

**AGENDA FOR THE 31<sup>ST</sup> MEETING OF THE  
WORKING GROUP ON DRAINAGE (WG-DRG)  
02 October 2013: 13.30-15.00 hours [Session I]  
02 October 2013, 15.30-17.00 hours [Session II]  
Mardin, Turkey**

**Strategy Theme: Systems**

**Presented by the Chairman**

**Year of Establishment: 1983**

**Completion of the Mandate: 2013**

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

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

**SESSION 1 – WG-DRG Business (13.30-15.00 hours)**

**WG-DRG Agenda Item 1: Action taken report by Chair**

1. Chairman will present a report about actions taken on the decisions taken by the WG at its last meeting held at Adelaide.

**WG-DRG Agenda Item 2: To review the membership of the Working Group**

2. The existing membership of the group and their attendance at last two meetings is shown in the **Annex 1**. ENCID has nominated Dr. Ashraf El Sayed Ismail in place of Dr. M.H. Amer, while CNCID has re-nominated Ms. Wang Shaoli for the membership. Based on the CVs of the above nominees and in consultation with the Central Office, Chair recommends that these two experts may be accepted for the membership of the WG, subject to their attending the meeting in Mardin.

3. In accordance with ICID by-law 3.6 which stipulates that members of workbodies not contributing by their attendance/ correspondence for two consecutive years shall be replaced. In view of the by-law and as per Annex 1, Chair recommends discontinuation of memberships of Prof. B. Maticic (Slovenia), Dr. M.N. Bhutta (Pakistan), and Dr. Gurbachan Singh (India).

4. **ELECTION OF NEW OFFICERS:** The Chairman of the WG-DRG will step down at the end of this meeting. The other officers (Vice Chair and Secretary) may wish to step down or chance position. A new slate of officers will be proposed to PCTA, effective upon termination of the 64<sup>th</sup> IEC.

**WG-DRG Agenda Item 3: Reinvigorating the mandate of the Working Group**

5. Since the present mandate of the WG-DRG is to be completed by 2013, the group discussed at Adelaide about developing a new mandate and extending the tenure of the WG.

6. Dr. James E. Ayars has circulated a paper titled “Subsurface Drainage – What’s Next?” to the members for comments/ suggestions as well as to serve as a guide for the new mandate. Members were asked to send proposals for the new mandate to the working group members. The Group shall prepare a mandate for submission to PCTA for extending the WG tenure.

**WG-DRG Agenda Item 4: DRAINAGE ON-LINE**

7. All members were requested to review the drainage section on the revised ICID website. Responses will be reviewed and follow-up action decided as needed. The Group may review briefly the current status of the ICID webpages on drainage.

8. All members were requested to access the revised version of the website ‘DRAINLINE’ <[http://www.icid.org/wg\\_drg.html](http://www.icid.org/wg_drg.html)> and review the text and link of the ICID website pages and provide comments/

suggestions to improve it further. Members were also requested to share relevant material, links and documents by sending them to the Chair/ Central Office for its posting on group's website. Actions to date will be reviewed. At the time of preparing this agenda, no inputs were received.

9. As suggested by the WG, the Central Office is extracting the news items related to drainage from the weekly e-Bulletins, monthly News Updates, and quarterly ICID News and posting at the WG webpage DRAINLINE for ready reference of members and interested persons.

Central office and the Chair will report on actions taken and the group will decide on follow-up.

**WG-DRG Agenda Item 5: Workshops of the Working Group**

**WG-DRG Agenda Item 5.1: 12 IDW at St. Petersburg, Russia, 2014**

10. National Committee of the Russian Federation on Irrigation and Drainage (RuCID) is organizing and hosting the 12<sup>th</sup> International Drainage Workshop (IDW) during 23-26 June 2014 at Saint Petersburg. Dr. (Mrs) Irena Bondarik, Secretary General, RuCID made a brief presentation about the workshop program at Adelaide meeting. Mrs. Bondarik has submitted a filled in financial statement (FORM B) providing registration fees, etc. to the Central Office. RuCID will also bring out an 'Information Brochure' for wide circulation during WIF1. Dr. Bondarik / RuCID representative will provide detailed information about the workshop at the meeting. The WG will firm up the theme, topics/ sub topics, schedule for submission of abstract of papers, arrangement for review of papers, key note speakers, etc and submit it to the PCTA.

