

Agenda for the Twenty-eighth Meeting of the
WORKING GROUP ON DRAINAGE (WG-DRG)
 Yogyakarta, Indonesia
 11 October 2010 : 09.00-12.30 hours
Strategy 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) VP 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) VPH Prof. B. Maticic (Slovenia, 1987); (5) VPH M.H. Amer (Egypt, 1988); (6) Mr. I. Dakar (Syria, 1991); (7) Dr. M.S. Adamu (Nigeria, 1992); (8) PH 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 Uzupek (Turkey, 2006); (19) VP 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) PH Aly M. Shady (Canada); (vi) PH Bart Schultz (The Netherlands); (vii) VPH H. Malano (Australia); and (viii) VPH Safwat Abdel-Dayem (Egypt).

Website: <<http://www.wg-drg.icidonline.org>>

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
Tea/ coffee break	--- minutes
C. Presentations/ Workshop / Summary	--- minutes

A. GENERAL BUSINESS

Item 1 : Confirmation of the minutes of the 27th meeting of the Working Group held at New Delhi

The minutes of the 27th meeting of the Working Group held at New Delhi in December 2009 will be confirmed.

Item 2 : To review membership of the Working Group

The Estonian National Committee (ESTCID) has nominated Mr. Mati Tonismae (Estonia) for the membership of the Working Group. CV of Mr. Tonismae will be tabled at the meeting.

As decided at the New Delhi meeting in December 2009, the Central Office has informed the WG decision of terminating of the nominations of Mr. Ahmed Mohammad Aziz, and Dr. Anzeim Carl Albertovitch to the National Committees of Iraq and Kazakhstan, respectively due non-attendance of the meeting consecutively for the last three years. As proposed by the WG, the Central Office has requested the National Committees of Iraq (IRQCID) and Kazakhstan (KAZCID) to send a fresh nomination for the membership of the WG for consideration at the Yogyakarta meeting. Responses are awaited.

Attendance of members at the meetings held in 2008 and 2009 will be circulated at the meeting.

B. WORK PLAN**Item 3 : Activities of the Working Group****3.1 Technologies for reducing polluted drainage water and quality improvement**

At the New Delhi meeting, Mr. Azim Ashayeri (representing Dr. Mohammad Bybordi, Iran) had proposed to contribute on the topic “Technologies for reducing polluted drainage water and quality improvement”.

Accordingly, the Central Office has requested Mr. Ashayeri to prepare a paper/ note on the topic and send to Dr. J. Ayars (USA) with a copy to Dr. W.F. Vlotman, Chairman. Response is awaited.

IRQCID representative or the Chairman may like to apprise the further developments at the meeting.

3.2 Impact of climate change on drainage.

At New Delhi meeting (2009), Mr. Bernard Vincent (France) had volunteered to make presentations on “*Impact of climate change on drainage*” – based on the recent experiences in Maghreb and Australia, at the Yogyakarta meeting.

Mr. Vincent will make his presentation at the meeting.

3.3 Societal perception of drainage

Mr. Bernard Vincent also had volunteered to make presentations on “*Societal perception of drainage*” – based on the recent advances in France, at the 28th meeting of the WG at Yogyakarta.

The Central Office in July 2010 requested Mr. Vincent to make contribution at the Yogyakarta meeting in October 2010.

Mr. Vincent will make the presentation at the meeting.

3.4 Updating database on ‘Drained area in the world’

PH Bart Schultz presented and discussed ‘Drainage and Irrigation Database’ at the New Delhi meeting. The intention was to include a table on ‘Drained area in the world’ in the ICID Annual Report by updating the prevailing/original data.

Accordingly, the Central Office attempted to prepare a table of the ‘Region-wise world drained area’ using the CEMAGREF database and that compiled by the Central Office during the last three years. The Central Office contacted National Committees of Ireland (IRCID), Netherlands (NETHCID), and Lithuania (LNCID) to confirm their drained areas. In case of the Netherlands, for example, the drained area reported includes that from urban area too. The data as received from these NCs has been incorporated in the table.

In consultation with Chairman Dr. Vlotman, the first draft version of the 'World drained area' has been included in the ICID Annual Report 2009-10. The drained area shows the total of both irrigated and rainfed areas. Due to non-availability of the drained area data separately for irrigated and rainfed areas in the most countries, it was not possible to show it in the table. The table will be circulated at the meeting.

Members are requested to update/ provide correct data shown in the table by communicating with the Chairman/ Central Office.

The WG has proposed to identify regional representatives who will be charged to retrieve information pertaining to the countries of the region. Central Office will continually revise/ update the database based on the data received from National Committees and other credible sources.

Chairman may like to further apprise the group about the database compilation.

Item 4 : Workshops/ Special Sessions sponsored by the Working Group

4.1 11th International Drainage Workshop

At the New Delhi meeting, the group noted that the series of International Drainage Workshops (IDWs) organized by the Group are becoming event(s) of global importance. The Group would like to continue organizing the IDW on regular basis. The 10th IDW was held at Helsinki in July 2008 and was a great success.

