food products. She informed that the Federal Government of Canada in partnership the provinces and territories, the agricultural sector and the people, developed a national framework for agriculture that highlighted food security, food quality and environmental sustainability. She concluded her speech by quoting Dr. Jacques Diouf, Director General of Food and Agricultural Organization (FAO) “We know that investing in the reduction of hunger can only benefit an increasingly interdependent world. It is in the interest of all, rich and poor, to do everything — and quickly — to bring about a fairer world. Let us waste no time in starting this race against time.”

She then declared the Congress open.



53rd IEC Meeting and 18th ICID Congress
Concluded at Montreal, Canada



Montreal events at a glance

The first ICID Distinguished Lecture was delivered by H.E. Dr. M. Abu-Zeid, Hon'ble Minister for Public Works and Water Resources, Egypt and President, World Water Council (WWC). While discussing the water problems in Africa, Dr. Abu-Zeid noted that while 88% of water in Africa was used for agriculture, only 5% of total crop lands were irrigated, compared to 29% in Asia. He said that 26 countries were presently facing water shortage, however, it is projected that in the year 2025 around 66 countries are likely to face acute water shortage. Water scarcity, lack of accessibility to clean water, water quality deterioration and fragmentation of water management related aspects due to lack of harmony in regional, local and global issues were main concerns, Dr. Abu-Zeid averred. He stressed that water related problems led to poverty, health related problems and negative impact on food security. The poverty was growing at an alarming rate in Africa and it was estimated that 200 million people were chronically hungry and 25 million people needed emergency food and agricultural assistance. Dr. Abu-Zeid referred to various regional initiatives to tackle the colossal problems in Africa. These included formation of NEPAD which was a vision and national programme of action for the development of African continent under which social, economical and political issues are expected to be dealt with in a coherent and planned manner. He said that AMCOW (African Ministerial Conference on Water) and the Nile Basin Initiative programmes also worked for the same goal to achieve global water supply and to alleviate poverty in African region. Dr. Abu-Zeid concluded the lecture by quoting a song of an African child which says "Do not blow up the land, do not kill the flower, today is your world and tomorrow will be ours".

The Closing Ceremony was called to order by Mr. Laurie Tollefson on 28th July. It was marked with the presentations of Montreal Declaration by Vice President Hon. T.H. Anstey, Conclusions and Recommendations of the Congress events by Secretary General Dr. C.D. Thatte, and a ceremony to hand over ICID's Best Performing National Committee Award to Korea at the hands of President Prof. dr. Bart Schultz. A Special Presentation was made by President Hon. Bob Rangeley on his reminiscences and expectations.

Ir. Keizrul bin Abdullah, President-elect of ICID addressed the closing session of the Congress on 28 July 2002 and thanked all the ICID national representatives for electing

him as the new President of the Commission and the delegates for making the Congress a huge success. He expected that more value added services will be provided by ICID to the member countries in the coming years.

Highlights of the Montreal Events

Highlights of the 18th Congress and 53rd International Executive Council Meeting of the International Commission on Irrigation and Drainage, July 21-28, 2002, Montreal, Canada

In conjunction with the IEC and the Congress, a Special Session on the topic "Research and development in irrigation, drainage and flood control" and a Symposium on "Privatization of irrigation and drainage schemes" were held. In addition, a Special Event coordinated by President Hon. Aly Shady on "The world vision for water, food and rural development in the year 2025" and a Seminar coordinated by Prof. H. Fahlbusch on "Lessons from failures in irrigation, drainage and flood control systems" were also organised. Further, 4 international workshops and 23 feature sessions organized on topics of considerable interest to the irrigation and drainage community worldwide were attended in large numbers by participants. A daily "Newsletter" on the days proceedings was issued during the period of the events. The Congress was covered in the Canadian media, including local newspapers. Two questions which were central to the theme of the Congress were: Question 50: Food production, poverty alleviation and environmental challenges as influenced by limited water resources and population growth; and Question 51: Integration and management of irrigation, drainage and flood control. Question 50 had 6 sub topics, and there were 5 sub topics under Question 51.

Some 400 papers were presented at the Congress. About 30 organizations assisted the Congress with sponsorships and contributions in one form or another. Given the large number of participants, extra-ordinarily large number of technical sessions, considerable number of papers presented and the sponsorships, the Congress was deemed a resounding success.

Montreal was regarded as a turning point in ICID in many respects. Apart from the high degree of participations, papers presented, technical sessions etc., there were three special sessions that were first for an



ICID meeting and received special mention. These were: the roundtable on professional women in water and engineering; Young Professionals Forum; feature session on farmers' expectations from ICID. The Montreal Congress will be remembered for the impact created and interest generated by these three sessions. Many participants noted that the Montreal Congress set a new standard for future ICID Congresses and meetings.

MoU Signed in Montreal between ICID and EurAgEng

ICID entered into Memorandum of Understanding (MoU) with European Society of Agricultural

Engineers (EurAgEng) to collaborate on their networking systems, to nominate representatives in each other's workbodies as observers, to publish announcements of the two organizations in their periodicals free of charge and to cooperate in the planning and implementation of projects related to Research, Guidelines, Workshops, Conferences, Training Courses. The MoU was signed by Prof. dr. Bart Schultz, President on behalf of ICID and Prof. Daniele De Wrachien, President of EurAgEng on behalf of EurAgEng on 27 July 2002. Following is the text of MoU signed in Montreal between ICID and EurAgEng.

MEMORANDUM OF UNDERSTANDING

Between

INTERNATIONAL COMMISSION ON IRRIGATION AND DRAINAGE

and

EUROPEAN SOCIETY OF AGRICULTURAL ENGINEERS (EurAgEng)

Recognizing the fact that ICID and EurAgEng are both professional Associations engaged, inter alia in planning and management of land and water resources for food and rural development at international level, it would be of mutual benefit if cooperation be enhanced between them. With this objective, both Associations agree on the following cooperative measures:

1. Collaboration between the ICID and the EurAgEng networking systems.
2. Nomination of representatives and alternate representatives in each other's work bodies as Observers.

3. Publication of announcements of the two Organizations in their periodicals on a comparable basis, free of charge.
4. Cooperation in the planning and implementation of projects related to Research, Guidelines, Workshops, Conferences, Training Courses, etc.

Sd/-	Sd/-
Prof. dr. Bart Schultz	Prof. Daniele de Wrachien
President of ICID	President of EurAgEng

Montreal, Canada 27 July 2002

The 2002 ICID Awards

Dr. Hassan Ismail Memorial International Award 2002

Dr. Hassan Ismail Memorial International Award for the year 2002 was presented to Ms. Marna de Lange of South African National Committee (SANCID) for her paper titled "Water conservation and water demand management in agriculture: Development of water management plans by irrigation water suppliers in South Africa" which was contributed at WatSave Workshop held in Cape Town, South Africa in October 2000. The Award consisted of

an honorarium of US\$ 1000 and a citation and was received by Chairman, SANCID on her behalf. The Award is given to young professionals, below 40 years of age, for their work, which has wide applicability and is brought to the notice of irrigation and drainage community through technical papers on African issues contributed to or presented at ICID Congress or Afro/Asian Regional Conference/African activities and adjudged as the best paper.

Ms. Marna de Lange (born 1966) obtained her B Eng (Civil) from University of Stellenbosch, South Africa in

1989. She has 12 years experience in agricultural and rural development as a Civil Engineer, development facilitator and policy developer, with a particular focus on small-scale irrigation. She was closely involved in the post-apartheid review of South African water law as project manager for the development of national irrigation policy and remains involved in several aspects of the implementation of the new National Water Act. She has gained experience in projects in South Africa and other SADC countries and has presented invited papers to the Royal Society of South Africa; IndiaNPIM and Wageningen, Agricultural University in Hyderabad, India; IRMA in Anand, India; the Second World Water Forum in the Hague, Netherlands; and the Stockholm 10th Annual Water Symposium in Sweden. Ms de Lange has consulted for the South African government, Water Research Commission, Agricultural Research Council, IWMI, IPTRID, Swedish SIDA and FAO. In 1997, she founded Socio-Technical Interfacing, a private research and consulting firm in South Africa, which provides services in the fields of policy development, community mobilisation and integrated rural development planning.

From 1998, she represented IWMI in South Africa and continues to consult for IWMI since the opening of its Africa Office in Pretoria in November 2000. She has also several papers published in prestigious international journals to her credit.

The WatSave Technology Award was presented to Mr. Robert E. Merry (UK). Mr. Merry (born 1952), obtained his M.Sc in Irrigation Engineering from Southampton University in 1975. He started his career as Assistant Engineer in the Ministry of Works, North Central State, Nigeria from 1973. Mr. Merry is presently working as Senior Engineer (Irrigation and Civil Engineering) in Booker Tate Limited, United Kingdom. He has to his credit 29 years civil engineering and project management experience in Africa, the Middle East and South-East Asia on water resource, agro-industrial and chemical projects. Specialising in irrigation and drainage systems for sugarcane estates and small grower areas, including feasibility studies, designs, cost-benefit analysis, contract documentation and post-investment evaluation, his experience covers surface, overhead and drip irrigation systems.

