MINUTES OF THE 8TH MEETING OF THE
WORKING GROUP ON SUSTAINABLE ON-FARM IRRIGATION
SYSTEM DEVELOPMENT (WG-SON-FARM)
05 November 2023, 09:30-11:00 hours (Session I) and 11:30-13:00 hours (Session II)
Visakhapatnam (Vizag), Andhra Pradesh State, India
Strategy Theme: On-Farm
Presented by the Chairman

Year of Establishment: 2016
Extended completion of the Mandate: 2025

Mandate: (a) On-farm irrigation structures and water distribution system networks are properly designed, installed, managed and maintained; (b) Soil moisture is monitored, technical and management measures for enhancing the water infiltration and retention capacities of soils are investigated and implemented; (c) Trade-offs among on-farm irrigation technologies, socio-economic and environmental benefits are optimized; (d) Innovative local institutional arrangements are developed and promoted for operation and maintenance; (e) Top-notch scientific and development relevant research is conducted and its results are translated into actionable recommendations.

Members present: (1) Dr. A.K. Randev, Chair (India); (2) Dr. Chen, Ching-Tien (Chinese Taipei Committee); (3) Prof. L.B. Roy, Direct Member (India); (4) Dr. Ashish Pandey (India); (5) Mr. Taku Mori (Japan); (6) Prof. Chang Eon Park represented by Ms. Kyeongmi Kim (South Korea).

New nominee: Dr. Shao-Yiu Hsu represented by Qun Zhan Huang (Chinese Taipei Committee)

Office Bearers: Vice President Engr. Rafat Nael Al-Intaki (Iraq)

Observers: (1) Dr. Yu-Chuan Chang (Chinese Taipei Committee); (2) Dr. Winston Sataya (Malawi); (3) Dr. Toshihiko Kuno (Japan)

Website: http://icid-ciid.org/inner_page/121

WG-SON-FARM Minutes Item 1: Action taken report by Chair

1. The Chair presented the report on the actions taken on the decisions and proposals of the working group at its last meeting held in October 2022 in Adelaide, Australia as well as the virtual meeting held on 15 March 2023. Mr. Carl Walter, Vice Chair (Australia), and Mr. Suman Sijapati, Secretary (Nepal) sent a message that they could not attend the meeting due to unavoidable reasons.

2. The group reviewed the nominations of Dr. Shao-Yiu Hsu (Chinese Taipei Committee), Dr. Caner Demir (Turkey), and Mr. Ibrahim Burak Yeşiloğlu (Turkey) received for membership of the group. The group accepted them as ‘Members’ as all the nominees attended the virtual meeting on 15 March 2023.

3. Dr. Zhang Guohua, Young Professional (China), Prof. Yao Bin (China), Mr. Hassan Shantia (Iran), Mr. Bashu Dev Lohanee (Nepal), and Engr. Malik Muhammad Akram (Pakistan) had neither participated nor contributed to the activity of the WG for the last two years so the group decided to discontinue the membership as per ICID By-law 3.5 and requested the NC for new nominations. Membership status is given in Annex 3, page 31.

WG-SON-FARM Minutes Item 2: Brief of the virtual meeting organized in 2023

4. The chair informed the members that a virtual working group meeting was organized on 15 March 2023 wherein various activities were discussed including the Road Map to ICID Vision 2030, WG publications, workshops, webinars, etc. Minutes of the virtual meetings of all work bodies have been uploaded on a dedicated webpage - https://icid-ciid.org/inner_page/152. The chair explained each item in light of past meetings and informed the WG members to visit the webpage for more details.

WG-SON-FARM Minutes Item 3: Road Map to ICID Vision 2030 – Status of activities on sustainable on-farm irrigation

5. The Chair discussed the Road Map to ICID Vision 2030 (refer to Annex) emphasizing three goals, six strategies, eight activities, and the respective output/ outcome with respect to the time period expected from
the WG members along with emphasis on multi-disciplinary details to formulate either position/ overview or thematic documents/ papers; making presentation in the internal or international workshops, conferences for dissemination of technologies on a larger scale; publication of the papers; collection and collation of micro and sprinkler data; and updating Multilingual Technical Dictionary (MTD). The chair stressed that these details were a repetition for old members but in addition to the knowledge of new members with respect to the contributions expected from them in the light of the mandate of the WG.