**WG-DRG Agenda Item 5.2: 13<sup>th</sup> International Drainage Workshop**

11. In response to the Central Office Circular dated June 2013 regarding invitation for proposals for hosting 13<sup>th</sup> IDW, Iranian National Committee (IRNCID) has indicated its willingness to host the 13<sup>th</sup> IDW during the year 2017 or later. Representative of IRNCID may like to provide further information at the meeting.

**WG-DRG Agenda Item 6: Publications of the Working Group**

**WG-DRG Agenda Item 6.1: DVD on "Drainage for Sustainable Agriculture"**

12. WG has brought out a DVD on "Drainage for Sustainable Agriculture" as a contribution of the WG to the WIF1. The DVD will be released during the First World Irrigation Forum (WIF1) at Mardin. The DVD includes proceedings of all past IDWs, ICID publications related to drainage, special workshops, special issue on drainage of the ICID Journal, select publications of the World Bank, ILRI, FAO, etc. Dr. W. F. Vlotman will apprise further at the meeting.

**WG-DRG Agenda Item 6.2: Compilation of experiences in bio-drainage and bio-saline agriculture**

13. During Adelaide meeting, the group discussed about the summary project report of "Eco-physiology of tree species to evaluate their bio-drainage potential for waterlogged soils of Haryana" as submitted by INCID. The WG suggested converting the document into a scientific paper by the INCID. Central Office has communicated and discussed with the INCID for the possibility of developing such a paper and submitting to the WG. A draft version of the paper if made available by INCID will be tabled at the meeting.

**WG-DRG Agenda Item 7: Updating database on 'Drained area in the world'**

14. At Adelaide meeting, the group discussed about the updating and continuing the compilation of data on the 'Drained area in the world'. The following members were volunteered to act as Regional In-charge for collecting/ updating the drained area data:

<b>Name of the Volunteer Incharge</b>	<b>Region(s)/ countries to be covered</b>
Mrs. Irena Bondarik/ Dr. Yurii Yanko (Russia)	Russia
Mr. Bernard Vincent (France)	South Europe and East Europe; Maghreb
Dr. Victor Dukhovny (Uzbekistan)	Newly Independent States (NIS)
Mr. Ardavan Azari (Iran)	Middle East
Mr. Loh Kim Mon (Malaysia)	Asia
Dr. Gerhard Backeberg/ AT van Coller	South Africa and North Africa
Mr. James Ayars (USA)	North America (and south America)

15. VPH Dr. Victor Dukhovny has provided an updated data on irrigated and drained areas in EECCA region (Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, and Ukraine) which is included in the latest database. National Committees of Brazil, Canada, Estonia, Iran, and Turkey have provided the updated information on drained area. The updated/revised datasheet of 'World drained area' is given at **Annex 2** and is also published in the ICID Annual Report 2012-13.

**WG-DRG Agenda Item 8: Any other business**

**SESSION 2 – PRESENTATIONS (15.30-17.00)**

**WG-DRG Agenda Item 9: Presentations**

16. The presentations made at Adelaide meeting have been posted on the WG webpage 'DRAINLINE'. Members are encouraged to volunteer to make presentations at the meeting on the topic related to the WG interest and in prior consultation with the Chair.

