

**AGENDA FOR THE TWENTY-SEVENTH MEETING OF THE
WORKING GROUP ON DRAINAGE (WG-DRG)
New Delhi, India
08 December 2009: 14.15-18.00 hours
Theme: Systems**

Date of Establishment: 1983**Completion of the Mandate: 2013****Mandate:**

- To promote drainage as part of integrated water resources management; and
- To promote sustainable approaches for drainage and related projects through a balanced integration of (1) environmental, (2) economic, and (3) social and cultural aspects.

Members: (1) Dr. W.F. Vlotman, Chairman, 2001 (Australia, 2000); (2) Dr. James Ayars, Vice Chairman, 2007 (USA, 2005); (3) Mr. Bernard Vincent, Secretary (France, 2007); (4) Vice President Hon. B. Maticic (Slovenia, 1987); (5) Vice President Hon. M.H. Amer (Egypt, 1988); (6) Mr. I. Dakar (Syria, 1991); (7) Dr. M.S. Adamu (Nigeria, 1992); (8) President Hon. Ir.Keizrul bin Abdullah (Malaysia, 1994); (9) Dr. Chung Sang-Ok (Korea, 1996); (10) Mr. Chen, Hung-Kwai (Chinese Taipei, 1997); (11) Ms. Wang Shaoli (China, 1999); (12) Dr. E. Christen (Australia, 2000); (13) Dr. Mohammad Bybordi (Iran, 2000); (14) Dr. M. Nawaz Bhutta (Pakistan, 2002); (15) Mr. Rauno Peltomaa (Finland, 2002); (16) Dr. (Ms.) Waltina Scheumann (Germany, 2003); (17) Mr. AT van Coller (South Africa, 2006); (18) Ms. Nurgul Uzucek (Turkey, 2006); (19) Vice President Shinsuke Ota (Japan, 2006); (20) Dr. H. Fahmy (Egypt, 2006); (21) Dr. Yurii Yanko (Russia, 2006); (22) Dr. Gurbachan Singh (India, 2008); and (23) Secretary General, ICID.

Permanent Observers / Observers: (i) FAO representative; (ii) World Bank representative; (iii) President Chandra. A. Madramootoo (Canada); (iv) IPTRID representative; (v) President Hon. Aly M. Shady (Canada); (vi) President Hon. Bart Schultz (The Netherlands); (vii) Vice President Hon. H. Malano (Australia); and (viii) Vice President Hon. Safwat Abdel-Dayem (Egypt).

Time schedule of the meeting:

At the outset, Chairman will propose the time allocation for discussing of the Group's agenda as follows:

A. General business	--- minutes
B. Work plan	--- minutes
C. Liaison and linkage with other workbodies	--- minutes
Tea/ coffee break	--- minutes
D. Presentations/ Workshop / Summary	--- minutes

A. GENERAL BUSINESS**Item 1 : Confirmation of the minutes of the 26th meeting of the Working Group held at Lahore**

The minutes of the 26th meeting of the Working Group held at Lahore in October 2008 will be confirmed.

Item 2 : To review membership of the Working Group

Nominations of Mr. Ahmed Mohammad Aziz (Iraq) and Mr. Anzeim Carl Albertovich (Kazakhstan) were deferred, both at the Sacramento and the Lahore meetings due to their non-attendance at the meetings. Central Office has written to the National Committees of Iraq (IRQCID) and Kazakhstan (KAZCID) to advise their nominees to remain present at the Delhi meeting for consideration of their membership.

Attendance of members at the meetings held in 2007 and 2008 will be circulated at the meeting.

B. WORK PLAN**Item 3 : Future activities of the working group**

To fulfil the new mandate, the WG has proposed to reorganize its activities in 6 sub-topics as follows:

3.1 Disposal of salts and silts.

- Technologies for reducing polluted drainage water.

3.2 Impact of climate change on drainage.**3.3 Societal perception of drainage.****3.4 Role of drainage in food and nutrients security.****3.5 Changes in land use, production and landscapes due to drainage.****3.6 Financial and socio-economic aspects of land drainage projects.**

The Group may like to assign these activities among members, so as to prepare the contents and time framework for each of the activities.

Item 4 : Workshops/ Special Sessions sponsored by the Working Group**4.1 11th International Drainage Workshop**

The series of International Drainage Workshops (IDWs) organized by the Group are becoming the event of global significance. The Group would like to continue organizing the IDW on regular basis. The 10th IDW held at Helsinki/ Tallin in July 2008 was a great success.

At the 59th IEC meeting held at Lahore, the Egyptian National Committee offered to host the 11th International Drainage Workshop along with the 53rd IEC in 2012, if approved by the IEC at its New Delhi meeting. Other National Committees are welcome to offer their proposals to host the 11th IDW, if interested.

