AGENDA FOR VIRTUAL 1ST INFORMAL MEETING OF THE WORKING GROUP ON WATER AND CROPS (WG-WATER & CROP)
12 October 2020, 12:30 hours (IST)
Strategy Theme: On-Farm
Presented by the Chairman

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

1. The Chair will present the report on the actions taken on the decisions and proposals made at its last meeting held at Bali, Indonesia in September 2019.

2. The outbreak of the COVID-19 pandemic has impacted one and all and the irrigation sector is no different. Given the emerging situation of COVID-19, many meetings have been postponed until the situation comes under control. With this difficult situation, members were requested to make full use of web-ex platform for virtual meeting so as to ensure regular contribution from the WG members as well as to discuss and initiate follow-up actions emerging from the minutes of the previous WG meeting and review the progress of the action points. Accordingly, in order to organize the WebEx Meetings, Webinars and e-Discussions, ICID Central Office requested Chairs of the workbodies to initiate the processes.

3. Chair in consultation with Vice Chair, Secretary of the WG and the Central Office have updated the membership of the WG as given at Annex 1 (refer electronic version for latest list). New nominations, if any, for the membership received will be dealt suitably after the meeting.

WG-W&C Agenda Item 1.1: Select new Vice-Chair of the WG

4. VPH Laurie C. Tollefson (Canada), Vice-Chairman of the WG, has desired to step down from the Vice-Chairman of the group. VPH Laurie Tollefson was the Vice-Chair (2009-2020) of the WG. Contribution of VPH Laurie Tollefson for the WG-WATER & CROP will always remember.

5. The WG will elect its new Vice-Chairman in consultation with Secretary and members of the group in the virtual meeting of the group in 2020.

WG-W&C Agenda Item 2: Introduction of the new Working Group on Water Food Energy Nexus by the Chair

6. The Working Group on Water and Crops (WG-WATER & CROP) concluded its activities in 2019 after completing of its mandate. PCTA in its meeting at Bali (2019), Indonesia extended the tenure of the WG beyond their mandated period and submit the Scoping Document (SD) at the next meeting of the Committee for its consideration. The mandate of new working group as included in the Scoping Document (SD) of the WG is as follows:

New mandate of the WG:
(a) to exchange information, knowledge, and experience, as well as networking on the Water-Food-Energy Nexus topic in order to be up to date with new developments, methods and approaches. This can be the basis for a possible position paper on key issues on the nexus.

(b) to prepare an overview document on the state of the art on improving water use efficiency and productivity within the nexus.

(c) to produce a document of impact of climate change and possible use of non-conventional less water consuming crops

(d) to prepare an overview document on the state of the art on model applications as useful management tools for water, crops, field and energy management within the nexus

(e) to prepare and present reports on case studies on recent developments in the countries that are represented in the WG; and from presented cases of the workshops

(f) to organize international workshops, seminars or symposia on the Nexus topic.

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1 This will also include details of membership of WG as Annex
7. The Scoping Document (refer Annex 2) for a new Working Group on Water Food Energy Nexus (WG-WFE_N) prepared by Chair VPH Dr. Ragab (UK); Vice-Chairman VPH Laurice C. Tollefson (Canada); and VP Dr. K. Yella Reddy (India) as members of the ‘Core Group’. The revised mandate of the Scoping Document (SD) for a new WG-WFE_N has been circulated to members of the group for their comments/suggestions, if any. The WG will discuss and finalize the SD during the virtual meeting and forward it to PCTA/IEC for its approval.

**WG-W&C Agenda Item 3:** Road Map to ICID Vision 2030: Activities on efficient use of water in crop production

8. During Bali meeting (2019), WG discussed and reviewed the activities 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 (refer Annex 3).

9. The 70th International Executive Council (IEC), vide Resolution IEC-2/70 has approved the Action Plan 2018-2022, including activities identified by Regional Working Groups (RWGs) and Working Groups (WGs) under PCOO and PCTA, committed to be achieved over a period of five years. In order to develop fresh action plan for 2018-2022, WG may revisit the Action Plan appended to Road Map to ICID Vision 2030 and review the same at virtual meeting and update it till 2022 (refer Annex 3). The ICID CO created a new column i.e. ‘Milestone for Year 2022’ in the Road Map to ICID Vision 2030 of the WG activities for finalising it during the virtual meeting and provide its input to PCTA. WG Chair will further provide the status of various activities and report progress to PCTA.