WatSave Innovative Water Management Award was presented to Dr. Mahmoud Moustafa (Egypt) (born 1961), who obtained his Doctorate Degree in Irrigation and Drainage Engineering from Okayama University, Japan. He started his career as a Drainage Engineer at the Egyptian Public Authority for Drainage Projects and served there from 1986 to March 2001. He is presently employed as Research, Irrigation and Drainage Specialist in the National Water Research Center, Ministry of Water Resources and Irrigation, Cairo, Egypt. Dr. Moustafa is a member of the Egyptian National Committee of ICID (ENCID). He was actively engaged in the activities of irrigation management transfer (IMT) policy adopted by MWRI and served as a member of IMT Working Group since 1999. He received some international and national awards including “Ryobiteien International Award”, Ryobiteien Foundation, Japan in 1998, Award for the best presentation in the International Conference of “Spatial Information Technology Toward 2000 and Beyond”, China in 1998, and the “NWRC award for best research paper in water problems solving” in 2001.

He has published 20 scientific papers in reputed peer reviewed journals and about 11 technical reports in the field of water conservation and improving management of irrigation and drainage projects.

WatSave Young Professional Award was presented to Dr. Ashutosh Upadhyaya (India). Dr. Upadhyaya (born 1966), obtained his M. Tech (Water Resources Development and Management) Degree from Indian Institute of Technology, Kharagpur in 1989 and received GATE fellowship during M.Tech degree programme. He obtained his Ph.D from G.B. Pant University of Agriculture and Technology, Pantnagar. He joined as an Engineer in Consulting Engineering Services (India) Pvt. Ltd., New Delhi in 1989 and worked on hydrologic modelling of Subernarekha basin, hydraulics and operation of canal systems, crop water requirement estimation, integrated operation of reservoirs and barrages of Subernarekha project, Bihar and planning and design of drainage system in Sardar Sarovar Project, Gujarat. Currently, he is working as Senior Scientist (Soil and Water Conservation Engineering), Indian Council of Agricultural Research (ICAR) Eastern Region, Bihar.



He was selected as Scientist (Soil and Water Conservation Engineering) and joined Water Technology Centre for Eastern Region (ICAR), Bhubaneswar in 1992. Dr. Upadhyaya was presented Lal Bahadur Shastri Young Scientist Award (1999-2000) by ICAE for significant research contributions in water management. He was also conferred upon Jawaharlal Nehru Award (2000) by ICAR

for outstanding Post-Graduate Research in Irrigation and Drainage Engineering. He has to his credit 45 research papers including 8 research papers in the reputed International Journals. All the deliberations together have led us to the adoption of a brief "Montreal Declaration" which set out direction for the frame activities of ICID. The text of this Declaration is as follows :

The Montreal ICID Declaration

The International Commission on Irrigation and Drainage considered Food Production Under Conditions of Water Scarcity as the main theme at its 18th Congress in Montreal, Canada. Thus food production under limited water and the integration of irrigation, drainage and flood control were of primary concern to over 800 delegates.

Life cannot exist without water. ICID recognizes the importance of this vital and scarce resource in producing the food required to meet the needs of an ever-increasing world population. Since agriculture in developing countries consumes about 85% of its water to meet their needs, this Congress declares that new management tools are needed to increase food production.

This Congress also declares that national and regional policies need developing. These include the regulation of river flow by reservoirs, the inter-basin transfer of water, protecting coastal lands from the intrusion of saline water, various water saving techniques with special reference to arid and semi-arid tropical areas and the inclusion of all stakeholders in making decisions regarding water management.

We declare that alleviating poverty while ensuring the sustainability of the environment under conditions of limited water resources and continuing growth of the population is of vital concern. We recognize that food production in the past was primarily linked to the world's land resources. Today, however, water is the main limiting factor for agriculture and food production. Thus the supply, quality and efficient use of water will dominate agricultural production.

Since the poor are often the hardest hit by water-related problems, water security should be part of any poverty alleviation program. Also the increase

in the world's population places great demands upon the agricultural sector. These demands can only be resolved through the efficient use of irrigation and drainage. They are the cornerstones of world food security. To meet them we must improve irrigation efficiency on existing lands and encourage participatory management in all systems.

ICID recognizes the importance of integrating the management of irrigation, drainage and flood control. It emphasizes the need to design adequate drainage systems concurrently with the design of each irrigation system. This will minimize salinization and waterlogging thus optimizing the efficacy of each irrigation system.

We declare that private sector participation is a necessary and desirable mechanism to augment investment in upgrading the performance of irrigation systems. To achieve success with such participation, careful consideration of the legal, economic and resource management mechanisms are needed.

The fact that irrigation plays a critical role in producing the world's food supplies is not well appreciated by most people, ICID will develop an education program that provides the necessary information to help people understand the importance of irrigation in their lives.

Farmers, women and young professionals are playing an ever-increasing role in the design and management of irrigation and drainage systems. Thus we declare that their active participation in the affairs of our Commission be encouraged.

Finally, as research scientists, engineers and practitioners in irrigation, drainage and flood control, we declare that we will use all available relative knowledge in the execution of our duties.

Conclusions and Recommendations of the 18th International Congress Questions, Special Session, Symposium and Special Event

18th ICID Congress
DRAFT

Conclusions and Recommendations

A. *Question 50 : Food production, poverty alleviation and environmental challenges as influenced by limited water resources and population growth.*

Future ICID Congresses –

It is recommended that ICID change the format of future Congresses to allow authors of all accepted papers for the main Questions to present their papers at the Congress. The authors spend a great deal of time and effort in preparing the papers and travel significant distances to attend the ICID Congress. Having the authors present the results of their research enhances the quality of the Congress, and promotes better discussion of the issues by the Congress participants.

The 18th ICID Congress in Montreal included a special session to listen to the concerns and views of irrigation farmers. The organizing committee is to be applauded for this very successful initiative. Participatory management of farmers should be promoted at all levels, and it is recommended that ICID encourage the inclusion of farmers to an even greater extent at future Congresses.

Irrigation Effectiveness – The effectiveness of existing irrigation projects has to be improved to optimize the productive capacity of every available cubic meter of water. Water availability and flexible water delivery are key requirements that will allow farmers to adopt new technologies for improving water use efficiency. It is recognized that properly managed deficit irrigation can attain near normal crop yields, while at the same time conserving significant water supplies. The papers at this Congress clearly demonstrate that solutions are available to meet the challenge of increasing the productive capacity; but these solutions have to be translated into action by concerned Governments.

Irrigation Development - While some countries have nearly developed their irrigation potential, many developing countries, particularly those in sub-Saharan Africa and South Asia have considerable potential to

increase irrigation development to reach or maintain food self-sufficiency and improve the quality of life. Further efforts must be intensified to explore and harness potential irrigation development opportunities wherever practical.

Environmental Sustainability - For all irrigation projects, existing and new, environmental sustainability will ensure the long-term viability of irrigation, sustenance of the fruits and the protection of the earth's limited land and water resources. It is recommended that additional research and development be undertaken to assess the potential impacts of irrigation development on the soil, land and water resources.

Groundwater – Groundwater resources are being over-exploited in some countries of the world for irrigation. It is leading to threatening of long-term sustainability of this valuable resource. It is recommended that ICID assess the state of groundwater resource in the world, and develop key recommendations for avoiding such situation.

Competition for Water – Increased competition for water, in some cases driven by irrigation development, has led to a new set of problems for irrigation planners and managers. Not only must irrigation managers provide good service to their customers, but also they must respond to the needs and concerns of society outside of the irrigation system. The papers presented at this Congress demonstrate that solutions arising from increased competition can be found by taking an integrated water resources development and management perspective within river basins. It is recommended that ICID engage in increased dialogue, discussion and education with water resource stakeholders and the public about the key issues facing the agricultural community.

Social Sciences – The sub-topic “Economic Policy and Legal Instruments for Managing Scarce Water Resources” under Question 50 is an important consideration in sustainable development of irrigation. However, there were very few papers submitted to this Congress on these issues. It is recommended that ICID strive to include more representatives from the social science disciplines at future Congresses to address the issues of:

- Poverty alleviation;
- Participatory management;
- Economic and financial policies; and
- Socio-economic development.



It is also recommended that ICID establish a special Task Force on the specific issue of poverty reduction. This task force would be given the mandate to assess the relationship between water and poverty in the world, and make recommendations on mechanisms to alleviate poverty conditions.

Water Re-Use – As demand for existing water supplies continues to increase, options are being explored to intensify re-use of irrigation drainage water and municipal wastewater for irrigation purposes. It was recognized that the latter component would grow much more faster than the former, in future and that special management required to ensure food safety is kept in mind and not compromised. However, it is recommended that the World Health Organization (WHO) be approached to consider relaxing of irrigation water quality guidelines for wastewater irrigation of crops that are not directly consumed.

Strategic Planning – The Congress demonstrated that solutions and opportunities exist for global water and food security. It is recommended that ICID promote integration of these solutions and development of strategic, watershed-based programs that will lead to sustainable change in practice at the farm level.

B. Question 51: Integration and Management of Irrigation, Drainage and Flood Control

The Granada ICID Declaration of 1999 clearly says, “Irrigation, drainage and flood control are no longer options. They are necessary for feeding billions of people, for providing employment for rural poor and for protecting the environment.” Emerging from this declaration Question 51 asks us how we should implement them on the land to realize their full potential.

Elements of National and Regional Policies

- Integrated management of irrigation, drainage and flood control must be considered within the context of the food production sector as a whole, especially rainfed agriculture. This is all the more important if there is competition for water.
- In some countries the rainfed sector is negligible, but in most others it forms a significant element and must be considered in the planning process.