4.2 Annual Internal Workshop of the Group

Since the recent past, the Group has been organizing internal workshops on the sidelines of its annual meetings. In these workshops, members voluntarily make presentations on the topic of their countries' interests.

For this meeting, the Indian National Committee (INCID) in consultation with Dr. W.F. Vlotman, Chairman has scheduled a Special Session on Drainage on 8 December 2009. The special session will be of a half-day (09.30-13.15 hours) duration and will be coordinated by Dr. Gurbachan Singh, member. A brief write-up of the session is shown as **Annex**.

All members are requested to participate in the special session.

Item 5 : Publications sponsored / related to the working group

At Sacramento, Dr. Martinez-Beltran, FAO representative had informed that the FAO was in the process of bringing out a publication on "Evaluation of the performance of subsurface drainage systems". As Dr. Beltran or FAO representative was not available at the Lahore meeting, there was no report on its development.

Central Office had contacted Dr. Beltran to know the updates. In response, Dr. Beltran has informed that the publication would be ready by the end of September 2009.

Dr. Beltran/ FAO representative may like to appraise the WG on updates in publishing of the document.

Item 6 : Contribution to the website DRAINLINE

At Lahore, the Chairman encouraged all members of the Group to visit the group's website <http://www.wg-drg.icidonline.org> and also contribute relevant information by communicating with the Chair/ ICID Central Office.

Item 7 : Preparation towards submission for the ICID's 'Best Performing Award'

ICID has instituted the 'Best Performance Workbody Award (BPWA)' commencing from the Beijing Congress held in 2005. The award is made on the basis of various facets demonstrated by the workbody in between the two successive congresses. The Group had intended to submit its nomination at the Lahore Congress; however, this could not materialise. The group may discuss the option to submit its candidature for the 3rd BPWA to be given at the time of the 21st Congress scheduled to be held in Tehran, Iran in 2011, and set out a plan for the purpose.

Chairman may like to initiate discussions.

Item 8 : Other business**8.1 9th International Drainage Symposium, 13-16 June 2010, Quebec City, Canada**

The 9th International Drainage Symposium will be held from 13-16 June 2010 in conjunction with the 17th World Congress of the International Commission of Agricultural Engineering (CIGR) at Quebec City, Canada. The symposium will be organized by the American Society of Agricultural and Biological Engineers (ASABE).

Dr. Ali Madani, Chairperson of the Conference Organizing Committee has requested President Dr. Chandra Madramootoo to disseminate the information among ICID fraternity. President vide his e-mail of 1 July 2009, sent the "call for papers" to Central Office for posting on ICID website as well as widely publicizing through News Update and Newsletter. Subsequently, Dr. Vlotman, Chairman circulated the "call for papers" among WG members. The "call for papers" and other details about the symposium are available at www.cigr2010.ca

All members are encouraged to contribute papers to the symposium.

8.2 Research Briefings on "Salinity and waterlogging in the Indus Basin of Pakistan"

A write-up on "Salinity and waterlogging in the Indus Basin of Pakistan: Economic loss to agricultural economy" authored by Zaman, S.B. and S. Ahmed and published in the 'Research Briefing' in Volume (1), No. 4 of the Natural Resources Division, Pakistan Agricultural Research Council, Islamabad was received by the Central Office. Since the research note is of interest to WG activities, it was circulated among all members.

Members may like to provide their comments/ observations on the report.

C. LIAISON AND LINKAGE WITH OTHER WORKBODIES**Item 9 : Liaison with workbodies**

The Group had nominated its member to act as a permanent correspondent for the ICID WGs as follows:

- WG-ENV (Theme: Basin) – Dr. Chandra Madramootoo
 - WG-SDTA (Theme: Basin) – Dr. Park Sang Hyun
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- WG-PQW (Theme: On-farm) – Dr. Evan Christen
- WG-ON-FARM (Theme: On-farm) – Dr. James Ayars
- ASRWG (Regional Working Group) – Dr. Shinsuke Ota
- ERWG (Regional Working Groups) – Dr. (Mrs.) Irena Bondarik

The Group will review the status of liaison with various ICID Workbodies at the meeting.

D. PRESENTATIONS/WORKSHOP/SUMMARY

Item 10 : Presentations from members/ member countries

As there will be a separate session on “Integrated Approach in Agricultural Drainage” of the 5th Asian Regional Conference, and also a ‘Special Session on Drainage’ organized by Indian national Committee (INCID), the Chairman has suggested to defer this item for this meeting.

INCID representative will brief about the conference session at the meeting.