At the 59th IEC meeting held at Lahore, the Egyptian National Committee (ENCID) offered to host the 11th International Drainage Workshop along with the 63rd IEC in 2012, if approved by the IEC. At the 60th IEC meeting, the Russian National Committee (RUCID) has also proposed to organize 11th IDW in 2012 with the focus on 'Climate and Drainage'. The WG proposed that both NCs will be invited to forward formal proposals for consideration at the Yogyakarta meeting of the WG.

Accordingly, the Central Office requested both ENCID and RUCID to send their formal proposals. In response, RUCID has indicated their willingness to host the 11th IDW from 16-20 June 2012 and submitted the dully filled-in application form to the Central Office (a copy was forwarded to Dr. Vlotman by the CO). VP Dr. Vlotman vide his e-mail of 14 July 2010 to RUCID has requested to propose other dates for IDW11 as these are very close to the 63rd IEC which will be held from 24-29 June 2012 in Adelaide, Australia. VP Dr. Vlotman being Chairman of the both WG-DRG and ANCID will remain busy in organization of the ANCID/IAL event.

Response from ENCID is awaited.

Chairman may like to take stock of further developments at the meeting and suggest, as appropriate.

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.

At the New Delhi meeting, it was proposed that the Iranian National Committee (IRNCID) may be approached to explore if a workshop on the theme bioprocesses in irrigation and drainage can be held at Tehran in 2011 that might open the door to other domains like mitigation techniques (also see item 6).

The Central Office has requested the IRNCID to prepare a concept note/ paper on the above topic and send it to Mr. Bernard Vincent for perusal and to discuss at the meeting. Response is awaited.

Mr. Vincent/ IRNCID's representative may like to provide feedback at the meeting.

Item 5 : Contribution to the website DRAINLINE

At the 27th meeting held at New Delhi, Dr. Vlotman, Chairman expressed that due to his new occupation/ engagement he will not be able to allocate time in contributing to the website and proposed that in future, the website will be maintained and operated by the Central Office.

Accordingly, the Central Office has been updating the website 'DRAINLINE' in consultation with the Chairman. All members of the WG are requested to visit the webpage <<http://www.wg-drg.icidonline.org/>> and contribute relevant information like viz. books, manuals, technical papers, proceedings of the national workshops, interesting pictures, new software, useful links etc. by communicating with the Central Office (icid@icid.org).

Item 6 : Other business

- **Special Session of Drainage held at New Delhi on 8 December 2009**

Indian National Committee (INACID) in close consultation with Dr. W.F. Vlotman, Chairman has organized a half-day Special Session on Drainage on 8 December 2009 on the side lines of the 60th IEC/ 5th ARC held at New Delhi. The special session was chaired by Dr. Vlotman and coordinated by Dr. Gurbachan Singh (India).

The special session was attended by all members and many observers. The highlights of the presentations are shown as **Annex**.

Referring to the presentations and subsequent debate related to bio-drainage at the special session, PH Bart Schultz reminded the group that the biodrainage technique is not without danger. It was suggested to invite observations/ comments on the topic of biodrainage from amongst the group members. Considering the experience of Iran in the domain of bio-saline agriculture the similarity of both the techniques (bio-drainage and bio-saline agriculture) stood acknowledged but more discussions would be useful. WG may consider.

- **9th International Drainage Symposium, 13-16 June 2010, Quebec City, Canada**

The 9th International Drainage Symposium was 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 was organized by the American Society of Agricultural and Biological Engineers (ASABE).

Mr. Bernard Vincent has attended the symposium and may like to brief the key highlights, outcome of the event at the meeting.

- **Linkedin Agricultural Drainage Group**

Dr. W.F. Vlotman in April 2010 has informed all members of the WG about the launch of Agricultural Drainage Group by him via the LinkedIn and invited members to join the group. He said that the LinkedIn Agricultural Drainage Group is a professional network open to all those persons interested in the networking in the agricultural drainage community. Members are requested to get in touch with VP Dr. Vlotman to join the LinkedIn.

Chairman may like to explain about the LinkedIn.

C. PRESENTATIONS/WORKSHOP/SUMMARY

Item 7 : Presentations from members/ member countries

- **Presentation by Indonesian National Committee (INACID)**

Mr. Bernard Vincent (France) was to contact Indonesian National Committee (INACID) for its possible presentation at Yogyakarta meeting.

INACID representative will make presentation at the meeting.

- **Presentation by French National Committee (AFEID)**

Mr. Bernard Vincent has volunteered to make presentation on 'constructed wetlands to mitigate drainage pesticide effluent' at Yogyakarta meeting.

Item 8 : General discussion and summary of the meeting

WORKING GROUP ON DRAINAGE (WG-DRG)**Proceedings of Special Session on Drainage, 8 December 2009, New Delhi**

Considering the significant contribution of irrigated agriculture to global food security and the need for provision of some form of drainage to sustain its productivity, a Special Session on Drainage was organized during the 60th IEC Meeting and 5th Asian Regional Conference on 8 December 2009. The objective of the session was to highlight the key developments in the area of drainage for semi- arid and humid regions including socio- economic and environmental issues, drainage materials and advanced diagnostic and prognostic tools.