- The aspect of food security vis à vis food self sufficiency should be considered at par with the concept of virtual water.
- There is a need to establish appropriate institutional structure in order to ensure implementation of policy and managerial goals. Such structures must allow for stakeholder participation.

Integrated Land and Water Resources Development and Management

- Clear understanding of environmental processes in face of prevailing constraints faced by farmers and opportunities in resource management will benefit effective and sustainable resource management strategies.
- Estimating actual evapo-transpiration from the fields and from the basins is the key for evaluating irrigation water and water storage in a basin. A revised method for estimating evapo-transpiration using satellite data is a possible tool, the use of which is expected to grow.
- Using satellite data for land and water resources management requires more ground verification to increase its reliability and accuracy.
- It is important to evaluate the effects of irrigation, drainage and flood management by the substance dynamics and to optimize ecological and economic status in poldered areas.
- A system based on the comprehensive flood protection program is proposed to assist flood prediction, management and mitigation. It is linked with a recently developed hydraulic model of the river. GIS is used to develop analytical tools for various modes of decision-making.
- Evaluation and reclamation techniques of waterlogging and soil salinity are proposed and the ICID might encourage taking up studies in this respect along with the optimal drainage for controlling groundwater stages.
- An integrated plan and management of irrigation and flood control have been realized by the construction of multi-purpose dams. There are still many suitable sites for dams which will bring great prosperity and safety to the people. ICID should continue to make

efforts to explain the necessity of dam in an easy-to-understand manner by comparing with the status without the Dam.

- The recognition of multi-objective functions of farmlands and paddy fields will encourage people to keep the land undisturbed, beautiful, safe and productive. The ICID with its expertise and wisdom will be able to do many things for the prosperity of rural areas under the increasing threat of deterioration in our environment.

Implementing Irrigation, Drainage and Flood Control Strategies within the Water Sector

- Irrigation is only one amongst different water uses. Irrigation has to take into account multipurpose approach and incorporate stakeholders' views and decisions.
- Develop integrated water resource and agricultural development policies.
- Provide examples of planning and decision-making tools for water sector. There is a need to improve conceptual approach with the backing of real experience.
- Develop adequate resources for OM&M, modernization and replacement of assets. The subject has to be followed up in future Congresses.
- There were very few papers on the very broad subject. The discussions on the topic have just opened, and must be pursued in future Congresses.
- It is equally necessary to consider use of wastewater for irrigation, in view of urban encroachment on agricultural land.
- While integrating irrigation, drainage and flood control, it is necessary to consider impact on environment and involvement of other sectors viz economic, social science, etc.
- Propose models for financing implementation of irrigation, drainage and flood control within the financial context of the water sector.

Ensuring Stakeholder Participation in Decision Making

- Ensuring stakeholder participation warrants that some method or methods must exist that can somehow guarantee success. This is not wholly possible because

the participants must come forward voluntarily. Successful procedures for a high stakeholder participation must clearly define roles of all the participants to create an atmosphere that encourages open communication where all ideas are accorded due consideration and are not dismissed out of hand.

- Trust is the foundation of successful stakeholder participation approach. The group should adopt the philosophy of seeking an understanding and making themselves understood.
- The process must be community driven to achieve the maximum ownership and smooth implementation.
- There must be a feedback component to the process in which the stakeholder representatives provide information on progress and/or decisions to beneficiaries for comments.
- Spend as much time as necessary to accurately develop the scope of the project. This will facilitate future activities and maintain a consistent focus. Stakeholder representatives may lose interest and waste valuable time if the group is always struggling with the original specifics of the project. Strive for consensus in decision-making and the initial meetings should define as to what consensus means.
- Agree on a dispute resolution process early so all parties know how disagreements will be dealt with.
- Provide sufficient funds in the first instance to adequately support the initial efforts. The cost recovery, in the long term will then emerge with lesser conflicts.
- Provide the scientific and technical resources to gather data, analysis and results for feedback to the stakeholder group for advising the decision makers.
- Stakeholder procedures must become a key component in all integrated water resource decision-making process. The ICID, in consultation with the experts in the field should develop, a primer or guideline solely for the subject of how to conduct a successful stakeholder dialogue process which could attract a major focus at a future Congress.

Demographics of Water Resources Development

- Population growth and the attendant shift in demographics will constitute the single largest impact on water resource development.



- Many large development projects conceived 50-100 years ago have now raised new and greater needs due to changing demographics and quality of life standards. For instance, the greater awareness of environmental issues or substantial demand for reallocation of supply as also for multiple non-consumptive uses.
 - There is always a concerted opinion by the constituents that they want to have a voice in the decision making process.
 - Integrated water resource management is important and it must have a strong participatory component.
 - Develop a flexible integrated water resource management plan incorporating the process of stakeholder participation which clearly defines scope and comprise key stakeholders with defined roles and responsibilities.
 - Provide adequate technical resources to help defining the scope of the project as well as to collect and analyze data for good decision-making.
 - Establish processes of education of the beneficiaries to expose them to new methods or practices in agriculture, which conserve water and reduce nutrient loading on supplies.
 - Explore ways and means to use water for nonconsumptive purposes while meeting agricultural and domestic needs.
 - Implement monitoring and data collection activities to determine baseline conditions.
 - The population movement to urban areas makes it difficult to maintain agricultural facilities like canals and reservoirs and even farming itself is related with the movement of competitive world market. There are lots of rural areas facing crisis in maintaining productivity of farmlands. ICID has to encourage study of the declining situation in the rural areas and help them maintain and preserve the productivity of rural areas.
- Irrigation must be considered within the context of the agricultural sector as a whole, especially its place in relation to rainfed agriculture. This is all the more important if there is competition for water.
 - Account must be taken of population movement to urban areas and globalisation of markets which in many rural areas is contributing to decline in agricultural productivity.
 - Project scope should be clearly formulated. The stakeholder participation in an atmosphere of trust encourages open communication which is essential.
 - Full use should be made of modern technology e.g. satellite data for water balances and flood forecasting, computer modelling and GIS.
 - Under appropriate circumstances, storage and regulating reservoirs can play a valuable role.
 - The recognition of multi-objective functions of farmlands and paddy fields will encourage people to keep the land undisturbed, beautiful, safe and productive.

C. Special Session: Research and Development in Irrigation, Drainage and Flood Control

Water research, especially in the developing countries, has not been able to attract the same level of financial and institutional support as agricultural research. For example, it is generally accepted that the part of World Bank loans dedicated to R&D is of the order of 1% in irrigation and drainage as against 12 % in agriculture.

In most of these countries, R&D in irrigation and drainage is carried out primarily by public institutions. By and large, universities and research organisations have not made very significant impacts on improvements in performance of the agricultural water sector. Furthermore, the private sector has not played any major role in water research, especially when compared to the domestic water and sanitation sector. Water research institutions suffer from several constraints including a lack of sustained core funding from the national governments for innovative, large-scale research projects, and the inability to undertake research on problems being faced by the operational agencies. Mostly, the research institutes are not driven by a strong peer review, and competitive culture. This has often led to complacency and weak outreach and institutional performance.

Summary and Conclusions

Key factors relevant to effective integration and management of irrigation, drainage and flood control include:

- Irrigation is only one among different water uses and must be considered in the context of the total demand on the water resource.

The Special Session of the 18th International Congress on Irrigation and Drainage proposed to bring out answers, or at least to reflect upon these issues and challenges. After the presentation of the General Report, in all six presentations were made.

Lively discussion and interaction between participants led to formulation of the following conclusions and recommendations:

- The need to answer social demand and the complexity of issues addressed by R&D in irrigation and drainage require multidisciplinary research which can be achieved by improving linkages ;
- Institutional management and performance should be improved in R&D, by better developing and managing human resources, and using modern programming and monitoring tools ;
- Political awareness on the need and interest for R&D in irrigation and drainage should be increased to improve financial support, and the use of available resources should be improved ; and
- Participation of beneficiaries and of private sector should be increased to achieve participatory research.

D. Special Event: The World Vision for water, food and rural development for the year 2025.

The presentations in this session clearly indicated that major work is already underway focusing on policy reform in the field of agriculture and water. The latest round of

WTO has shown that effort to address the international trade of agricultural commodities is crucial for the sector. Also the much awaited reform of agricultural policies is necessary for success of future food security and rural development. The farmers' organizations and the rest of the civil society must be engaged fully in this effort and their interests taken into account in any final conclusion. It is clear that policies for water and agriculture, food security, besides the social and economic issues are closely linked and made complementary rather than contradictory to achieve sustainable development.

E. Symposium: Private Sector Participation in Irrigation and Drainage

The Congress recognised that private sector participation is a necessary and desirable mechanism to augment investment in upgrading performance of irrigation systems. To achieve success in such participation, careful consideration of the legal, economic and resource management mechanisms is called for. Private sector participation may cover subjects from ownership of system assets to management of irrigation and drainage services. Regardless of the private participation model, the Congress recognised that clear and transparent legal regulatory mechanisms are necessary for achieving success. They include the ability to identify the costs of services and mechanisms to raise the revenue to meet the costs. Need for proper documentation of existing and new undertakings dealing in private participation was also identified.

