

**Minutes of the Zoom meeting of
Working Group on Modernization and Revitalization of Irrigation Schemes (WG-M&R)
Preparation of “Guidelines on Modernization of I&D services”
24 January 2023 - 13:30 – 14:30 IST**

Members present: (1) VPH Ian Makin, Chair (UK); (2) Engr. Muhammad Sani Bala, Secretary (Nigeria); (3) Dr. Li Yalong (China); (4) Prof. Dr. Tarek Ahmed El-Samman (Egypt); (5) Dr. Neelam Patel (India); (6) Dr. Sanjay Belsare (India); (7) Dr. Mohsen Barahimi (Iran); (8) Dr. Toshihiko Kuno (Japan); (9) Dr. Shinji Fukuda (Japan); (10) Ms. Mona Liza Delos Reyes (Philippines); (11) Dr. Macdex Mutema (South Africa); (12) Mr. Jan Potgieter (South Africa).

New nominee: Ms. Bedriye Nur Dikenli Aytekin (Turkey)

Permanent Observers: (i) Mr. Alan Kendall Clark (UK); and (ii) Dr. Alok Sikka represented by Smarnika Mahapatra - IWMI (India)

Observers: (i) Mohamed Ramdani (Indonesia); (ii) Representative from INACID

WG-M&R Minutes Item 1: Review of the development plan (15 minutes)

1. The proposed development plan was circulated with the minutes of the December 2022 Zoom call. A quick summary of the status was provided by the Chair, and key milestones were noted to enable dissemination of the Guidelines on Modernization at the ICID 25th Congress in Vizag from 1 to 8 November 2023. The proposed milestone dates are as follows:

- (a) Submission of advanced drafts of each Chapter by lead authors on or before 31 March 2023
- (b) Completion of initial review of chapters by 30 April 2023. N.B. the identification of reviewers for each chapter will have to be completed before end of March 2023.
- (c) Reviewers and chapter authors to complete review and revision of chapters by 15 June 2023
- (d) Compilation of complete draft Guidelines document by 30 July 2023
- (e) ICID Central Office and Chapter authors to coordinate preparation, review, and approval of PDF and web versions of chapters by 1 October 2023.
- (f) Announcement and launch of ICID Guidelines on Modernization of Irrigation and Drainage Services during ICID 25th Congress – date, time, and venue to be confirmed with Central Office and Congress Organizing committee.

2. Dr. Shinji Fukuda commented that a July 2023 target for completion of the guidelines on modernization is a reasonable target. However, he noted that WG needs a more detailed plan for intermediate milestones to guide the development and review of the draft report. Dr. Toshihiko Kuno requested clarification about the expected status of the chapters by end of March 2023, noting the draft chapters submitted by Dr Fukuda and Dr. Kuno are focused on processes in Japan and would therefore benefit from inputs to provide a broader international context.

WG-M&R Minutes Item 2: Review of progress (20 Minutes)

Chapter 1 **Introduction - Ian Makin will draft this with inputs from the chapter authors as the overall guidelines develop.**

Chapter 2 **Modernization and revitalization of irrigation and drainage services**

- 2.1. Definition of modernization and revitalization, Ian Makin is working on this section to integrate revisions proposed during the December 2022 meeting.
- 2.2. Definition of applicability of different M&R strategies – Ian Makin will work with Chapter authors to develop this section.

- 2.3 Institutions and Governance - still need a lead author for the section on Institutions and Governance arrangements.
- 2.4 Performance Measure – Dr. Toshihoko Kuna and Dr. Shinji Fukuda submitted the draft section for review on 24 January 2023
- 2.5 Diagnostic approaches – Dr. Mona delos Reyes confirmed she is working on approaches applied to 6 schemes in the Philippines and expects to submit a draft in February 2023.

Chapter 3 Irrigation and drainage services. Dr. Sanjay Belsare confirmed he will work with Engr. Sani Bala to draft the section by end of February.