**WG-W&C Agenda Item 4:** Multi-functionality of water use in paddy (Rice) cultivation

10. At Saskatoon meeting (2018), the WG decided to bring out a ‘Technical Report’ based on papers contributed by its members in areas such as: (a) efficient use of water in crop production, (b) crop water models, (c) multifunctional water use in paddy, and (d) rain water harvesting and energy crops. During the Bali meeting (2019), Chair Dr. Ragab presented the ‘Technical Report’ of the WG. Further, ICID CO has requested WG Chair Dr. Ragab to share the draft technical report of the group for editing/formatting so that it can share to the members of the WG for their suggestions/views, if any. Response is awaited from the Chair.

11. Accordingly, ICID Central Office has requested the members/NCs from Korea, Thailand, and Chinese Taipei Committee (CTC) to contribute their papers in the area of ‘Multi-functionality of water use in Paddy (Rice) cultivation’ in their countries for enriching the ‘Technical Report’ of the working group. In response, Mr. Uckrjawd Intarapanich, Secretary of THAICID informed that they would share their contribution for the ‘Technical Report’ of the WG after changing the THAICID Secretariat. However, contributions from Dr. Chung-Feng, Ding through Dr. Hsiao-Wen Wang (CTC) and Prof. Won-Ho Nam (KCID) are still awaited. While Dr. Graziano Ghinassi (Italy) was presented by Dr. Marco Arcieri (Italy) the document on ‘Multi-functionality of water use in paddy rice cultivation’ during the WG meeting at Bali. WG Chair will provide further updates at the meeting.

**WG-W&C Agenda Item 5:** Updating Multilingual Technical Dictionary (MTD)

12. At Bali meeting (2019), the WG Chair briefed the members about the importance of the updating Multilingual Technical Dictionary (MTD). In March 2020, ICID CO has requested the members to contribute the updating the MTD with new ‘words/phrases’ of importance and consider the term ‘Water Productivity’ as an example and how which is called in different language. It was noted that the WG nominated Dr. P. Soman (India) to undertake the task of reviewing and updating the terms of MTD. Further, ICID CO has requested Dr. Soman (India) to take lead in the activity of updating Multilingual Technical Dictionary (MTD). Dr. Soman /WG Chair may like to update the members with the latest status in the matter.

**WG-W&C Agenda Item 6:** International Workshop on ‘The Water-Energy-Food-Nexus: Implementation and Examples of Application’

13. The International Workshop of the WG-WATER & CROP which was originally scheduled to be conducted in Sydney, Australia in September 2020 was moved to Marrakesh, Morocco due to COVID-19 Pandemic. Since physical meetings in Morocco have been cancelled due to COVID-19 situation, workshop has been rescheduled further and further plan for the workshop are being finalised. The theme of the International Workshop of the WG is ‘The Water-Energy-Food-Nexus: Implementation and Examples of Application’, with the sub-themes: (i) Water-Food-Energy nexus at field, regional and country scales. Examples of applications; (ii) How the Environment and ecosystem services benefit from the Nexus; (iii) Economic analysis of food production within the nexus; (iv) Management practices that promote the Nexus; and (v) Institutional and Governance issues in implementing the
Nexus. The ‘Review Committee’ has accepted 12 abstracts from the authors for the international workshop of the WG-WATER & CROP.

**WG-W&C Agenda Item 7: ICID-IWRA Collaboration**

14. During Bali meeting (2019), it was noted that the collaboration between International Water Resources Association (IWRA) and ICID could not progress about the mutual benefits such as (i) organizing joint seminars, and (ii) bring out a Special issue of the Journal based on selected papers from the WG workshop/seminars, possibly with financial support from IWRA. In March 2020, ICID CO requested Dr. Ragab to explore the opportunities for such collaboration thereby enhancing the scope of activities of the WG. The Chair may provide further updates during the virtual meeting.