**Best Performing National Committee Award (BPNCA), 1999-2002 for
Korean National Committee of ICID (KCID)**

The International Panel of Judges has selected the Korean National Committee of ICID (KCID) for the inaugural "Best Performing National Committee Award (BPNCA), 1999-2002". The performance of the National Committee was judged based upon its contribution towards achieving the mandate and mission of ICID during the last 3 years. The Award was instituted as per the decision of the 52nd International Executive Council (IEC) of ICID held at Seoul in September 2001, to recognize a National Committee making outstanding contribution to

ICID activities. The award will be made triennially at every ICID Congress, commencing from 18th Congress, held in July 2002 at Montreal. The award comprises a Rolling Trophy and a Citation Plaque. Various facets / factors for rating of excellence in performance of a National Committee included – status of broad basing, technical events organized, publications brought out, participation and hosting of various ICID events, membership of various ICID work bodies, contribution to ICID's financial resources, etc.



World Water Day Celebrations

Bangladesh National Committee (BANCID)

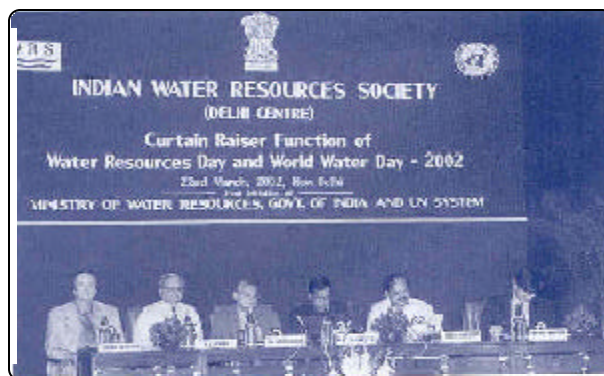
The occasion of the World Water Day on 22nd March 2002 was observed by holding a one-day Seminar on “Water for Development”. The Seminar was jointly organized by the Institution of Engineers, Bangladesh (IEB), Bangladesh Water Development Board (BWDB) and Global Water Partnership (GWP) - Bangladesh Water Partnership (BWP). Honourable Minister of Water Resources, Government of Bangladesh, Engr. L.K. Siddiqi was the Chief Guest. Mr. Faisal Ahmed Choudhury, Secretary, Ministry of Water Resources, Government of Bangladesh, Mr. Peter De Vries, First Secretary, Water Development, Royal Netherlands Embassy in Bangladesh, Engr. Mukhlesuzzaman, Chairman, BANCID and Director General, BWDB and Prof. M. Moniruzzaman Miah, former Vice Chancellor, Dhaka University and a Water Resource Expert also attended the Seminar and addressed the audience. Engr. Quamrul Islam Siddique, President IEB, and Chairman, GWP-BWP presided over the Seminar. The speakers highlighted the importance of the World Water Day and the importance of Water for overall development. The speakers also emphasized the need of safe water for the people and called for regional cooperation among the neighbouring countries for better management of water resources of the region. Professionals and Water Experts from different agencies also took part in the Seminar.

Indian National Committee (INCID)

Curtain raiser function of World Water Day 2002 was held on 22nd March 2002 at New Delhi. A day-long programme was organized in association with UN System, Ministry of Water Resources and other concerned Ministries, Departments, Organizations and Agencies.

H.E. Arjun Charan Sethi, Minister for Water Resources, the Chief Guest of the occasion, inaugurated the function. In his inaugural address, he stated that the water requirement of India would continue to increase as a result of growth in population, change in life style and rapid industrialization. He informed that in order to meet

the challenges of integrated water resources development and management, the Ministry of Water Resources has already taken up the revision of existing National Water Policy.



At the opening ceremony (L to H) :
Mr. F. Starchcevic, Mr. P.L. Diwan,
Mr. B.N. Navalawala, H.E. A.C. Sethi,
H.E. M.Venkaiah Naidu and Mr. T. Thompson

H.E. M. Venkaiah Naidu, Minister for Rural Development was the Guest of Honour. Mr. B.N. Navalawala, Secretary, Ministry of Water Resources, Government of India; and Mr. Feodor Starchcevic, Director, UN Information Center, New Delhi were also graced the occasion. Mr. Terrence Thompson, Regional Advisor, WHO and Chairman UNIAWG presented a theme paper on “Water for Development”.

To mark the occasion, a technical session chaired by Dr. Y.K. Alagh, former Union Minister for Planning and Power, Government of India, was organized; three publications of Central Water Commission (CWC) were released and a JAIN-INCID Award 2002 “Krishi Sinchai Vikas Puraskar” was presented to Mr. S.E. Khandve, Chairman, Sriram Pani Wapar Sahakari Sanstha Maryadit for their contribution to water conservation and reduction in conveyance losses in their project.

Dr. Kanwar Sain Memorial Lecture on “Inter-basin Transfer of Water - Issues and Policy Direction - to avert a crisis situation in India” was delivered by Dr. Jay Naryan Vyas, Former Minister for Water Resources, Govt.

of Gujarat and Eminent Civil Engineer. Mr. P.L. Diwan, CMD, WAPCOS, presented a theme paper on “Integrated Water Resources Development”.

The World Water Day celebrations were concluded with the vote of thanks by Mr. R.S. Goel, Vice President, Indian Water Resources Society (IWRS).

Italian National Committee (ITAL-ICID)

The 10th Water World Day was celebrated in Rome, Italy, on 22 March 2002, at the glamorous headquarters of the National Academy of Lincei: Villa Corsini, Lungara.

The event, jointly organized by the Accademia Nazionale dei Lincei and the ICID Italian National Committee was attended by about 120 participants, mainly University professors, experts and professionals.

Interesting papers were presented by some Academicians and University professors.

Korean National Committee (KCID)

The World Water Day was observed nationwide in Korea. The Korean National Committee on Irrigation and Drainage (KCID) in collaboration with Korea Agricultural and Rural Infrastructure Corporation (KARICO) observed the 10th World Water Day on 18th March 2002, by organizing a Symposium on the theme “Sustainable Development and Management of Rural Water Resources”. The Symposium was held in the education Institute of KARICO, at Anyang city and some 300 participants including professionals and experts related with water participated in the Symposium.

The welcome remarks were presented by Mr. Moon, Dong-Shin, President of KARICO, while the openings remarks were made by Dr. Huh, Yoo-Man, Chairman of the Korean National Committee of ICID.

A Special presentation on “Rice Policy and Policy Issues” was made by Dr. Cheung, Young-II, Professor at the Seoul National University. Professor of the Chung Nam National University, Dr. Kim, Tae-Cheol presented the theme paper, followed by discussions and conclusions on the theme.

Alongwith the Symposium, a poster display on water was organized followed by launching a campaign on “Revitalizing water for my hometown”.

Macedonian National Committee (MAKCID)

The second International Workshop on Irrigation and Drainage was held as a part of celebration of the World Water Day on 19 March 2002, in Skopje. The workshop proceedings consist of 50 papers on various topics e.g. geological investigations for agricultural planning, soil science, agricultural physics, crop-water simulation, integrated water resources development, irrigation and drainage engineering, management of irrigation systems and participatory irrigation management. Besides Macedonian participants, delegates from 12 countries viz, Albania, Australia, Austria, Croatia, Czech Republic, Ethiopia, France, Germany, Slovakia, UK, USA and Yugoslavia participated in the workshop. [Source : Communication received from Prof. dr.sc. Zvonimir Vukelic, President MAKCID].

Pakistan National Committee (PANCID)

On the World Water Day on the theme “Water for Development”, the Institution of Engineers, Pakistan being an active member of PANCID in association with Pakistan Engineering Congress, organised a seminar at PCSIR, Lahore on 22nd March 2002 to observe the World Water Day. Lt. Gen. Muhammad Tariq, Provincial Minister for C&W was the Chief Guest. The main speakers on the occasion were Engr. B.A. Malik, Engr. Altaf Hussain, Ex-Chief Engineering Adviser, Engr. Saadat Ali and Engr. Ahmed Khan Bhatti, Member (Water), WAPDA. They spoke on Water Resources Development in Pakistan, issues of Water Resources Development in Pakistan and water for development etc. At the conclusion of the seminar a Committee was formed, which prepared recommendations some of which include the following:

1. In Pakistan the issue of water development, management and conservation is of national importance. At the birth of the country, Pakistan was fortunate enough to have over 5000 m³/capita of water availability which has now reduced to just over 1000 m³/capita in the new millennium, partly because of a high rate of population growth, a drought since the

last 3 years, but mainly because of the lack of development of water resources since 1975.

2. To ensure continuity of water availability in the future which is continually decreasing due to sedimentation of the water storages at Tarbela, Mangla and Chashma, there would be need to develop more water storages.
3. If the purpose of commemorating the World Water Day is to remind us of the challenge that confronts us for survival as a nation, then all the provinces should shed off their differences and the Government must take on the construction of Kalabagh Dam immediately.
4. In Pakistan we have to adopt measures and strategies to conserve the existing water resources. The use of water for the agriculture, industry, commerce and domestic purposes has to be minimized by avoiding its wastage and promoting appropriate technologies available in the world market in this respect. Water recycling techniques have to be exploited and applied on a large and wider scale.
5. The use of sea water by adopting cost effective Desalinisation processes has to be looked into practically by resorting to R&D on the subject.
6. Pollution of natural and potable water has to be banned with heavy hand by enforcing laws available on the subject without any hesitation or expediency.

PCRWR Celebrations

The Pakistan Council of Research in Water Resources (PCRWR), which is another active member of PANCID also observed the World Water Day on 22nd March 2002 at Islamabad as well as through its outfits at Lahore, Bahawalpur, Quetta and Tandojam with usual fervour and enthusiasm. The activities carried out by PCRWR on the World Water Day included (a) Forum of intellectuals, (b) display of banners, (c) special article, (d) TV talk, (e) radio programme and (f) newspapers coverage.