**WG-SON-FARM Minutes Item 3.1: Publications of the group**

6. Chair proposed to drop the two previous publications viz. (i) “Improvement of On-Farm Irrigation Systems using simple water control, measuring and application devices” and (ii) Micro Irrigation for smallholders and greenhouses” which are pending for a long period of time and new papers may be developed by the existing members for publication in Journals of repute.

7. The chair informed the group members that Dr. Hossein Dehghanisani from Iran is finalizing a paper entitled “Micro Irrigation under Saline Conditions”. As Dr. Hossein was not present, it was proposed that this be undertaken on priority before the next meeting. Chair requested all the WG members should try to develop either kind of paper in their fields of expertise as per guidelines of the Irrigation and Drainage Journal of ICID for publication in IRD Journal. Any paper of the members published in the Journal other than the IRD Journal but directly linked to the mandate of the WG may also be sent to other WG members and after finalization may be sent to the WG Chair/ Vice Chair/ ICID Central Office for uploading on the web page. Mr. Taku Mori from Japan made a presentation of the position paper entitled “Sustainable Irrigation and Agriculture Water Use in Japan” and informed that he would like to have the response of the new WG members and send the revised copy to the Chair/ ICID Central Office for review before sending to the IRD Journal.

8. Dr. Yufeng Luo from China could not attend the meeting due to unavoidable circumstances, yet following four papers published by him during the previous two years:

   (a) Xueyin Zhao, Mengting Chen, Hua Xie, Wanqi Luo, Guangfei Wei, Shizong Zheng, Conglin Wu, Shahbaz Khan, Yuanlai Cui, **Yufeng Luo**. Analysis of irrigation demands of rice: Irrigation decision-making needs to consider future rainfall. Agricultural Water Management, 280: 108196

   (b) Wanqi Luo, Mengting Chen, Yinhong Kang, Wenping Li, Dan Li, Yuanlai Cui, Shahbaz Khan, **Yufeng Luo**. Analysis of crop water requirements and irrigation demands for rice: Implications for increasing effective rainfall. Agricultural Water Management, 2022, 260: 107285

   (c) Mengting Chen, Raphael Linker, Conglin Wu, Hua Xie, Yuanlai Cui, **Yufeng Luo**, Xinwei Lv, Shizong Zheng. Multi-objective optimization of rice irrigation modes using ACOP-Rice model and historical meteorological data. Agricultural Water Management, 2022, 272: 107823


9. As the above-stated papers have analyzed the crop water requirements and irrigation demands for rice in the light of future rainfall and worked on a multi-objective optimization model to optimize rice irrigation modes along with a proposed reinforcement learning approach to irrigation decision-making for rice itself using weather forecasts, it will be of great worth in case these are considered and uploaded on the web page. Dr. Yufeng Luo has agreed to write one position paper to be discussed during the next WG meeting.

**WG-SON-FARM Minutes Item 4: Collection and collation of micro and sprinkler data**

10. At the Vizag meeting, the Chair encouraged members to compile the micro and sprinkler data and support the ICID Central Office in updating the database. The updated table of sprinkler and micro area (in descending order) is available at <https://icidciid.org/icid_data_web/sprinklerandmicro.pdf>. An opinion was raised by WG participants from Japan and Chinese Taipei Committee pointing out that in some cases official statistics do not differentiate micro and sprinkler data hence separate areas are not available. The chair apprised the ICID Central Office, in case updated data with respect to the period from various data supplying agencies of ICID member countries, it would be easy for collation by the users of this data either in research or in development projects, even growth over a period by the ICID or ICID related agencies can be of more usefulness from users’ R&D withstand.
WG-SON-FARM Minutes Item 5: Dissemination of activities of WG

11. During the Vizag meeting, the Chair encouraged the group members to provide documents in the light of detailed discussion held among WG members on developing acceptable quality documents/ papers related to the mandate of the WG for uploading on the website to ensure that works related to the activities of the group be well disseminated. The chair re-iterated the WG members to be a little faster in sending the documents to the ICID Central Office for updating on the web page.