**WG-W&C Agenda Item 8: Publications of the Working Group**

15. During the Saskatoon meeting (2018), it was noted that the Working Group considered to publish a few selected papers from the past International Workshops (2013, 2015 & 2019) with the support from IWRA. These selected papers of the past International Workshops of the WG could be considered for publication in the ICID Journal and/or Technical Report of the WG referred to item 3. At the Bali meeting (2019), the Australian representatives presented their papers in the international workshop of the WG where these papers were considered for the publication in the Special Issue of I&D. Based on the status of the ‘Technical Report’ of the group, Chair Dr. Raqab suggested the contributors to submit their papers for compilation. In this regard, the contributors might have submitted their papers for inclusion in the ‘Technical Report’ of the group. Chair will provide further updates, including share the draft finalized ‘Technical Report’ of the WG at the virtual meeting.

**WG-W&C Agenda Item 9: Disseminate of activities of WG**

**WG-W&C Agenda Item 9.1: Website of the Group**

16. At Bali meeting (2019), the group noted that the website of the working group [https://www.icid.org/wg_crop.html](https://www.icid.org/wg_crop.html) was updated with new membership list, agenda, minutes, events, etc. Chair Dr. Raqab encouraged and requested the members of the WG to share their materials/documents/articles/papers/presentations/related to the activities of the group based on the mandate of the group for uploading on the website. Further, Chair Dr. Raqab informed the members about the latest version of SALTMED software and published a paper titled ‘SALTMED publications in Irrigation and Drainage’ (Virtual Issue, 20 May 2020) which is available at [https://onlinelibrary.wiley.com/doi/toc/10.1002/(ISSN)1531-0361.saltmed-publications](https://onlinelibrary.wiley.com/doi/toc/10.1002/(ISSN)1531-0361.saltmed-publications) and uploaded on the WG website for use by its members. The Chair will provide further updates at the meeting.

**WG-W&C Agenda Item 10: New sub-topic ‘Water Use and Productivity’**

17. During the last meeting, it was noted that the water requirements of the greenhouse crops are still estimated in a traditional way and there is a need to work out the actual water requirements for various crops under greenhouse conditions. In this regard, the progress was discussed and advised to prepare the details and review through web-based meetings. In March 2020, ICID CO requested the Task Team (TT) to take lead, develop a one-page ‘Concept Note’ and a short action plan with responsibilities assigned to undertake activities under this item. The Chair will provide further updates at the meeting.

**WG-W&C Agenda Item 11: Tenure of the Working Group (Summary Report)**

18. The tenure of the Working Group on Water and Crops (WG-WATER & CROP) has been completed in 2019. During the Bali meeting (2019), it was noted by PCTA that the tenure of the WG has been extended upto 2025, subject to share the updated Scoping Document of the WG based on the revised mandate. Further, a detailed ‘Summary Report’ of the past years of the group may be presented at the virtual meeting. The Chair may highlight the achievements of the group.

**WG-W&C Agenda Item 12: Any other business**

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**NOTES FOR CHAIRPERSON:**

1. Draft minutes of this meeting to be submitted to ICID Secretariat after the meeting.
### Members and their attendance at 2018 and 2019 Meetings

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Members</th>
<th>Member from (Year)</th>
<th>2018</th>
<th>2019</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>VPH Dr. Ragab Ragab, Chairman (UK)</td>
<td>2007</td>
<td>•</td>
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<td>2.</td>
<td>VPH Laurie C. Tollefson, Vice-Chairman (Canada)</td>
<td>2009</td>
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<td>3.</td>
<td>Dr. K. Yella Reddy, Secretary (2010) (India)</td>
<td>2009</td>
<td>•</td>
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<td>4.</td>
<td>Mrs. Gao Hong (China)</td>
<td>2012</td>
<td>•</td>
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<td>5.</td>
<td>Dr. Marco Arcieri (Italy)</td>
<td>2014</td>
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<td>6.</td>
<td>Ir. Adang Saf Ahmad (Indonesia)</td>
<td>2015</td>
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<td>7.</td>
<td>Dr. P. Soman (Direct Member), JSL</td>
<td>2015</td>
<td>•</td>
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<td>Contributed by mail</td>
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<tr>
<td>8.</td>
<td>Prof. Won-Ho Nam (Korea)</td>
<td>2017</td>
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<td>9.</td>
<td>Dr. Chung-Feng, Ding (Chinese Taipei)</td>
<td>2018</td>
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<td>10.</td>
<td>Prof. Dr. Zeinab HussienBehairy (Egypt)</td>
<td>2018</td>
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<td></td>
<td>Provisional Member (2018)</td>
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<tr>
<td>11.</td>
<td>Dr. Kazumi Yamaoka (Japan)</td>
<td>2018</td>
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<td>13.</td>
<td>Ir. Felipe Dantas (Australia)</td>
<td>2019</td>
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<td>Provisional Member (2019)</td>
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<td>14.</td>
<td>Secretary General, ICID</td>
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</tbody>
</table>