Dr. Gurbachan Singh, Director and Dr. S.K. Kamra, Head, Division of Irrigation and Drainage Engineering, CSSRI, respectively were the coordinator and co- coordinator for the session. The Session was chaired by Dr. W.F. Vlotman. The following is the gist of the presentations made during the session:

1. Emerging contaminants in surface and drainage waters (Speaker: Dr. Shiv O. Prasher, McGill University, Canada)

Dr. Prasher elaborated upon the emerging and challenging problem of surface and groundwater pollution through non- point organic toxicants like pharmaceuticals. Pharmaceuticals used for human and intensive veterinary medicines for cattle are entering into the food chain through soil, surface and ground water, river and drinking water systems. The treatment plants are not equipped to deal with these contaminants, which have serious implications on aquatic, animal and human life and soil organisms. The concern of pollution by pharmaceuticals is growing in developed as well as developing countries, in particular after confirmation of their presence and ability to pseudo-persist in the environment. There is an urgent need to understand different dimensions of the problem and to find preventive and remedial measures. Dr. Prasher also presented encouraging results on the use of constructed wetlands as effective biogeochemical filters to remove various organic and inorganic pollutants from waste waters in Canada.

2. An overview of subsurface drainage research in India (Dr. Dr. S.K. Kamra, Head, Irrigation and Drainage Engineering Division, CSSRI, Karnal, India)

Dr. Kamra presented an overview of the systematic research conducted in India since 1980s on subsurface drainage for amelioration of waterlogged saline soils. Besides briefly covering the drainage works undertaken by other agencies, he provided detailed results on soil, hydro- geo- chemical characteristics and features of subsurface drainage systems and materials, introduced and evaluated by CSSRI, alone or in association with state universities and departments in Haryana, Rajasthan, Gujarat, Andhra Pradesh, Karnataka and Maharashtra. Till today, subsurface drainage projects of 800- 1200 ha pilot area each have been implemented in 7500 ha area in farmers' fields in Haryana and about 40,000 ha throughout India. Dr. Kamra also covered the socio- economic issues on acceptance and operation of large scale subsurface drainage projects and options for disposal and management of saline drainage effluent. He emphasized three researchable issues of controlled drainage, application of field and regional models in association with remote sensing, GIS and geophysical (resistivity, electro- magnetic) techniques for characterizing, planning and management of regional salinity and drainage projects.

3. Installation of large scale subsurface drainage system- A case study of Chambal command area, Rajasthan (Speaker: Mr. C.M. Tejawat, Command Area Development, Kota, Rajasthan, India)

Mr. Tejawat presented historical development of measures undertaken to control waterlogging and soil salinity in Chambal command of Rajasthan during 1990s. These measures included starting from on-farm development (OFD) works during 1970s to subsurface drainage under Rajasthan Agricultural Drainage (RAJAD). He provided details on investigations, design, monitoring and evaluation of subsurface drainage installed on farmers' fields in about 15000 ha area including socio- economic issues like cost effectiveness and compensation provided to farmers for crop loss during installation. He also provided details of complete station system and computer aided design and drafting software used extensively for regional survey and design activities in RAJAD. It was concluded that subsurface drainage is a successful technology for control of water table and soil salinity and to improve crop yields and was working satisfactorily with least maintenance. A recommendation that envelope is not needed in soils having more than 40% clay and SAR < 15 has implication for other drainage projects.

4. Waterlogging control by subsurface and bio-drainage (Speaker: Dr. H.S. Chauhan, Retired Dean, PG Studies, GB Pant University of Agriculture and Technology, Pantnagar, India)

Dr. H.S. Chauhan presented an overview of historical backdrop, strengths and limitations of different drainage approaches such as surface drainage, ditch drainage, vertical drainage, subsurface drainage and bio-drainage in India. He emphasized the need to integrate different options and derive suitable mechanisms to control waterlogging and soil salinity for sustainability of agriculture and environment. There was in-depth discussion on the adoption of highly transpiring *Eucalyptus* and other trees (bio- drainage) for control of waterlogging, particularly as a preventive seepage control measure in the vicinity of canals and as well as in appropriate agro- forestry models.

5. Sustainable agricultural drainage, drivers, benchmarking and KPIs as part of IWRM (Speaker: Dr. W.F. Vlotman., ICID Theme Leader Systems and Chair, Working Group on Drainage, Australia)

Dr. Vlotman defined new drivers for subsurface drainage projects besides social, economic and conventional environmental indicators. New drivers of drainage and irrigated water resources management deal with environment, modernization and climate change issues to ensure basin – level sustainability based on uniform water laws. The features and scope of recent management tools and models such as DRAINFRAME, MASSCOTE and Global Reporting Initiatives, being used in Australia, were discussed in the context of benchmarking of drainage schemes with key performance indicators to evaluate the success of any project or organization in achieving the targeted objectives and vision. The importance of improvement in real time monitoring and evaluation infrastructure of drainage and water resource projects in South Asian countries was also emphasized.
