

**MINUTES OF THE 12<sup>TH</sup> MEETING OF THE  
WORKING GROUP ON WATER AND CROPS (WG-WATER & CROP)**

4 September 2019, 11:15-13:15 hours

Bali, Indonesia

**Strategy Theme: On-Farm**

**Presented by the Chairman**

**Year of Establishment: 2007**

**Completion of the Mandate: 2019**

**Mandate:** To promote the efficient use of water in crop production, to provide input to test crop water models, to investigate the use of energy crops for bio-fuel production, to develop techniques for rainfall harvesting, to promote the multifunctional use of water in paddy (rice) cultivation, to investigate the adaptation of agriculture to climate change and to promote low input agriculture.

**Members Present:** (1) VPH Dr. Ragab Ragab (UK), Chairman; (2) VP Dr. Kaluvai Yella Reddy (India), Secretary; (3) VP Dr Marco Arcieri (Italy); (4) Prof. Won-Ho Nam (Korea); (5) Dr. Chung-Feng, Ding (Chinese Taipei); and (6) Prof. Dr Zeinab Hussien Behairy (Egypt).

**Observers:** (i) Aditya Kiski Tayfani (Indonesia); (ii) Tseng Ching Long (Chinese Taipei); (iii) Teng Sheng Lin (Chinese Taipei); (iv) Kang-Han Fan (Chinese Taipei); (v) Ruey-Chykoo (Taiwan); (vi) Karanjeet Singh (India).

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

**WG-W&C Minutes Item 1: Action Taken Report by Chair**

1. The Chair welcomed the members and briefly presented the report on the actions taken on the decisions and proposals made since its last meeting in Saskatoon, Canada in August 2018.
2. The Chair informed the members that the paper written by his student using the SALTMED has been published in Irrigation and Drainage Journal and received Best Paper Award for the year 2018. The software is now being freely downloaded by many researchers/organizations from ICID website and used widely.
3. The Chair informed the members that as per the guidelines of the ICID to conduct Online/WebEx meetings, one WebEx meeting was organized on 31<sup>st</sup> May 2019 for Joint Session of Theme 'On Farm' and the Chair, Vice-Chair and Secretary of the Working Groups have participated along with the other group representatives and Central Office. The modalities of organizing joint session during WIF3 were discussed.
4. The Uzbekistan National Committee of ICID has nominated Eng Karshiyev Rustum Jurayevih (Uzbekistan) for the membership of the WG. He was accepted as 'Provisional member' since he was not available at the Bali meeting and he has to appear in person in Sydney meeting in 2020 for approval of his membership. In October 2019, the Irrigation Australia Limited (IAL) has nominated Ir. Felipe Dantas (Australia) for the membership of the WG. In consultation with the Chair, the nomination of Ir. Felipe Dantas was accepted as 'Provisional Member' until the next meeting. The Membership status is given in **4 (page 27)**.

**WG-W&C Minutes Item 2: Road Map to ICID Vision 2030: Activities on efficient use of water in crop production**

5. The Chair discussed and briefed the activities of the WG such as Goals/Strategies, Actions, Outcomes/Outputs, Milestones and assigning Lead Persons as part of Road Map to ICID Vision 2030 and updated the progress ( ). He informed the efforts are being made continuously in realising the objectives/milestones.

**WG-W&C Minutes Item 3: Multi-functionality of water uses in paddy (Rice) cultivation**

6. During the Saskatoon meeting, the WG decided to bring out a 'Technical Report' based on the papers contributed by its members. The WG presented the 'Technical Report' of the Group in the meeting. The report is a consolidation of contributions and collection of information from members on various topics under the mandate of the group. NCs of China, Indonesia and Philippines were presented their papers for the technical report of the WG. The reports from Dr. Graziano Ghinassi was presented by Dr Marco Arcieri (Italy), while the Dr. Leon van Rensburg (South Africa) through Prof. Sylvester Mpandeli, Dr. Chung-Feng, Ding through Dr. Hsiao-Weng Wang (Chinese Taipei), Prof. Won-Ho Nam (Korea) and Mr. Chalearmkiat Kongvichanwat (Thailand) were awaited.

**WG-W&C Minutes Item 4: Updating Multilingual Technical Dictionary (MTD)**

7. The Chair briefed the house about the importance of the Updating Multilingual Technical Dictionary (MTD). He requested the members to contribute for updating the MTD with new 'words/phrases' of importance. He suggested to consider the term 'Water Productivity' as an example and know how it is called in different languages.