#### Permanent Observers

1. FAO representative
2. Mr. Herbert H. Van Lier, CIGR
3. Prof. D. Wrachien (Italy)
4. ICRISAT representative

#### Observer

1. Mr. Syaiful Mahdi (Indonesia) | 2015 | • | • |

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1 Through representation
Annex 2 [Appendix XXIII, Item 2]

DRAFT SCOPING DOCUMENT ON WORKING GROUP ON WATER, FOOD AND ENERGY NEXUS (WG-WFE_N)

Proposed by:
Dr. Ragab Ragab3 and Dr. K. Yella Reddy4
(August 2020)

1. Introduction

The limited water resources, the increasing demand on food for ever increasing population and the climate change impact are great challenges we are all facing. These challenges require, a number of approaches related to water, crop and field management. Integrated management is the way forward. This can be achieved by considering integrated management within the Water-Food-Energy Nexus. The Working Group on Water and Crops has been focusing on improving the irrigation efficiency and water productivity and over the years this WG produced the FAO Irrigation and Drainage Paper 56 which is now widely used all over the world to estimate the crop water requirement. In the last two years, the WG has moved a step further to include the energy element within the water and crops relation and conducted its first workshop in Bali in 2019 and this year a second workshop is planned in Morocco in December 2020. The work related to the nexus has just started and will require more efforts and activities in years to come. Given, the mandate of the WG on Water & Crops came to its end. It is timely to build on what it has achieved over the past years and adopt a new vision of integrated management. For that reason, the WG W&C would like to adopt the Water-Food-Energy Nexus as a new line of activity and to be named, as Working Group on Water, Food and Energy Nexus (WG WFE_N). ICID at present has no WG that carries this name and no WG is focusing on WFE Nexus. This will be a unique WG with very topical line of activity.

Although the Nexus concept is not new, it is hard to find practical examples. The WG aims to develop approaches by which we can advise on “how to produce more crop per drop per kilowatt energy and per unit area of land”. This will require more efficient irrigation systems (e.g. Drip – Micro Irrigation) and water saving approaches such as deficit irrigation (regulated deficit irrigation or Partial Root Drying Method, PRD) and subsurface drip irrigation. The WG will focus on such water saving approaches.

With respect to activities, broadly speaking, the following aspects are of major importance:

(a) interaction between the three elements of the Nexus
(b) improving the irrigation water use efficient and water productivity;
(c) developing water saving approaches
(d) Improving the current methodologies of estimating the irrigation water requirement
(e) Promoting non-conventional less water consuming crops (quinoa, amaranth, barley, …etc.)
(f) Promoting the use of models as management tools.

2. Objectives

2.1 The WG aims:

(a) to develop approaches by which we can advise on “how to produce more crop per drop per kilowatt energy and per unit area of land”,
(b) to promote the efficient use of water in crop production,
(c) to provide models and input to test crop-water-energy models,
(d) to develop techniques to balance water supply against water demand,
(e) to promote the multifunctional use of water especially in paddy (rice) cultivation,
(f) to investigate the adaptation of agriculture to climate change and to promote low input agriculture.
(g) to contribute to effective implementation of the ICID vision 2030.

2.2 Relevance of the Working Group to the scope of the “On Farm” Thematic Area

The WG activities are related to the field scale management of water crops and energy and complements the work of the other two WGs, the WG on sustainable on-farm irrigation system development (WG-SON-FARM) and the WG on use of non-conventional water resources for irrigation (WG-NCWRI). There is no overlapping or duplication between the three WGs. Each WG has different mandate and activities. To our knowledge, there is no WG based on WFE Nexus.

The new WG has taken good note of the activities of these work bodies when preparing this Scoping Document.

3 Vice President Hon. ICID and Chairman of WG-WFE_N
4 Vice President Hon. ICID and Secretary of WG-WFE_N
3. **State of knowledge on the topic**

3.1 The outgoing WG (W&C) has conducted one workshop on Water-Food-energy Nexus last year in Bali, Indonesia during the ICID annual meeting and planned another one this year in Morocco during the ICID annual meeting. Several sources of information were gathered and more is expected to build a capacity in this new area. Several organizations are interested in the topic, such as FAO, ICARDA, ICBA, IWMI and national organizations.