Philippines National Committee (PNC-ICID)

For seven years now, on every 22nd March, the Philippines joins the rest of the international community in celebrating the World Day for Water.

Three important activities were held to commemorate the Day.

(i) *7th Annual World Water Day Convention*

Conducted and hosted by the Presidential Task Force on Water Resources Development and Management of the Department of Environment and Natural Resources at the Hotel Rembrandt, Quezon City. Convention's oversight committee composed of interagency representatives and the Technical session was held in the afternoon.

(ii) *Formal Launching of the Philippine Water Partnership (PWP)*

The ceremony was held at the Manila Galleria Suites, Ortigas Center, Pasig City and was sponsored by the Global Water Partnership (GWP) – Southeast Asia Technical Advisory Committee (SEATAC)

The PWP, a multi-sectoral group comprising government, private sector and civil society vowed to assist the government in its efforts to promote and develop an integrated water resources management (IWRM) approach in sustaining country's water resources.

PWP will serve as a neutral ground for discussing IWRM issues among a wide range of stakeholders and pursue sustainable advocacy works and capacity-building at all levels and across sub-sector.

PWP is seen as a powerful organization to push advocacy work to a level that can catch attention at the national level.

PWP's priority areas of concerns are: IWRM awareness, Governance, Economic regulation, Cost recovery – water pricing, Environment concerns, Technical standards, and Sustainable financing.

- #### (iii) *Well Drillers Association of the Philippines' (Weldaphil) 25th anniversary celebration coinciding it with the WWD 2002 on March 22 with appropriate program and ceremonies at the EDSA Sangri-La Plaza Hotel, Mandaluyong City. The mission of the Weldaphil is to provide professional and technical leadership in the advancement of groundwater industry and in the protection, promotion and responsible development and use of groundwater resources.*

Main highlights of the celebration were

- Weldaphil honored its past and present officers for their efforts and contributions in placing Weldaphil in the valued niche it occupies in the national waterworks industry and in the promotion of water supply development in the country.
- Weldaphil gave recognition to the “Batang Pinoy Groundwater Fair” project for its invaluable contribution to the association’s efforts to educate the youth on the vital need to protect and conserve the country’s groundwater resources.

Polish National Committee (POCID)

The Polish National Committee celebrated the World Water Day by organizing a Conference on “Water Management in River Basins - The Problems of Implementation of European Union Water Framework Directive” on 22 March 2002 and a Seminar on “The Role of Water in Agricultural Landscape” on 26 April 2002. The Conference was organized by Scientific Committee of Water Management, Polish Academy of Science and the Institute of Meteorology and Water Management, while the Seminar was jointly organized by Global Water Partnership (Poland) and the Polish National Committee of ICID.

Tajikistan National Committee (TAJCID)

The World Water Day coincided with Tajikistan’s spring holiday “Navruz” celebrated widely throughout the country and other States of Central Asia and many countries of East. This is symbolic of “Water is Life” and “Navruz” forebodes the coming of Spring, i.e. “Continuation of Life”.

A Roundtable discussion devoted to World Water Day with participation of representatives from Ministry of Nature Protection, Ministry of Amelioration and Water Resources, Academy of Science, Tajik State National University, Ministry of Industry, Ministry of Energy, Tajik Branch of Executive Committee of IFAS, Project GEF, experts from Center of Social Technology of Tajikistan, Tajik Department of ECOSAN and other organizations was conducted on 19 March 2002 in Dushanbe, Tajikistan. It was organized with the assistance and participation of Permanent Representative of UN Program in Tajikistan, Mr. Metu Kahare.

Presentations were made on recently adopted Government of Tajikistan conception on national use and protection of water resources in Republic of Tajikistan, a project of national program “Clean water and sanitary in Tajikistan” on this occasion along with presentations on participation issues in economy and careful attitudes towards water, new technology of drinking water purification, and coagulation production from local raw materials. The Roundtable evolved approaches for celebrating the “World Water Day - 2003”, which was published and shown on TV. A report on the Roundtable was prepared for submission to the Parliament of Tajikistan.

The first National Seminar on Preparation of National Action Plan on Nature Protection in the Republic of Tajikistan was held on 18-19 March 2002 in Dushanbe. The participants included representatives from Governmental setup of the President, Governmental, Non-Governmental and International Organizations such as UN Program, OSCE, World Bank, ADB, UNESCO and WHO. Various reports on water problems were submitted regarding the condition of water and steady development of drain flow zones and other questions. The Seminar was widely covered by the Press.

Turkish National Committee (TUCID)

World Water Day - 22nd March 2002 on the theme “Water for Development” was celebrated in Turkey with a series of activities carried out to increase public awareness of water in the country. In order to promote extensive public awareness in water use and the role of water for development, the day was a great opportunity to raise the discussion on this matter and make it known as much as possible. The General Directorate of State Hydraulic Works (DSI), organized many events at the headquarters of DSI in Ankara which included a poster competition that was open for all, a drawing and composition competitions held on among the 8th grade students of all primary schools at national level, and a photo competition for DSI staff.

A committee established in General Directorate of State Hydraulic Works in Ankara evaluated the entries and selected the best 3 ones for honorable mention. All winners of competitions were invited to Ankara, General Directorate of State Hydraulic Works (DSI) for the day of 22nd March for participating in the World Water Day ceremony which started with the opening remarks of DSI



Deputy Director General Mr. Dogan YEMISEN who pointed out the role of water for development and stressed the need for sustainable development of the countries with environmental friendly projects. After that participants watched a 16 minutes documentary film on water resources development and its role for social and economic progress. A brochure explaining the importance

of water resources for social-economic development, and rational use of water with due consideration of downstream users was prepared and disseminated. Awards were presented to the Winners. World Water Day was celebrated in whole country through 26 regional directorates scattered all over Turkey. TUCID gave all necessary support for successful organization of all these events.

Country Policy Support Programme (CPSP) - Preparatory Workshop

Readers were informed about ICID's Country Policy Support Programme (CPSP) through editorial of August-September 2002 issue of the News Update. A Preparatory Workshop (PW) in brainstorming mode to throw up ideas and concepts for assisting ICID to conduct CPSP was held on 4-5 October 2002 at New Delhi. Preceding the workshop, a curtain raiser function of 'World Food Day' was arranged jointly with the Delhi State Centre of Institution of Engineers (India). The workshop was attended by more than 60 senior level professionals from water resources departments of the Central and State Governments, NGOs, and academic institutions. A high level delegation from Ministry of Water Resources, China and Chinese National Committee (CNCID) and an expert from International Water Management Institute (IWMI), Sri Lanka who also represented IFPRI participated in the workshop. Local representatives of the contributing organisations and the World Bank were amongst participants besides Dialogue participating organisation who were invited.

There were five key presentations viz. Constitutional Provisions and Country Policy on Water; PODIUM/IMPACT Models; Case study on treatment and recycling of wastewater; Farmers' perception on irrigated agriculture; Framework for restructuring water and sanitation sectors; and Integration of freshwater supply and demand for different sectors. The presentations were followed by discussion and pin-pointed suggestions from participants for framing

up of CPSP. The full text of the key presentations was put on the ICID web site www.icid.org.

The CPSP aims to conduct consultations at river basin and at national level, initially in China and India followed by Egypt, Mexico and Pakistan. ICID firmly believes that such consultations on assessment of water needs for food, people and nature and related policies can produce desired output only if they are held in the context of scientifically developed Knowledge Base (KB). The consultation could then avoid becoming a talk shop as the debate could be focussed on the KB. ICID has initiated steps to avail and compile the existing KB in China and India. In addition, assessment for past, present and future water balance have been launched in two sample river basins in these 2 countries.

The PW was followed by a 'Orientation Workshop on PODIUM' for professionals from CNCID and INCID/ CWC from 7-11 October 2002, under facilitation by Dr. Upali Amarasinghe from IWMI. The objective of the Orientation Workshop was to review status of application of PODIUM in India and China and possibility of further improvement in the model so as to make it as much realistic as possible.

As a part of Phase I of ICID's Country Policy Support Programme (CPSP), two river basins viz. Sabarmati (21,674 km²) on the West Coast and Brahmani

Continued on page 65

(39,268 km²) on the East Coast of India were selected by INCID as sample basins for assessment of water needs and drawing lessons for application to all the country basins. The CNCID similarly selected two river basins viz. Qiantangjiang (55,558 km²) and Jiaodong Peninsula (20,008 km²). The objective of this assessment was to work out present water uses, find out past uses and make projections to achieve integration of needs for future (2025) for all three sectors, namely, water for food (agriculture), for people (municipal, industrial and energy) and for nature (eco-system). This step was considered essential to draw lessons for water policy support programme. The Central Office, ICID in close association with Indian National Committee (INCID) of India and with Chinese National Committee (CNCID) of China is coordinating the work of CPSP. Various apex National, State/Province level organisations/ agencies and NGOs related to three water sectors are being consulted in the assessment process.