17. Ms. Nurgül Üzücek (Turkey) and Dr. James E. Ayars (USA) have volunteered to make the following presentations -

- Development of irrigation and drainage in Turkey – Ms. Nurgül Üzücek
- Social effects of the Southeastern Anatolian Project (GAP) – Ms. Nurgül Üzücek
- The San Joaquin Valley: 20 Years later - Dr. James E. Ayars

18. In order for the WGs and TFs to undertake exchange of information, organize discussions, hold consultation either with the whole group or a sub-group of members to carry out activities related to their mandates beyond the IEC face to face meetings, Central Office has made available facilities for Web based video-conferencing or audio / tele – conference. These newly introduced online features, without any cost to the participants can be explored by members to organize intermediate workbody meetings, conducting remote training programs, presentations, and introducing new products and technologies etc through Webinars. Members can contact Central Office with their requirement in terms of date and time and participants list to enable us to book the meeting slots and facilitate the conferences. More information on these facilities is available at [http://www.icid.org/co\\_whatsnew.html](http://www.icid.org/co_whatsnew.html).

19. Chair of the WG may like to plan such meetings in advance in consultation with other members present during the Mardin meetings and submit their request to Central Office Staff. This arrangement will also provide opportunity to contribute to the work of the WG to those members who are unable to attend face to face meetings. WG may like to take decision on the matter.

**Notes for Chairperson:**

1. Draft minutes of this meeting to be submitted to ICID Secretariat at Mardin after the meeting.
2. Chair to participate and present the WG report to PCTA meeting on 04 October 2013



**WORKING GROUP ON DRAINAGE (WG-DRG)**

**Members and their attendance at 2011 and 2012 Meetings**

Sl. No.	Members	Member from	2011		2012		Remarks
			Self	Contributed by mail	Self	Contributed by mail	
1.	VPH Dr. Willem F. Vlotman, Chairman, 2001 (Australia)	2000		•	•		
2.	Dr. James Ayars, Vice Chairman (USA)	2005				•	
3.	Mr. Bernard Vincent, Secretary (France)	2007	•		•		
4.	VPH Prof. B. Maticic (Slovenia)	1987					
5.	VPH Dr. M.H. Amer (Egypt)	1988	•		•		
6.	PH Ir. Keizrul bin Abdullah (Malaysia)	1994	# <sup>1</sup>				
7.	Dr. Chung Sang-Ok (Korea)	1996	•				
8.	Mr. Chen Hung-Kwai (Chinese Taipei)	1997	#				
9.	Dr. M.N. Bhutta (Pakistan)	2002					
10.	Mr. AT van Coller (South Africa)	2006	#		#		
11.	Ms. Nurgul Uzucek (Turkey)	2006			•		
12.	VPH Shinsuke Ota (Japan)	2006	•		•		
13.	Dr. Yurii Yanko (Russia)	2006	•		#		
14.	Dr. Gurbachan Singh (India)	2008					
15.	Mr. Mati Tonismae (Estonia)	2010	•				
16.	Mr. Ardavan Azari (Iran)	2011	•		•		
17.	Ms Helena Aijo (Finland)	2011	#		#		
18.	Dr. Momon Sodik Imanudin (Indonesia)	2012			•		
19.	Secretary General, ICID						
<b>Observers / Permanent observers</b>							
(i)	PH Dr. Chandra A. Madramootoo (Canada)						
(ii)	PH Prof. Bart Schultz (Netherlands)		•				
(iii)	VPH Dr. Safwat Abdel-Dayem (Egypt)						