WG-SON-FARM Minutes Item 6: Updating Multilingual Technical Dictionary (MTD)

12. After informing the WG members about the overall layout of the MTD and its use according to one’s expertise, the Chair suggested members consider updating the Multilingual Technical Dictionary (MTD) for improvements in the existing technical terms or making additions on account of new terms being envisaged.

WG-SON-FARM Minutes Item 7: Brief report of 10th International Micro Irrigation Conference, January 2023, Morocco

13. Chair informed the WG members that the 10th International Micro Irrigation Conference (IMIC) was organized from 25-27 January 2023 at Dakhla by the Moroccan National Committee of ICID (ANAFIDE) in collaboration with the Council of the Moroccan Community Abroad (CCME), in partnership with ICID and with support of the Ministry of Agriculture, Fisheries, Rural Development, Water and Forestry (MAPMDREF). The theme of the conference was ‘Micro-irrigation in the Era of Technology Innovation and Digital Transformation,’ which aimed to share experiences of using new technologies and best management practices in drip, micro-sprinkler, and other localized irrigation systems.

WG-SON-FARM Minutes Item 8: Internal / International Workshop on Micro irrigation systems impacting agricultural growth and farm incomes

14. Chair discussed the organization of internal/ international workshops among WG members and after discussion it was emphasized that as per the mandate of the WG, it would be better to complete technical and socio-economic aspects related papers prepared by the WG members and internal WG workshop is conducted on “Micro Irrigation systems impacting agricultural growth and farm incomes” covering barriers faced by implementers of the irrigation technologies and users of technologies i.e. the farmers. Once it's successful at the WG level then it can be taken comprehensively in the form of the international workshop, of course with alterations.

WG-SON-FARM Minutes Item 9: ICID Members' Profile Section

15. The chair informed the WG members that as a new initiative, ICID has launched a new website (https://icid-ciid.org) as part of ICID’s 70th Anniversary Celebration to meet new web technologies. One of the newly added web features provides WG members access to their profile section using their dedicated account. ICID CO vide email dated 9 July 2021 <https://icid.bmeurl.co/C7D4D2E> informed all members on how to access their accounts and change their passwords to maintain accuracy. Members were requested more emphatically to review and update their information which can further be used by all the WG members to have appropriate linkage/s among WG members themselves.

WG-SON-FARM Minutes Item 10: World Irrigation and Drainage Schemes (Wi&DS)

16. ICID has taken the initiative to document the development of irrigation and drainage schemes in the world by establishing an online Register on “World Irrigation and Drainage Schemes (Wi&DS)”. Wi&DS will fulfill the need for a much-awaited global repository of information in systematic irrigation and agricultural water management. Irrigation projects having 5000 Hectares and above of Command Area can submit their information for inclusion in the register. The irrigation projects approved by the National Committee/ ICID Central Office for inclusion are entitled to Certification. Chair encouraged the WG members to urge all irrigation and drainage scheme owners, managers, and researchers across the world and especially in their respective countries to contribute to the register. More details regarding the process required and other details, in case of any doubt, are outlined on the portal <https://wip.icidevents.org/> in detail.