**WG-W&C Minutes Item 5: International Workshop on 'Improving the water use efficiency and productivity within water energy food nexus' in September 2019 at Bali, Indonesia**

8. The Chair informed the members that the WG has organized an International Workshop entitled 'Improving the Water Productivity within the Water Energy Food Nexus' as part of WIF3, Bali on 1<sup>st</sup> Sept 2019. The total number of 11 abstracts have been accepted by the Forum and 7 presenters managed, which were attended workshop. . However, most of the papers focused on the relation between water and crop. Only one paper focused on the nexus of water-energy-food, as a whole.

**WG-W&C Minutes Item 6: ICID-IWRA Collaboration**

9. The Chair informed that the collaboration between International Water Resources Association (IWRA) and International Commission on Irrigation and Drainage (ICID) does not progress as desired. He said it will be pursued seriously for the mutual benefit of the two organizations.

**WG-W&C Minutes Item 7: Publications of the Working Group**

10. The Chair informed the members that the paper presented by the representatives from Australia in the workshop on 1<sup>st</sup> Sept 2019 was recommended for the publication in the Special Issue of Irrigation and Drainage Journal. As for the Technical Report status of the WG, WG Chair explained and requested the other contributors to submit their papers for compilation, soon.

**WG-W&C Minutes Item 8: Disseminate of activities of WG****WG-W&C Minutes Item 8.1: Website of the Group**

11. The Chair informed that the SALTMED software is available on ICID website for anyone to access and use. He briefed the status of usages of the Software by various users and credited the web development to ICID for its efforts. He requested all the members to send relevant papers and contributions to him for uploading in the website.

**WG-W&C Minutes Item 8.2: Web-based Seminar/e-discussions**

12. The Chair encouraged the members to use platforms such as e-discussions, web-based seminars on the relevant topics based on the mandate of WG. The Chair requested the members to come forward and develop and conduct the webinars/e-discussions in 2019-2020 in the area of their specialization.

13. It was decided to conduct two webinars i.e. (i) water use efficiency and productivity, and (ii) the state-of-the-art of the irrigation water scheduling and crop water requirement for the WG before starting the 24<sup>th</sup> ICID Congress to be held in September 2020 at Sydney, Australia. At the end of the seminar, the WG members participate to discuss about the progress of the group activities.

14. The Secretary of the WG Dr K. Yella Reddy has offered to conduct one Webinar on 'Adaptive Measures for Improved Water Management at Farm Level'.

**WG-W&C Minutes Item 9: Merger of WG-BIO-Fuel with WG-Water & Crop**

15. During the Bali meeting, WG Chair informed that the merger with Working Group on Water for Bio-Fuel and Food (WG-BIO-FUEL), which can be the basis to broaden the Working Group into Water-Energy-Crop.

**WG-W&C Minutes Item 10: New Sub- topic 'Water Use and Productivity':**

16. At Saskatoon meeting, it was proposed to create a new sub-topic 'Water Use and Productivity' under the WG mandate to work out water requirements of different crops under greenhouse conditions. The 'Task Team' responsible for this sub-topic was composed of: PH Dr Saeed Nairizi, VP Dr K.Yella Reddy, VPH Dr Ragab, and Dr. Chung-Feng, Ding (Chinese Taipei). The progress was discussed and advised to prepare the details and review through web-based meetings.

17. During the Bali meeting, Mr. Syaiful Mahdi (Indonesia) will make his efforts on preparation of report on '*Effective Rainfall*' in Crop Water Requirement as part of the rain-fed agricultural water management. The Chair explained the concept of effective rainfall and how it is affected with crop and land cover.

**WG-W&C Minutes Item 11: Joint Session of Strategy Theme On-Farm, September 2019, Bali**

18. The Chair informed that the Joint Session of Strategy Theme On-Farm will be held on 5<sup>th</sup> Sept 2019 and requested the participation of all the members of the WG.