3.2 **Mandate of the Working Group**

Mandate of the Working Group is based on the specific niche that this WG can fill in this area and can be formulated as follows:

(a) to exchange information, knowledge, and experience, as well as networking on the Water-Food-Energy Nexus topic in order to be up to date with new developments, methods and approaches. This can be the basis for a possible position paper on key issues on the nexus.

(b) to prepare an overview document on the state of the art on improving water use efficiency and productivity within the nexus.

(c) to produce a document of impact of climate change and possible use of non-conventional less water consuming crops

(d) to prepare an overview document on the state of the art on model applications as useful management tools for water, crops, field and energy management within the nexus

(e) to prepare and present reports on case studies on recent developments in the countries that are represented in the WG; and from presented cases of the workshops

(f) to organize international workshops, seminars or symposia on the Nexus topic.

(g) to implement ICID 2030 vision

3.3 **How is the Working Group expected to collaborate with the other International Organizations?**

International organizations can contribute to the activities of the WG by nominating Permanent Observers (PO). On the other hand, presentations of the work and achievements of the WG can be presented at the occasion of events organized by international organizations.

4. **Work Plan**

The WG is expected to investigate, analyze, and disseminate information on new developments and to formulate recommendations. The plan is:

(a) to exchange information, knowledge and experience, as well as networking on the Water-Food-Energy Nexus topic in order to be up to date with new developments, methods and approaches. This can be the basis for a possible position paper on key issues on the nexus,

(b) to prepare an overview document on the state of the art on improving water use efficiency and productivity within the nexus,

(c) to produce a document of impact of climate change and possible use of non-conventional less water consuming crops,

(d) to prepare an overview document on the state of the art on model applications as useful management tools for water, crops, field and energy management within the nexus

(e) prepare and present reports on case studies on recent development in the countries that are represented in the WG; and from presented cases of the workshops,

(f) to organize international workshops, seminars or symposia on the Nexus topic.

4.1 A proposal for the three-year rolling plan is shown in Appendix A.

4.2 **Target audience**

The target audience for this working group will be managers of irrigation schemes, researchers, consultants, manufacturers, government officials, farmer's representatives and a Team of international organizations working on the topic.

4.3 **Outputs**

The expected outputs are those listed above under Work Plan
4.4 **Timelines**

As the Water-Food-Energy Nexus is a very important topic. In the light of its role in supporting the global food production, it is recommended that the initial term of this WG will be set at 5 years. The timeline would be based on the scope of work and the expected output. Details of the timeline would be formulated and refined during the inaugural meeting of the WG.

4.5 **Collaborators and dissemination strategy**

4.5.1 The WG would have to base its activities on an open attitude with a clear scope for invitation of outsiders that are interested in the topic on a Permanent Observer (PO), or ad hoc basis.

4.5.2 The dissemination strategy would have to be based of reaching those who can apply the findings and recommendations of the WG in their research and especially in policy development, decision making and implementation in practice.

4.5.3 All members and observers of the former WG-WATER & CROP will be automatically members and observers of the new WG except they are not eager anymore to pursue. The remaining members will be nominated by the NCs, assessed and accepted by the WG.

4.5.4 Each National Committee is allowed to nominate four professionals related to drainage provided one of them is preferred to be a young professional.
## THREE YEAR ROLLING PLAN