<sup>1</sup> # Through representation

**WORKING GROUP ON DRAINAGE (WG-DRG)****World Drained Area**

Sl. No.	Country	Arable land and permanent crops (million ha)	Total drained area (million ha)	% drained area	Reference year
<b>DEVELOPED COUNTRIES</b>					
1	<b>Australia</b>	44.37	2.17	4.89	2002 <sup>2</sup>
2	<b>Austria</b>	1.44	0.2	13.89	1997 <sup>2</sup>
3	Belgium	0.87	0.07	8.05	1996 <sup>2</sup>
4	Bulgaria	3.25	0.08	2.46	2000 <sup>2</sup>
5	<b>Canada</b>	67.5	9.46	14.01	2002 <sup>2</sup>
6	Cyprus	0.11	0.02	18.18	2000 <sup>2</sup>
7	<b>Czech Rep.</b>	3.26	1.07	32.82	2011 <sup>1</sup>
8	Denmark	2.35	1.77	50.00	2012 <sup>1</sup>
9	<b>Estonia</b>	1.33	0.64	48.00	2013 <sup>1</sup>
10	<b>Finland</b>	2.26	2.5	110.62	2008 <sup>1</sup>
11	<b>France</b>	19.33	3.00	15.52	2011 <sup>1</sup>
12	<b>Germany</b>	12.13	4.9	40.40	1993 <sup>2</sup>
13	Greece	3.23	0.52	16.10	2002 <sup>2</sup>
14	<b>Hungary</b>	4.8	2.3	47.92	2003 <sup>1</sup>
15	<b>Ireland</b> <sup>4</sup>	1.06	0.254	23.96	2010 <sup>1</sup>
16	<b>Italy</b>	13.2	5.3	40.15	2005 <sup>1</sup>
17	<b>Japan</b>	4.59	3.52	76.69	2010 <sup>1</sup>
18	Latvia	1.18	1.58	133.90	1995 <sup>2</sup>
19	<b>Lithuania</b> <sup>5</sup>	2.68	2.58	96.27	2011 <sup>1</sup>
20	<b>Netherlands</b> <sup>6</sup>	1.09	3.0	275.23	2010 <sup>1</sup>
21	Norwegian	1.02	0.61	60	2012 <sup>1</sup>
22	Poland	12.97	4.21	32.46	1999 <sup>2</sup>
23	<b>Portugal</b>	1.64	0.04	2.44	2002 <sup>2</sup>
24	<b>Romania</b>	9.85	1.83	18.58	2008 <sup>1</sup>
25	Slovak Republic	1.41	0.6	42.55	1997 <sup>2</sup>
26	<b>Slovenia</b>	0.2	0.08	40.00	2007 <sup>1</sup>
27	<b>Spain</b>	26.30	0.3	1.14	1994 <sup>2</sup>
28	Sweden	2.64	1.1	41.67	1996 <sup>2</sup>
29	<b>Switzerland</b>	0.43	0.16	37.21	2002 <sup>2</sup>
30	<b>UK</b>	6.05	4.65	76.86	1996 <sup>2</sup>
31	<b>USA</b>	173.2	47.5	27.42	1987 <sup>2</sup>
	<b>Sub-Total</b>	<b>425.74</b>	<b>106.014</b>	<b>24.90</b>	
<b>EMERGING/DEVELOPING COUNTRIES</b>					
32	Albania	0.7	0.28	40.00	1999 <sup>2</sup>
33	Algeria	8.42	0.06	0.71	1999 <sup>2</sup>