**WG-W&C Minutes Item 12: International Young Professionals Training Program, 22-25 April 2019, Gyeonggi Province, Republic of Korea – Response from YPs on Questionnaire**

19. As agreed at Saskatoon meeting in August 2018, the Korean National Committee (KCID) organized the International Young Professionals Training Program (YP-TP) on "Climate Resilient Smart Irrigation Systems" from 22-25 April 2019 at Gyeonggi Province (Republic of Korea) in collaboration with the Chinese National Committee (CNCID) and ICID. KCID has also organized an International Workshop on "Irrigation Technologies to Mitigate Climate Change" on 26 April 2019 to provide an opportunity to the young professionals to have a broader and in-depth exposure to emerging irrigation technologies and management scenarios considering the urgent need for a sustainable climate change-resilient agriculture sector. During the YP training, thirty-four young professionals from 17 countries participated and gained the knowledge. As part of YP training, each YP was requested to provide their response to the following five questions: (i) How the recent climatic extremes are affecting water management for agriculture in your country/region? (ii) What new and innovative approach and technologies are being adopted to address these climate change issues? (iii) What management approach and solutions are being considered to adapt to climate change? (iv) How would you like to modify/augment water management practices and policies in region to generate a long term strategy? (v) What is your view and contribution to promote climate smart agriculture?

20. The members of WG-W&C and Vice Presidents of ICID Dr. K. Y. Reddy and Dr. Marco have attended and trained the YPs on 'Micro Irrigation and On-Farm Water management'.

21. During the WIF3, Bali, one Young Professional (YP) Training Workshop was conducted by the Dr K Y Reddy, VP on the topic 'Adoptive Measures in Farm Level Water Management to cope with Climate Change'. Three presentations, film show on use of sensors in water management and group discussions were part of the training program, in which 40 participants along with YPs were attended.

**WG-W&C Minutes Item 13: Tenure of the Working Group (Summary Report)**

22. The tenure of the WG-W&C is up to 2019 as per the original mandate. Since now the mandate is enlarged and Strategy Theme – On Farm is created, it was decided to extend the tenure up to 2025.

**WG-W&C Minutes Item 14: Presentations by the members**

23. VP Dr. Marco Arcieri made a presentation on 'Rice Cultivation in Italy under the threat of climate change'. The presentation shows that dry land rice cultivation could be promising solution for food resilience and water saving under the threat of climatic change



[Appendix XXIV, Item 2]

**ROAD MAP TO ICID VISION 2030 – ACTIVITIES OF WG-WATER & CROPS**

Goals/ Strategies	Activities	Outcomes/ Outputs	Milestone for Year 2017	Milestone for Year 2018	Milestone for Year 2019	Milestone for Year 2020	Resolution Lead Person
<b>Goal A: Enable higher crop productivity with less water and energy</b>							
<b>Strategy 5:</b> Supporting water productivity enhancement	5.3 Develop guidelines on efficient use of water in crop production	Guidelines	Outline of guidelines – introduction	Release the first draft guidelines	Finalise the draft guidelines	To publish it	Merge Item 5 and B1. Dr Marco Arcieri (Italy)
<b>Goal B: Be a catalyst for change in policies and practices</b>							
<b>Strategy B1:</b> Supporting Development of Appropriate Policies	1.13 Technical Report on Efficient Use of Water in Crop Production	Report	Prepare the first draft report for discussion	Release the second draft report	Finalise the draft report	To publish it	Dr Marco Arcieri (Italy)
<b>Goal C: Facilitate exchange of information, knowledge and technology</b>							
<b>Strategy C3:</b> Promoting Regional Cooperation	3.2 International Workshop/seminar on 'Improving Water Productivity in the frame work of Water Energy Food Nexus'	Workshop proceedings	Announcement of workshop	Orgnaising Workshop in Canada	Workshop organized- Not upto the mark	Orgnaising Workshop in Australia with increased scope	VPH Laurie C Tollefson (Canada)
<b>Goal D: Enable cross disciplinary and inter-sectoral engagement</b>							
<b>Strategy D2:</b> Developing Technical Documents in Non-technical Language	2.2 Crop – Water-Energy Nexus	Technical Report		Workshop		Workshop	Dr K Y Reddy (India)
<b>Goal E: Encourage research and support development of tools to extend innovation into field practices</b>							
<b>Strategy E2:</b> Strengthening Extension Services with AWM information							Dr Nader Heydari (Iran)
<b>Strategy E3:</b> Developing and Promoting Tools of AWM	3.1 Support research and development of modelling tools	Development of suitable Models, Sensors, Tools for field use	Prepare action plan	Draft report on various developments	Consolidation and final report		Dr Ragab Ragab
<b>Goal F: Facility Capacity Development</b>							
<b>Strategy F3:</b> Technical Training of Young Professionals from Member countries	3.9 Training on Crop Water Models Aqua Crop	Conduct Training workshops	Training workshops		Training workshops		All Members are responsible.