Chapter 4 Modernizing irrigation and drainage systems for service delivery

- 4.1. Services (Dr. Shinji Fukuda), Dr. Toshihoko Kuna, and Dr. Shinji Fukuda submitted the draft section for review on 24 January 2023
- 4.2. Infrastructure – (Brian Wahlin tbc) – Ian Makin will contact Brian to request input.
- 4.3. Management (Mr. Yazid Bin Abdullah) – Ian Makin will contact Yazid to request input.
- 4.4. Capacity development for modernization (Melvyn Kay) - – Ian Makin has contacted Melvyn and is working on the draft section with Melvyn.
- 4.5. Change management (SG Ashwin Pandya) – Ashwin submitted an early draft in 2022 – Ian Makin is working with Central Office to update and expand the section.

Chapter 5 Sustaining revitalized I&D services

- 5.1. Asset management (Dr. Martin Burton) – Ian Makin is in contact with Dr. Martin and hopes to have a draft section by the end of March 2023
- 5.2. Financing sustainable service delivery – Ian Makin to contact ADB and WB colleagues for input.
- 5.3. Responding to changing needs – Ian and Mona to discuss section during late February and early March to draft this section.
- 5.4. Stakeholders roles and responsibilities (Jan Potgieter and Dr. Shinji Fukuda) – Jan shared documentation from their experience in South Africa. Jan confirmed he is working on a draft on experience in South Africa and expects to submit the draft by end of February but requests more input from other countries. Jan is willing to integrate inputs from other members of the working group. Sanjay Belsare raised the issue of duplicated sections on Roles and Responsibilities (Chapter 3 and Section 5.4). Ian Makin clarified that Chapter 3 was proposed as a discussion on how to engage the relevant stakeholders in the modernization process; while section 5.4 is about defining the roles and responsibilities of stakeholders in the O&M of the modernized system.
- 5.5. Capacity development for sustainability (Melvyn Kay) – Ian Makin is working with Melvyn to develop an agreement for the development of this section.

Chapter 6 ICID recommendations on Modernization and Revitalization of I&D services - Chapter 6 will be developed once the advanced draft of the other chapters is ready by the end of March.

3. Prof. Dr. Tarek Ahmed El-Samman reminded the group that, as noted in the December meeting, the guidelines must include a section on the economic analysis and cost benefit analysis of investments in modernization. The Annotated Outline (Annex 1) is revised to include Section 2.6 (Approaches to selection of modernization interventions) with Prof. El Samman as the lead author.

WG-M&R Minutes Item 3: Agreement on the next steps and update of the development plan (20 minutes)

4. After a brief discussion on the progress to date and the proposed timeline, it was agreed that the March milestone for the initial working drafts of all chapters is a feasible target.

WG-M&R Minutes Item 4: Any other Business (5 minutes)

5. How to recognize the contributions of the authors to the preparation of the Guidelines. Sani recommended that each of the contributors in each chapter is identified to enable regular updates to what is proposed as an ICID living document.

6. Arrangements for the launch of Guidelines during the 25th Congress. Sanjay Belsare suggested to organize a workshop during the 25th ICID Congress in Vizag in November 2023.

7. Smaranika Mahapatra introduced herself, noting she was participating on behalf of Dr. Alok Sikka (IWMI India).

8. Dr. Li Yalong (China) – introduced himself confirming his interest in the work of the WG-M&R. The group thanked him for making time to join the meeting while in the middle of the Chinese New Year festival.

9. Ms. Bedriye Nur Dikenli Aytekin (Turkey) introduced herself to the group as a nominee from the Turkish National Committee. She is therefore accepted as a member of the WG-M&R.

10. Dr. Neelam Patel (India) – offered to contribute a case study on the use of subsidies as part of the modernization in India. Dr. Patel also offered a case study of the use of solar energy in water resources and irrigation in India from a policymakers perspective.

11. Sani Bala confirmed he is working on the section on the engagement of stakeholders. Also, he noted that he is working with colleagues to develop documentation sharing experiences from the TRIMING project in Nigeria.