Item 11 : General discussion and summary of the meeting

SPECIAL SESSION ON DRAINAGE
8 December 2009 (09.30-13.15 hours)
New Delhi, India**Background Note**

Population growth and economic development always translate into growing pressure on land and water resources. Irrigated agriculture, contributing about 35 % of global agricultural production from one fifth of cropped area is under stress for performance. It faces stiff competition from domestic, industrial and recreational sectors in terms of rising water costs, increased environmental restrictions and reduced irrigation supplies. To aggravate the situation, waterlogging and soil salinization continue to plague its productivity. Preservation and restoring the productivity of irrigated agriculture without environmental degradation is a challenging task and demands a regional management perspective.

About 20 to 30 million hectare area in the world is severely affected by waterlogging, soil salinity and sodicity; additional 60 to 80 million hectare are slightly to moderately affected. Amongst the key irrigated countries, India, China, USA and Pakistan have the maximum salt affected area. The threat to global crop production due to irrigation induced salinity is serious and losses at more than US\$10 billion per year are substantial. Of 6.74 million hectare salt affected lands in India, severely waterlogged saline soils occur in about 2 million hectare area in the arid/ semi- arid parts in the north western states of Haryana, Punjab, Rajasthan and Gujarat. Similarly more than 1 million salt affected soils each in coastal and black cotton heavy soils (vertisol) regions of India have specific moisture stress and salinity problems which need special preventive and curative interventions. It is projected that about 13 million ha area in irrigation commands of India will be affected by waterlogging and soil salinity by 2025. Use of saline/ alkali groundwater for crop production and climate change induced warming are likely to further accentuate the soil salinity/ alkalinity problems in the country.

Preventive measures for combating or delaying waterlogging and soil salinity can be effective if implemented before the development of these problems. These may include improvement of on-farm and project management practices like land leveling, micro- irrigation systems, flow-regulating structures, optimum size of command and water allowance, canal lining, bio-draining trees along sides of canals, change in crop rotation, use of salt tolerant crops/ varieties and re-modelling, repair and maintenance of the surface drainage system. Curative measures in some form of artificial drainage become inevitable once irrigation induced waterlogging and soil salinity is developed.

Subsurface drainage is an effective technology for amelioration of waterlogged saline irrigated lands by maintaining watertable below desired depth and draining excess water and salts out of the area. Subsurface drainage has been extensively practiced in United States, Pakistan, Egypt, China and Australia, but is a relatively new technology in India. A number of pilot scale subsurface drainage projects undertaken by Central Soil Salinity Research Institute, Karnal (Haryana), India during 1980's have slowly paved the way for commissioning of large scale mechanically installed drainage projects in Haryana, Rajasthan, Gujarat, Punjab, Andhra Pradesh, Maharashtra and Karnataka. More than 50000 ha waterlogged saline soils have been reclaimed in different states of India with significant improvement in crop production, yields and farmers' income. High cost, socio- economic and environmental issues including disposal of saline drainage effluent and continuous pumping requirement during post drainage phase are some of the deterrents to long term success of this technology. Involvement of farmers, sharing of construction and operating cost and government subsidy are vital aspects for its success. The technology is yet to be perfected for salt affected vertisols and sloping areas while regional plans are necessary for sustainable disposal and management of saline drainage water.

Keeping in mind India's wide range of climatic, physiographic, geo-hydrological and outlet conditions, drainage problems and solution can be quite different for northwest India, central peninsular India, eastern plains and deltas, coastal plains of western India and alkali lands of western Gangetic Plains. Integrated drainage system comprising of surface, subsurface and bio-drainage systems, evaporation cum fish ponds and agro-forestry based systems seem promising for amelioration of waterlogged saline soils in areas without adequate outlets. Integrated farming systems involving multiple use of water for conventional/ cash crops and allied avenues like horticulture, aquaculture, vegetables and agro- forestry can be effective and need location specific evaluation in marginally saline groundwater regions. Bio- saline agriculture, use of salt tolerant crop and tree varieties, bio-drainage through

high transpiring tree species, reuse of saline ground and drainage water, regional salinity appraisal, diagnostic and monitoring systems are other issues which need to be debated.

Keeping above in view, it is planned to convene a half day Session on Drainage on 8th December during the 60th International Executive Meeting and 5th Asian Regional Conference on 'Improvement in Efficiency of Irrigation Projects through Technology Up-gradation and Better Operation and Maintenance', being organized at New Delhi from 6-11 December 2009. The deliberation of the Drainage Session will be conducted under following sub-themes:

1. Drainage of Arid and Semi- Arid Soils
2. Drainage of Humid Soils
3. Management of Saline Drainage Water
4. Bio-drainage and Other Innovative Solutions
5. Regional Appraisal and Modeling Systems

Key-note Speakers

Number of key note speakers: 2-4 depending upon the format of the workshop.