After the Preparatory Workshop in October 2002, the CPSP picked up speed. In order to present the preliminary findings of the water need assessment in the two selected basins of India, basin level consultations viz. Brahmani Basin at Bhubaneswar (Orissa State) and Sabarmati Basin at Ahmedabad (Gujarat State) were held on 16-17 January 2003 and 23-24 January 2003, respectively. Key presentations

on Integrated Water Resources Development and Management (IWRDM), Rainfed Agriculture, Treatment and Reuse of Municipal and Industrial Wastewater, and Water Needs of Forestry and Mangroves, besides presentation of past, present and future water availability/ need scenario were made and suggestions for policy interventions ascertained at each consultation. More than fifty-five professionals from Govt. Departments, prominent Non-Governmental Organizations (NGOs), Consultants, and representatives of Contributing Organizations (COs) and Dialogue Participating Organizations (POs) participated in each of the consultations. The comments/ suggestions received from the participants are being used by the study teams for reforming/ refining the assessments and framing policy support interventions. Papers based upon these developments were presented on 19 March 2003 at the ICID Session in 3rd World Water Forum, Kyoto, Japan.

The CNCID organized a CPSP Preparatory Workshop (PW) on 11-12 November 2002 at Beijing. More than fifty professionals from Government departments, academic and research institutions participated in the PW and launched sample basin studies. Now CNCID proposes to hold basin level consultations after completion of preliminary assessments in the selected basins.

ICID's Text Delivery Service

Text Delivery Service (ICID) was launched by the ICID in August 2001, through its Website: <http://www.icid.org>. The Service provides grey literature in electronic format. The objective of the Text Delivery Service is to facilitate inter/exchange of information on irrigation and drainage related literature amongst all professionals at large, including IPTRID Network Countries and ICID members. The ICID Library Catalogue is also available in electronic format for online

searching through keywords, name of author, and title, etc. under 'Book' section. The available grey literature is listed under 'Article Section' with the above underlined search keys. Complete documents wherever available can be viewed/downloaded through E-RESOURCE button at the end of the search record details. E-MAIL button will appear automatically to get E-MAIL assistance where there is no on-line document with the search record. When a requested document is not readily available on-



line, then an E-MAIL button will appear at the end of search record detail, to order the document by filling out the on-line form. If the document can be found, it is mailed within two working days. When the document cannot be found, a response will still be mailed. Mailing of documents (grey literature) by e-mail is free of charge. When a text is to be sent by airmail, a standard charge of US\$ 5 per request has to be remitted before the document is mailed. The Central Office has been informing readers of the News Update, the latest update of the TDS database, since December 2001. At present, the database contains 29,664 records under "Book Section" and 3020 records under 'Article Section'.

Readers are encouraged to access the TDS database by visiting ICID Website. The latest addition to the database is as follows :

Articles Section - Eighty-five additions, viz., (i) Trans. 11th Congress on Irrigation and Drainage, Grenoble, 1981, Vol.IV; (ii) Water Policy, 2002, Vol.4, No.3; (iii) WMO Bulletin, October 2002, Vol.51, No.4; (iv) Natural Resources Journal, 2002, Vol.42, No.2; (v) Hydropower & Dams, 2003, Vol.10, No.1; and (vi) Arab Water World, November-December 2002, Vol.26, No.5, and **Book Section** - Twenty-one additions.

Future ICID Events

1. 9th ICID International Drainage Workshop, 10-13 September 2003, Utrecht, The Netherlands. Contact : Dr. Ing. W.F. Vlotman, International Institute for Land Reclamation and Improvement, Post Box 47, 6700 AA Wageningen, The Netherlands. Tel : +31 31749 5576, +31 31749 5549, Fax : +31 31749 5590, E-mail : W.F.Vlotman@Alterra.wag-ur.nl; w.f.vlotman@ilri.agro.nl, WWW : <http://www.ilri.nl/workshop/index.htm>.
2. 54th IEC meeting and 20th European Regional Conference on Irrigation and Drainage, Montpellier, France, 14-19 September 2003. Contact: Dr. Thierry Rieu, Secrétaire Général, Association Française pour l'Etude des Irrigations et du Drainage (AFEID), 361, rue Jean-François Breton, F-34090, Montpellier, France. Tel: 33.4.67.04.63.16, Fax: 33.4.67.04.37.85, E-mail: afeid@cemagref.fr, Website: <http://afeid.montpellier.cemagref.fr>.
3. 2nd Asian Regional Conference, March 2004, Maoma, Echuca, Australia. Contact: Mr. John Mapson, Secretary/Treasurer, Australian National Committee, ICID (ANCID), Manager Water Services, Goulburn-Murray Water, P.O. Box 165, Tutura Vic 3616, Tel : +61 3 5833 5515, Fax : +61 3 5833 5502, E-Mail : johnmap@g-mwater.com.au, WWW : <http://www.ancid.org.au>.
4. 55th IEC meeting and The Interregional Conference on "Food Production and Water: Social and Economic Issues of Irrigation and Drainage", Moscow, Russia, 1-8 September 2004. Contact : Ms. Irena G. Bondarik, Secretary General, Russian National Committee on Irrigation and Drainage, VNIIGiM, room 601B, B.Akademicheskaya ul., 44, 155129, Moscow, Russia. Tel/Fax: 7-095-15394-06, E-mail: ibond@online.ru; rusiptrid@mail.ru.
5. 1st African Regional Conference, September 2004, Cairo, Egypt. Contact : Eng. Hussien El-Atfy, Secretary, Egyptian National Committee on Irrigation and Drainage (ENCID), Ministry of Public Works and Water Resources, El-Shawatie Building, P.O. Box 86, Shoubra El-Khaima, Postal Code 13411, Cairo, Egypt, Tel : +20 2 312 3275, Fax : +20 2 310 9591, E-mail : encid@link.com.eg.
6. 21st European Regional Conference on Irrigation and Drainage, 2005, Germany and Poland. Contact: Prof. Dr. -Ing. Joachim Quast, Secretary, German National Committee of ICID (GECID), Institute of Hydrology, Centre for Agricultural Landscape and Land Use Research (ZALF) e.v., Eberswalder Straße 84, D-15374 Müncheberg, Germany. Tel: +49 334 3282169, 3282300; Fax: +49 334 3282301; E-mail:

- gecid@zalf.de; Website: www.zalf.de or Prof. W. Mioduszewski, Secretary General, Polish National Committee of ICID (POCID), Institute for Land Reclamation and Grassland Farming, Falenty, 05-090 Raszyn, Poland. Tel: +48 22 628 3763; Fax: +48 22 628 3763; E-mail: w.mioduszewski@IMUZ.edu.pl.
7. 56th IEC meeting and 19th International Congress on Irrigation and Drainage, Beijing, People's Republic of China, 10-18 September 2005. Contact: Chinese National Committee on Irrigation and Drainage, No. 20 West Chegongzhuang Road, Beijing 100044, People's Republic of China. Tel : +86 10 6841 5522 / 6841 6506; Fax : +86 10 6845 1169. E-mail : cncid@iwhr.net.
 8. 57th IEC meeting and 3rd Asian Regional Conference, 2006, Kuala Lumpur, Malaysia. Contact: Mr. Mohd. Azhari bin Ghazali, Secretary/Treasurer, Malaysian National Committee on Irrigation and Drainage (MANCID), Director, Planning and Evaluation Division, Department of Irrigation and Drainage, Jalan Sultan Salahuddin, 50626 Kuala Lumpur, Malaysia. Tel : +60 3 292 8384; Fax : +60 3 291 1082; E-mail : jps04@pop.moa.my.
 9. 4th Asian Regional Conference, 2007, Iran. Contact : Dr. S.A. Assadollahi, Secretary, Iranian National Committee on Irrigation and Drainage (IRNCID), No. 24, Shahrsaz Lane, Kargozar St., Zafar Ave., Tehran. Iran. Tel : +98 21 2257348; Fax : +98 21 2272285; E-Mail : IRNCID@neda.net.ir; WWW : http://www.irncid.org.
 10. 58th IEC Meeting, 2007, Sacramento, USA. Contact: Mr. Larry D. Stephens, Executive Vice President, U.S. National Committee on Irrigation and Drainage (USCID), 1616 Seventeenth Street, Suite 483, Denver, CO 80202, USA. Tel: +1 303 628 5430; Fax: +1 303 628 5431; E-mail: stephens@uscid.org; Website: www.uscid.org.
 11. 59th IEC Meeting and 20th International Congress on Irrigation and Drainage, 2008, Lahore, Pakistan. Contact: Mr. Illahi B. Sheikh, Secretary, Pakistan National Committee on Irrigation and Drainage (PANCID), Chairman, Federal Flood Commission, Office of the Chief Engineering Adviser, 16-D (East) Safdar Mansion, Blue Area, Islamabad, Pakistan. Tel: +92 51 920 1705; Fax: +92 51 922 1806; E-mail: pakfloodcommission@hotmail.com.
 12. 60th IEC Meeting and 2nd African Regional Conference, 2009, Abuja, Nigeria. Contact: Engr. I.K. Musa, Director (Irrigation and Drainage), Chairman, Nigerian National Committee of ICID (NINCID), Federal Ministry of Water Resources and Rural Development, PMB 159, Garki, Area 1, Abuja, Nigeria. Tel: +234 9 234 2910; Fax: +234 9 234 3035; E-mail: ikmusa@rosecom.net; info@nincid.com.