WG-SON-FARM Minutes Item 11: Any other business

17. Restructuring of the Working Group: The Chair informed the group that during the 73rd International Executive Council (IEC) meeting in Adelaide, it was decided by the IEC to look into the possibility of integrating WGs of similar/ close mandates. With consultation of PCTA, PCSO, the Secretary General of
ICID, and the ICID Central office, a tentative new structure was developed. Among the existing 18 groups, nine of them will complete their mandate in November 2023. The remaining working groups proposed to be structured into 11 new working groups under four themes: (1) Irrigation and Drainage; (2) Natural Resources; (3) Climate Change and impacts; and (4) Sustainable Development. The chair informed the members that the proposed restructuring and new structure of the WGs will be deliberated during PCTA and IEC meetings of the 74th IEC meetings. Under these four themes, the WG-SON-FARM has been included in theme 1 (Irrigation and Drainage) and will be integrated with three working groups namely: WG-WATS, WG-M&R, and WG-IDM. A report on the restructuring of the working groups is given in IEC Annex 4, page 44.

18. In July 2023, Chair Dr. Randev shared the new title of the WG viz. Working Group on Irrigation Water Management & Development (WG-IWMD) along with a brief note on amalgamating three WGs – WATS, IDM & M&R with President Dr. Ragab for consideration. The WG members discussed the new structure of the working group among themselves during the meeting and the Chair informed the members that drainage has not been included in the title for providing different irrigation-related issues, at least minimum time for deliberations in the light of the mandate of the WG.
## ROAD MAP TO ICID VISION 2030 – ACTIVITIES OF WORK BODIES

<table>
<thead>
<tr>
<th>Goals/ Strategies</th>
<th>Activities</th>
<th>Outcomes / Outputs</th>
<th>Milestone for Year 2017</th>
<th>Milestone for Year 2018</th>
<th>Milestone for Year 2019</th>
<th>Milestone for Year 2020</th>
<th>Milestone for Year 2021</th>
<th>Milestone for Year 2022</th>
<th>Milestone for Year 2023</th>
<th>Milestone for Year 2024</th>
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<tbody>
<tr>
<td><strong>Goal A: Enable higher crop productivity with less water and energy</strong></td>
<td><strong>A1. Strategy:</strong> Modernizing irrigation systems</td>
<td>Papers</td>
<td>Prepare two country overview papers</td>
<td>Prepare one country overview paper</td>
<td>Prepare two country overview papers</td>
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<td>Prepare one overview paper</td>
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<td></td>
<td><strong>5.2 Develop a position paper on key issues on sustainable on-farm irrigation systems</strong></td>
<td>Position paper</td>
<td>Prepare first draft paper</td>
<td>Finalize the position paper</td>
<td>Prepare second draft paper</td>
<td>Finalize the position paper</td>
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<td>Prepare one position paper.</td>
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<td><strong>Goal C: Facilitate exchange of information, knowledge and technology</strong></td>
<td><strong>C3. Strategy:</strong> Promoting regional cooperation</td>
<td>Compilatio n of proceedings</td>
<td>First internal Workshop</td>
<td>Organization of the 9th International Micro Irrigation Conference (IMIC) in January 2019 at Aurangabad, India</td>
<td>Hosted 9th International Micro Irrigation Conference (IMIC) in January 2019 at Aurangabad, India</td>
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<td>Second workshop</td>
<td>Third workshop.</td>
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<td><strong>C4. Strategy:</strong> Compile, collate and share knowledge and experiences</td>
<td>Database</td>
<td>Updating database</td>
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<td><strong>4.20 Database on sprinkler and micro irrigation in the world</strong></td>
<td>Study report</td>
<td>Prepare one article</td>
<td>Publication in Journal</td>
<td>Prepare one article</td>
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<td><strong>4.27 Research article on state of the art for publication in</strong></td>
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**Goal E: Encourage Research and Support Development of Tools to Extend Innovation into Field Practices**

**E2. Strategy:**
Strengthening Extension Services with AWM information

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<th>E2. Strategy: 5.1 Datasets for irrigated area</th>
<th>Database</th>
<th>Updating database</th>
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**E5. Strategy:**
Compilation of Global Data Sets on Irrigation and Drainage

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<th>E5. Strategy: 5.2 Datasets for Pressurised Irrigation Systems</th>
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(Source: Consultative Group (CG) Report: A Water Secure World Free of Poverty & Hunger: A Road Map to ICID Vision 2030)