## Annex 2 [Appendix XII, Item 8]

Sl. No.	Country	Arable land and permanent crops (million ha)	Total drained area (million ha)	% drained area	Reference year
34	Argentina	33.0	0.13	0.40	2002 <sup>2</sup>
35	Azerbaijan	2.09	0.61	0.29	2013 <sup>1</sup>
36	Belarus	5.64	3.0	53.19	1993 <sup>2</sup>
37	Bolivia	3.82	0.02	0.52	2000 <sup>2</sup>
38	<b>Brazil</b>	66.9	1.08	1.61	2006 <sup>1</sup>
39	Chile	0.78	0.035	4.49	2006 <sup>1</sup>
40	<b>China</b>	130.03	21.14	16.26	2008 <sup>1</sup>
41	<b>Chinese Taipei</b>	0.83	0.12	14.46	2009 <sup>1</sup>
42	Colombia	3.46	0.23	6.65	1989 <sup>2</sup>
43	Costa Rica	0.5	0.04	8.00	1999 <sup>2</sup>
44	<b>Croatia</b>	0.95	0.76	80.00	1990 <sup>2</sup>
45	Cuba	3.97	0.33	8.31	1997 <sup>2</sup>
46	Dominican Rep.	1.30	0.03	2.31	2000 <sup>2</sup>
47	Ecuador	2.50	0.05	2.0	1998 <sup>2</sup>
48	<b>Egypt*</b>	3.54	3.36	85.31	2011 <sup>3</sup>
49	El Salvador	0.92	0.01	1.09	1997 <sup>2</sup>
50	<b>Fiji Island</b>	0.25	0.01	4.00	2000 <sup>2</sup>
51	Georgia	0.58	0.16	27.59	1996 <sup>2</sup>
52	Guyana	0.45	0.15	33.33	1991 <sup>2</sup>
53	Honduras	1.43	0.06	4.20	1991 <sup>2</sup>
54	<b>India</b>	169.32	5.8	3.43	1991 <sup>2</sup>
55	<b>Indonesia</b>	37.10	3.35	9.03	1990 <sup>2</sup>
56	<b>Iran</b>	18.55	0.22	1.18	2013 <sup>1</sup>
57	<b>Iraq</b>	5.45	1.54	28.26	2002 <sup>2</sup>
58	Israel	0.38	0.1	26.32	1987 <sup>2</sup>
59	Jordan	0.15	0.01	6.67	2008 <sup>3</sup>
60	<b>Kazakhstan</b>	22.8	0.45	1.97	2013 <sup>1</sup>
61	Kenya	5.8	0.03	0.52	2003 <sup>2</sup>
62	<b>Korea Rep.</b>	1.82	1.15	63.19	2007 <sup>1</sup>
63	Kyrgyzstan	1.35	0.20	14.81	2013 <sup>1</sup>
64	Lebanon	0.29	0.01	3.45	2001 <sup>2</sup>
65	Libya	2.05	0.01	0.49	2000 <sup>2</sup>
66	<b>Malaysia</b>	9.5	6.0	63.16	2009 <sup>1</sup>
67	<b>Mexico</b>	27.50	5.2	18.91	1997 <sup>2</sup>
68	Mongolia	0.85	1.5	176.47	2000 <sup>2</sup>
69	<b>Morocco</b>	8.98	0.65	7.24	2004 <sup>2</sup>
70	<b>Pakistan</b>	23.80	7.54	31.70	2009 <sup>1</sup>
71	Paraguay	4.3	0.01	0.23	2000 <sup>2</sup>
72	Peru	4.44	0.08	1.80	2000 <sup>2</sup>
73	<b>Philippines</b>	9.16	2.72	29.69	2008 <sup>1</sup>