Important Information About ICID Network Countries

(Arranged in Descending Order of Irrigated Area)

Sl. No.	Country	GNP per capita (1999) (US \$)	Economic Status (1999)	Total Geographical Area (1998) (Mha)	Irrigated Area (1998) (Mha)	Drained Area (1998) (Mha)	Perm. Crop Area (1998) (Mha)	Arable Area (1998) (Mha)	% of APC Area (1998) (%)	% of Irrigated APC Area (1998) (%)	Population (Million) (1999)	Population in Agriculture (1999)	Population Density with ref. to Total APC Geog. Area (1999) (People/Sq.km)	Food Production for Cereals (2001) (MT)	Food Production (2001) (kg/ha)	
1	Egypt	1400	LM	100.10	3.30	3.00	3.30	3.30	100.00	67.20	25.00	37.20	67	2036	20.11	7280
2	Sudan	330	L	250.60	1.90	0.56	16.90	6.74	11.24	28.90	17.90	61.94	12	171	3.36	508
3	South Africa	3160	UM	122.10	1.30	NA	15.80	12.94	8.23	39.90	5.90	14.79	33	253	9.60	2080
4	Morocco	1200	LM	44.70	1.20	0.12	9.90	22.15	12.12	27.90	10.50	37.63	62	282	4.82	941
5	Madagascar	250	L	58.70	1.00	NA	3.10	5.28	32.26	15.50	11.60	74.84	26	500	2.46	1761
6	Algeria	1550	LM	238.20	0.50	0.06	8.20	3.44	6.10	30.80	7.40	24.03	13	376	1.94	1051
7	Libya	NA	UM	175.90	0.40	NA	2.10	1.19	19.05	5.50	0.40	7.27	3	262	0.24	728
8	Tunisia	2100	LM	92.30	0.30	0.08	4.90	30.06	6.12	9.50	2.40	25.26	58	194	1.10	753
9	Nigeria	310	L	92.30	0.20	0.00	30.73	33.29	0.65	108.90	37.30	34.25	118	354	22.89	1193
10	Tanzania	240	L	94.50	0.10	NA	4.70	4.97	2.13	32.80	25.80	78.66	35	698	3.91	904
11	Ethiopia	100	L	110.40	0.10	0.02	10.50	9.51	0.95	61.10	50.60	82.82	55	582	7.85	1151
12	Zimbabwe	520	L	39.00	0.10	NA	3.30	8.46	3.03	11.50	7.30	63.48	29	348	2.03	1213
13	Mozambique	230	L	80.10	0.10	NA	3.30	4.12	3.03	19.30	14.70	76.17	24	585	1.47	838
14	Ivory Coast	710	L	32.20	0.07	NA	7.30	22.70	0.96	14.50	7.30	50.34	45	199	1.83	1127
15	Senegal	510	L	19.70	0.07	0.04	2.30	11.68	3.04	9.20	6.80	73.91	47	400	1.07	715
16	Angola	220	L	124.60	0.07	NA	3.50	2.81	2.00	12.50	9.00	72.00	10	357	0.55	619
17	Kenya	360	L	58.00	0.06	0.00	4.50	7.76	1.33	29.50	22.40	75.93	51	656	3.10	1672
18	Zambia	320	L	75.20	0.04	NA	5.20	6.91	0.77	9.00	6.30	70.00	12	173	1.44	1570
19	Burkina Faso	240	L	27.40	0.02	NA	3.40	12.41	0.59	11.60	1.10	9.48	42	341	2.29	786
20	Malawi	190	L	11.80	0.02	NA	2.00	16.95	1.00	10.60	8.30	78.30	90	530	2.46	1620
21	Mauritius	3540	UM	0.20	0.02	NA	0.10	50.00	20.00	1.10	0.10	9.09	550	1100	NA	NA
22	Sao-Tome Prn.	270	L	0.09	0.01	NA	0.04	44.44	25.00	0.10	NA	NA	111	250	0.00	2230
23	Uganda	320	L	24.10	0.01	0.00	6.80	28.22	0.15	21.10	16.80	79.62	88	310	2.11	1539
24	Ghana	390	L	23.80	0.01	NA	5.30	22.27	0.19	19.70	11.10	56.35	83	372	1.69	1292
Sub-Total				1819.99	10.90	3.88	157.17	7.11	6.94	597.70	306.00	51.19	33	380	98.29	1471

AFRICA



Sl. No.	Country	GNP per capita (1999) (US \$)	Economic Status (1999)	Total Geographical Area (1998) (Mha)	Irrigated Area (1998) (Mha)	Drained Area (2000) (Mha)	Arable Area (APC) (1998) (Mha)	Perm. Area (1998) (Mha)	% of APC Area (1998) (%)	% of Irrigated Area (1998) (%)	% of APC Area (1999) (%)	Population in Agriculture (1999) (Million)	Population with ref. to APC (1999) (People/Sq. km)	Population Density with ref. to APC (1999) (People/Sq. km)	Food Production (2001) (MT)	Pro-ductivity for Cereals (2001) (kg/Ha)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
AMERICAS																
25	USA	30600	H	936.30	21.40	47.50	179.00	19.12	11.96	276.00	6.30	2.28	29	154	320.52	5728
26	Mexico	4400	UM	195.80	6.50	5.20	27.30	13.94	23.81	97.40	23.70	24.33	50	357	28.99	2717
27	Brazil	4420	UM	854.70	2.60	1.28	65.30	7.64	3.98	168.00	28.60	17.02	20	257	56.59	3054
28	Chile	4740	UM	75.60	1.80	0.01	2.20	2.91	81.82	15.00	2.30	15.33	20	682	3.12	4936
29	Argentina	7600	UM	278.00	1.50	0.13	27.20	9.78	5.51	36.60	4.00	10.93	13	135	38.68	3413
30	Peru	2390	LM	128.50	1.10	0.08	4.10	3.19	26.83	25.20	7.70	30.56	20	615	3.86	3060
31	Colombia	2250	LM	113.80	0.80	0.23	4.00	3.51	20.00	41.60	9.00	21.63	37	1040	3.41	3255
32	Ecuador	1310	LM	28.30	0.80	0.05	3.00	10.60	26.67	12.40	3.50	28.23	44	413	2.08	2257
33	Cuba	NA	NA	11.00	0.80	0.02	4.40	40.00	18.18	11.10	1.80	16.22	101	252	0.45	2361
34	Canada	19320	H	997.00	0.70	9.46	45.70	4.58	1.53	30.90	0.80	2.59	3	68	53.70	3083
35	Honduras	760	LM	11.20	0.70	0.06	2.00	17.86	35.00	6.30	2.30	36.51	56	315	0.57	1307
36	Venezuela	3670	UM	91.20	0.50	0.31	3.40	3.73	14.71	23.70	2.60	10.97	26	697	2.28	3035
37	Dominican Rep.	1910	LM	4.80	0.20	0.03	1.50	31.25	13.33	8.40	1.50	17.86	175	560	0.56	3690
38	Guyana	760	LM	21.40	0.10	0.15	0.49	2.29	20.41	0.90	0.20	22.22	4	184	0.54	3890
39	Suriname	NA	NA	16.30	0.05	0.05	0.06	0.37	83.33	0.40	0.10	25.00	2	667	0.17	3836
40	Panama	3070	UM	7.50	0.03	NA	0.60	8.00	5.00	2.80	0.70	25.00	37	467	0.34	2431
Sub-Total				3771.40	39.58	64.56	370.25	9.93	10.69	756.70	95.10	12.56	20	204	515.86	3253.31
ASIA																
41	India	450	L	328.70	59.00	5.80	169.50	51.57	34.81	998.00	553.20	55.43	304	589	231.80	2338
42	China	780	LM	959.60	52.50	20.00	135.30	14.10	38.80	1266.80	855.10	67.50	132	936	400.50	4817
43	Pakistan	470	L	79.60	18.00	6.00	22.00	27.64	81.82	152.30	78.00	51.21	191	692	27.82	2287
44	Iran	1760	LM	163.30	7.50	0.04	18.30	11.21	40.98	66.80	18.40	27.54	41	365	11.91	1536
45	Indonesia	580	L	190.40	4.80	0.27	30.90	16.23	15.53	209.30	93.70	44.77	110	677	59.40	3933
46	Thailand	1960	LM	51.30	4.70	0.15	20.30	39.57	23.15	60.90	30.30	49.75	119	300	28.98	2438
47	Turkey	2900	LM	77.40	4.20	3.14	29.10	37.60	14.43	65.50	20.50	31.30	85	225	25.57	1955
48	Bangladesh	370	LM	14.40	3.80	1.50	8.20	56.94	46.34	126.90	72.00	56.74	881	1548	37.14	3197
49	Iraq	NA	NA	43.80	3.50	1.54	5.50	12.56	63.64	22.50	2.40	10.67	51	409	1.21	460
50	Viet Nam	370	L	33.10	3.00	1.00	7.20	21.75	41.67	78.70	53.30	67.73	238	1093	33.06	4019