<table>
<thead>
<tr>
<th>Item of Mandate</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>Actor(s)</th>
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<tbody>
<tr>
<td>Mailing the Scoping Document to participants (current WG W&amp;C)</td>
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<td>Convener</td>
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<tr>
<td>Comments on Scoping Document, meeting</td>
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<td>Participants informal meeting</td>
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<tr>
<td>Finalizing Scoping Document and detailing of Work plan</td>
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<td>Convener</td>
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<td>Invitation to NC for nominations and information</td>
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<td>Central Office</td>
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<td>Submission of nominations and information</td>
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<td>Participants informal meeting</td>
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<tr>
<td>1st Meeting Sydney, Australia</td>
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<td>Members and Permanent Observers</td>
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<tr>
<td>Exchange of information, knowledge, experience, networking</td>
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<td>Members and Permanent Observers</td>
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<tr>
<td>Reporting on the two workshops on case studies related to Water-Food-Energy Nexus</td>
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<td>Members and Permanent Observers</td>
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<tr>
<td>Preparation and presentation of reports on water saving approaches, improving water use efficiency and productivity</td>
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<td>Members and Permanent Observers</td>
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<tr>
<td>Collect and review models, approaches, techniques, methodologies, literature, guidelines, codes of practice, etc.</td>
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<td>Members and Permanent Observers</td>
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<tr>
<td>Prepare an overview document on the state of the art on model applications</td>
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<td>Selected / nominated members</td>
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<tr>
<td>2nd Meeting in China, including Workshop</td>
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<td>Members and Permanent Observers</td>
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<td>Produce a document of climate change impact and the possible use of non-conventional less water consuming crops</td>
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<td>Selected members</td>
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<tr>
<td>Formulation of recommendations</td>
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<td>Selected / nominated Members</td>
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<tr>
<td>Position paper on key issues related to the Water-Food-Energy Nexus</td>
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<td>Chairperson, Vice-Chair and Secretary</td>
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<td>3rd Meeting including a Workshop</td>
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<td>Members and Permanent Observers</td>
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### Agenda for the Virtual 1st Informal Meeting of WG-WATER & CROPS (71st IEC) ••••• (Ver. Dated 2020-10-09)

**Annex 3 [Appendix XXIII, Item 3]**

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

<table>
<thead>
<tr>
<th>Goals/Strategies</th>
<th>Activities</th>
<th>Outcomes/Outputs</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>Resolution</th>
<th>Lead Person</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategy 5:</strong> Supporting water productivity enhancement</td>
<td>5.3 Develop guidelines on efficient use of water in crop production</td>
<td>Guidelines</td>
<td>Outline of guidelines – introduction</td>
<td>Release the first draft guidelines</td>
<td>Finalise the draft guidelines and publish</td>
<td>??</td>
<td>Merge Item 5 and B1. Dr Marco Arcieri (Italy)</td>
<td></td>
</tr>
<tr>
<td><strong>Strategy B1:</strong> Supporting Development of Appropriate Policies</td>
<td>1.13 Technical Report on Efficient Use of Water in Crop Production</td>
<td>Report</td>
<td>Prepare the first draft report for discussion</td>
<td>Release the second draft report</td>
<td>Finalise the draft report and publish</td>
<td>??</td>
<td>Dr Marco Arcieri (Italy)</td>
<td></td>
</tr>
<tr>
<td><strong>Strategy C3:</strong> Promoting Regional Cooperation</td>
<td>3.2 International Workshop/seminar on ‘Improving Water Productivity in the frame work of Water Energy Food Nexus’</td>
<td>Workshop proceedings</td>
<td>Announcement of workshop</td>
<td>Organising Workshop in Canada</td>
<td>Publication of papers in the Special Issue of the Journal</td>
<td>??</td>
<td>VPH Laurie C Tollefson (Canada)</td>
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<td><strong>Strategy D2:</strong> Developing Technical Documents in Non-technical Language</td>
<td>2.2 Crop – Water-Energy Nexus</td>
<td>Technical Report</td>
<td>Workshop</td>
<td>Workshop</td>
<td>Workshop</td>
<td>??</td>
<td>Dr K Y Reddy (India)</td>
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<tr>
<td><strong>Strategy E2:</strong> Strengthening Extension Services with AWM information</td>
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<td>??</td>
<td>Dr Nader Heydari (Iran)</td>
<td></td>
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<tr>
<td><strong>Strategy E3:</strong> Developing and Promoting Tools of AWM</td>
<td>3.1 Support research and development of modelling tools</td>
<td>Development of suitable Models, Sensors, Tools for field use</td>
<td>Prepare action plan</td>
<td>Draft report on various developments</td>
<td>Consolidation and final report</td>
<td>??</td>
<td>Dr Ragab Ragab</td>
<td></td>
</tr>
<tr>
<td><strong>Strategy F3:</strong> Technical Training of Young Professionals from Member countries</td>
<td>3.9 Training on Crop Water Models Aqua Crop</td>
<td>Conduct Training workshops</td>
<td>Training workshops</td>
<td></td>
<td></td>
<td>??</td>
<td>All Members are responsible.</td>
<td></td>
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