## Annex 2 [Appendix XII, Item 8]

Sl. No.	Country	Arable land and permanent crops (million ha)	Total drained area (million ha)	% drained area	Reference year
74	Puerto Rico	0.1	0.02	20.00	2000 <sup>2</sup>
75	<b>Russia</b>	192.6	4.78	2.48	2007 <sup>1</sup>
76	<b>Saudi Arabia</b>	3.68	0.04	1.09	1992 <sup>2</sup>
77	Serbia & Montenegro	3.72	0.4	10.75	2000 <sup>2</sup>
78	<b>South Africa</b>	18.00	0.06	0.41	2011 <sup>1</sup>
79	<b>Sri Lanka</b>	2.20	0.03	1.36	1967 <sup>2</sup>
80	Surinam	0.06	0.05	83.33	1998 <sup>2</sup>
81	<b>Syria</b>	5.68	0.27	4.75	1993 <sup>2</sup>
82	Tajikistan	0.87	0.33	37.93	2013 <sup>1</sup>
83	<b>Thailand</b>	18.85	0.16	0.85	1997 <sup>2</sup>
84	Tunisia	5.04	0.2	3.97	2000 <sup>2</sup>
85	<b>Turkey</b>	26.01	3.43	13.19	2012 <sup>1</sup>
86	Turkmenistan	1.92	1.1	57.29	2013 <sup>1</sup>
87	<b>Ukraine</b>	33.5	3.3	9.85	2013 <sup>1</sup>
88	<b>Uzbekistan</b>	4.62	2.86	61.90	2013 <sup>1</sup>
89	Venezuela	3.35	0.31	9.25	2002 <sup>2</sup>
90	Viet Nam	9.42	1.0	10.62	1994 <sup>2</sup>
91	<b>Zimbabwe</b>	11.00	0.1	0.90	2011 <sup>1</sup>
	<b>Sub-Total</b>	<b>966.27</b>	<b>86.595</b>	<b>8.96</b>	
<b>LEAST DEVELOPED COUNTRIES</b>					
92	<b>Afghanistan</b>	7.91	0.01	0.13	2000 <sup>2</sup>
93	<b>Bangladesh</b>	8.70	1.5	17.24	1993 <sup>2</sup>
94	<b>Ethiopia</b>	14.51	0.03	0.21	1987 <sup>2</sup>
95	Madagascar	3.55	0.11	3.10	2000 <sup>2</sup>
96	<b>Malawi</b>	7.7	NA	-	2002 <sup>1</sup>
97	Myanmar	11.70	0.19	1.62	1994 <sup>2</sup>
98	<b>Nepal</b>	2.47	0.09	3.64	2000 <sup>2</sup>
99	Rwanda	1.57	0.09	5.73	2000 <sup>2</sup>
100	Sudan	20.91	0.56	2.68	2000 <sup>2</sup>
101	Yemen	1.61	1.5	93.17	2000 <sup>2</sup>
	<b>Sub-Total</b>	<b>80.63</b>	<b>4.08</b>	<b>5.06</b>	

\*Countries shown in bold are active members of ICID



**(A) TYPE OF COUNTRY<sup>7</sup>**

Summary				
Sl. No.	Region	Arable land and permanent crops (million ha)	Total drained area (million ha)	% drained area
1	Developed Countries	425.74	106.014	24.90
2	Emerging/Developing Countries	966.27	86.675	8.97
3	Least Developed Countries	80.63	4.08	5.06
	<b>Total (101 countries)</b>	1472.64	196.77	13.36
	<b>World</b>	<b>1552.98</b>	<b>202.9</b>	<b>13.06</b>

**(B) REGIONWISE**

Summary				
Sl. No.	Region	Arable land and permanent crops (million ha)	Total drained area (million ha)	% drained area
1	Africa	111.07	5.82	5.22
2	Americas	399.48	64.80	16.22
3	Asia	588.90	71.31	12.10
4	Europe	373.19	54.84	14.69
	<b>Total (101 countries)</b>	1472.64	196.77	13.36
	<b>World</b>	<b>1552.98</b>	<b>202.9</b>	<b>13.06</b>

**Notes:**

- 1 ICID data (both for arable land and permanent crop (APC) and for drained areas)
- 2 CEMAGREF data (for drained area)
- 3 Monitoring and Evaluation Department (EPADP), Egypt, 2011
- 4 The total drained area in Ireland is 0.254 million ha, the total utilised agricultural area is 4.02 million ha. Apart from a very small area of Ireland that is irrigated on a commercial basis for crop production there are no major irrigation schemes in Ireland. Suggested figure for irrigated area in Ireland is 10,000 hectares. Source: Dr. Oliver Nicholson, Chairman, Irish National Committee on Irrigation and Drainage (IRCID), 28 June 2010
- 5 Statistics referred as "arable land" in Lithuanian registry as per 01.01.2010. The drained area slightly decreased as some of the area excluded from registry since that area has been completely depreciated and drainage no more functioning. Source: Prof. dr. Antanas Maziliauskas, President of Lithuanian National Committee (LICID), 26 June 2010.
- 6 The fact that the drained area is more than the APC area is a matter of definition. In the Netherlands' case the drained area includes areas with other functions such as drainage of meadows and urban areas. Source: Dr. Pol (A.L.) Hakstegte, Secretary/ Treasurer, Netherlands National Committee (NETHCID), 2 July 2010.
- 7 Country Classification – World Economic Situation and Prospects (WESP), United Nations, 2012