Sl. No.	Country	GNP per capita (1999) (US \$)	Economic Status (1999)	Total Geographical Area (1998) (Mha)	Irrigated Area (1998) (Mha)	Drained Area (2000) (Mha)	Arable Area (APC) (1998) (Mha)	Perm. Area (APC) (1998) (Mha)	% of Irrigated Area APC (1998) (%)	% of Perm. Area APC (1998) (%)	Population (1999) (Million)	Population in Agriculture (1999) (%)	Population Density with ref. to Total APC Geog. Area (1999) (People/Sq.km)	Population Density with ref. to APC Geog. Area (1999) (People/Sq.km)	Food Production for Cereals (2001) (MT)	Pro-ductivity (2001) (kg/Ha)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
51	Japan	32230	H	37.70	2.60	3.66	4.90	13.00	53.06	126.50	5.40	4.27	336	2582	12.62	6203
52	Kazakhstan	1230	LM	271.70	2.30	NA	30.10	11.08	7.64	16.30	3.30	20.25	6	54	12.74	984
53	Turkmenistan	660	L	48.80	1.80	1.03	1.60	3.28	112.50	4.40	1.50	34.09	9	275	2.15	2589
54	Saudi Arabia	6900	UM	214.90	1.60	0.04	3.80	1.77	42.11	20.90	2.20	10.53	10	550	2.21	3686
55	Philippines	1020	LM	30.00	1.50	1.47	9.90	33.00	15.15	74.50	29.70	39.87	248	753	16.00	2400
56	Myanmar	NA	NA	67.60	1.50	0.19	10.10	14.94	14.85	45.00	31.80	70.67	67	446	21.23	2999
57	Syria	970	LM	18.50	1.20	0.27	5.50	29.73	21.82	15.70	4.50	28.66	85	285	5.35	1753
58	Korea Rep.	8490	UM	9.90	1.10	1.15	1.90	19.19	57.89	46.50	4.30	9.25	470	2447	7.69	6539
59	Nepal	220	L	14.70	1.10	0.09	2.90	19.73	37.93	23.40	21.80	93.16	159	807	7.17	2164
60	Kyrgyzstan	300	L	19.80	1.00	NA	1.40	7.07	71.43	4.70	1.20	25.53	24	336	1.74	2589
61	Tajikistan	290	L	14.30	0.70	0.32	0.80	5.59	87.50	6.10	2.10	34.43	43	763	0.31	840
62	Sri Lanka	820	LM	6.50	0.60	0.03	1.80	27.69	33.33	18.60	8.70	46.77	286	1033	2.80	3093
63	Chinese Taipei*	12439	H	3.60	0.38	0.73	0.99	27.50	38.38	21.47	3.70	17.23	596	2169	1.57	3951
64	Malaysia	3400	UM	32.90	0.30	0.36	7.60	23.10	3.95	21.80	4.00	18.35	66	287	2.28	3172
65	Israel	16310	H	2.10	0.10	0.10	0.40	19.05	25.00	6.10	0.20	3.28	290	1525	0.28	3020
66	Lebanon	3700	UM	1.00	0.10	0.01	0.30	30.00	33.33	3.20	0.10	3.13	320	1067	0.10	2424
67	Jordan	1500	LM	8.90	0.07	0.01	0.30	3.37	23.33	4.80	0.60	12.50	54	1600	0.07	1103
Sub-Total				2744.50	178.95	48.90	530.59	19.33	33.73	3507.67	1902.00	54.22	128	661	953.70	2832.93
OCEANIA																
68	Australia	20050	H	774.10	2.40	2.17	53.10	6.86	4.52	18.70	0.90	4.81	2	35	31.16	1930
69	New Zealand	13780	H	29.00	0.20	NA	3.20	11.03	6.25	3.80	0.30	7.89	13	119	0.80	6208
Sub-Total				803.10	2.60	2.17	56.30	7.01	4.62	22.50	1.20	5.33	3	40	31.96	4069.00
EUROPE																
70	Russia	2270	LM	1707.50	4.60	7.40	127.90	7.49	3.60	147.20	15.80	10.73	9	115	72.62	1863
71	Uzbekistan	720	L	44.70	4.20	2.82	4.80	10.74	87.50	23.90	6.80	28.45	53	498	4.12	3449
72	Spain	14000	H	50.50	3.60	NA	19.00	37.62	18.95	39.60	3.10	7.83	78	208	19.10	3003

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
73	Romania	1520	LM	23.80	2.80	3.40	9.80	41.18	28.57	22.40	3.70	16.52	94	229	15.70	3051
74	Italy	19710	H	30.10	2.60	2.94	10.90	36.21	23.85	57.30	3.20	5.58	190	526	20.89	4943
75	Ukraine	750	L	60.30	2.40	NA	34.00	56.38	7.06	50.60	8.30	16.40	84	149	30.12	2191
76	France	23480	H	55.10	2.00	2.50	19.40	35.21	10.31	58.90	2.10	3.57	107	304	60.88	6794
77	Greece	11770	H	13.10	1.40	0.52	3.90	29.77	35.90	10.60	1.50	14.15	81	272	3.91	3074
78	Bulgaria	1380	LM	11.00	0.80	0.08	4.50	40.91	17.78	8.30	0.70	8.43	75	184	5.24	2544
79	Portugal	10600	H	9.10	0.60	0.04	2.50	27.47	24.00	9.80	1.50	15.31	108	392	1.19	2312
80	Netherlands	24320	H	4.00	0.50	3.00	0.90	22.50	55.56	15.70	0.50	3.18	393	1744	1.73	7423
81	Germany	25350	H	35.60	0.40	4.90	12.00	33.71	3.33	82.20	2.10	2.55	231	685	49.95	7079
82	Denmark	32030	H	4.30	0.40	1.50	2.30	53.49	17.39	5.20	0.20	3.85	121	226	9.36	6037
83	Hungary	4650	UM	9.30	0.20	2.32	5.00	53.76	4.00	10.10	1.20	11.88	109	202	15.18	4922
84	Slovak Republic	3590	UM	4.90	0.10	NA	1.60	32.65	6.25	5.40	0.50	9.26	110	338	2.80	3916
85	UK	22640	H	24.40	0.10	4.65	6.40	26.23	1.56	59.00	1.10	1.86	242	922	19.58	6607
86	Poland	3960	UM	32.30	0.10	4.20	14.30	44.27	0.70	38.70	7.80	20.16	120	271	27.23	3087
87	Finland	23780	H	33.80	0.06	2.50	3.00	8.88	2.00	5.20	0.30	5.77	15	173	3.91	3297
88	Macedonia	1690	LM	2.50	0.05	NA	0.60	24.00	8.33	2.00	0.30	15.00	80	333	0.62	2867
89	Cyprus	1690	LM	0.90	0.04	0.02	0.10	11.11	40.00	0.80	0.07	8.75	89	800	0.13	2443
90	Belgium	24570	H	3.30	0.04	0.27	0.80	24.24	5.00	10.60	0.20	1.89	321	1325	2.30	7163
91	Switzerland	38350	H	4.10	0.02	0.16	0.40	9.76	5.00	7.30	0.50	6.85	178	1825	1.12	6216
92	Czech Rep.	5060	UM	7.80	0.02	0.40	3.30	42.31	0.61	10.30	0.90	8.74	132	312	7.22	4245
93	Lithuania	2620	LM	6.50	0.01	2.62	3.00	46.15	0.30	3.70	0.60	16.22	57	123	2.62	2930
94	Austria	25970	H	8.30	0.004	0.21	1.40	16.87	0.29	8.20	0.40	4.88	99	586	4.74	5250
95	Estonia	3480	UM	4.50	0.004	-	1.10	24.50	0.36	1.40	0.16	31.00	127	127	0.50	
96	Croatia	4580	UM	5.60	0.003	0.76	1.40	25.00	0.21	4.50	0.40	8.89	80	321	2.98	4407
97	Slovenia	9890	H	2.00	0.002	0.12	0.20	10.00	1.00	2.00	0.04	2.00	100	1000	0.50	4815
98	Ireland	19160	H	7.00	NA	1.15	1.30	18.57	NA	3.70	0.40	10.81	53	285	1.96	6945
Sub-Total				2199.30	27.05	47.33	294.50	13.38	9.19	700.90	63.97	9.13	32	238	388.20	3968.32

Summary Statistics

Sl. No.	Continent	Economic Status	Total Geographical Area (1998) (Mha)	Irrigated Area (1998) (Mha)	Drained Area (2000) (Mha)	Arable and Perm. Crop Area (APC) (Mha)	% of APC to Geographical Area	% of Irrigated Area to APC	Population (1999) (Million)	Population in Agriculture (1999) (Million)	Population Density with ref. to Total Geographical Area (1999) (People/Sq.km)	Area with no System (Mha)	Population Density with ref. to APC (1999) (People/Sq.km)	Food Production (Cereals) (2001) (MT)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	America	L=0	3771.40	39.58	64.56	370.25	9.82	10.69	756.70	95.10	20	266.11	204	515.86
2	Asia	L=8	2744.50	178.95	48.90	530.59	19.33	33.73	3507.67	1902.00	128	302.74	661	953.70
3	Europe	L=2	2199.30	27.05	48.48	294.50	13.39	9.18	703.20	63.97	32	218.97	238	388.20
4	Africa	L=17	1819.99	10.90	3.88	157.17	8.64	6.94	597.70	306.00	33	142.39	380	98.29
5	Oceania	L=0	803.10	2.60	2.17	56.30	7.01	4.62	22.50	1.20	3	51.53	40	31.96
Total (98 countries)		L=27	11338.29	259.08	167.99	1408.81	12.43	18.39	5587.77	2368.27	49	981.74	397	1988.01
WORLD		L=50	13386.70	271.10	190.00	1511.70		17.93	5978.40	2575.50	45	1050.60	395	2044.15
% (98 Countries to World)			84.70	95.57	88.42	93.19			93.47	91.95		93.45		97.25

Sources : World Development Report 2000/2001
 FAO Year Book (1999) : Production
 ICID Publication : 2001

Note : (1) Number of ICID participating countries = 98
 (2) NA = Not Available; Mha = Million Hectare
 (3) L = Low; LM = Low Middle; UM = Upper Middle; H = High

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