12. Alan Clark confirmed he would be willing to prepare a short section on pipelines and irrigation modernization – a draft of which was received for review on 6 February 2023.

13. All material received for the development of the Guidelines will be uploaded to a Dropbox. Each author will be provided access to the Dropbox.

14. Proposed next meeting in April 2023 – but bilateral discussions can be held as required between now and then. Ian Makin will coordinate arrangements for the April meeting with the ICID Central Office.



Annex 1

ANNOTATED CONTENTS OF GUIDELINES ON MODERNIZATION OF IRRIGATION AND DRAINAGE SERVICES (UPDATED DECEMBER 2022)

The following annotated contents list is intended as a basis for discussions leading up to the preparation of a draft document of about 150 to be published as an ICID guidebook on the Modernization and Revitalization of Irrigation and Drainage Services. The document is intended to provide guidance to ICID members and other stakeholders in the I&D sector and should be a living document on the ICID website that can be updated with inputs from different Working groups in the future. The first edition of the guide is intended for release at the 25th ICID Congress in 2023.

Preface (2 pages)

Executive summary of overall report (2-3 Pages)

Key Messages (1-2 pages of bullet points)

Key take-home messages and action points for implementation of modernization and revitalization strategies

1. Introduction (2-3 pages) (Ian W Makin)

Background to publication, working of ICID WG on Modernization and Revitalization, linkages to ICID Action Plan, intended audience of publication, why publication on M&R needed given the other publications on same topic (ADB, WB, FAO, others?) – what's new in this approach?

2. Modernization and revitalization of irrigation and drainage services (10 - 15 pages plus case study annexes)

2.1. Definition of modernization and revitalization, (Ian W Makin)

Modernization and revitalization of services is not only about infrastructure and is unlikely to be a one-shot exercise (ref Charles Burt – Tehran Gulhati lecture). Systems are dynamic, modernized systems must be able to evolve in a changing landscape (agricultural, social, economic, water resource, and climate changes)

We propose that ICID adopts the following definition of modernization:

Modernization is the process of upgrading infrastructure, operations, maintenance and management of irrigation systems to sustain the water delivery service requirements of farmers and optimize production and water productivity.

This definition encapsulates concept elements that distinguish “modernization” of irrigation services from “rehabilitation” of irrigation systems. These elements are expanded as:

- (a) “process” reflecting the need that modernization of systems should be a continuous exercise to enable incorporation of future changes in the irrigation system and service requirements of the farmers. Ideally the process will align with existing government development and budgetary timeframes and systems;
- (b) “upgrading” means improving beyond what is existing; not replacing or rehabilitating. It means applying design best practices to infrastructure to optimize operation requirements and maximize system performance and efficiencies;
- (c) “infrastructure” means all physical assets related to the irrigation system, including headworks, conveyance systems, drainage systems, monitoring systems, communication systems, farm and access road networks, operation buildings etc.;

- (d) “operations and management” means all human resources and management processes responsible for managing, operating and maintaining the irrigation system including ground and surface water management, and the associated physical infrastructure;
- (e) “irrigation system” encapsulates all physical and non-physical components that contribute to convert water and nutrients into food and fiber. This includes the infrastructure, water resources, agency staff, farmers, services providers, supply and market chains required to enable farmers conduct a viable enterprise, whether for subsistence or in active engagement with external markets;
- (f) “sustain” means that the irrigation system will continue to deliver a defined level of performance after upgrading. This includes managing the water resources to: (i) account for reallocations to other users, (ii) prevent adverse depletion of land and water resources, and (iii) enhance resilience to climate variability and adverse impacts anticipated from climate change. It also means ensuring that all costs relating to management, operation, maintenance, and asset depreciation of the system are affordable and are fully covered through either government, user (farmer), or private sector financing;
- (g) “water delivery service requirements of the farmers” means ensuring reliable, adequate and flexible supply of water as agreed with farmers allowing them to maximize water and agricultural productivity. This requires farmers to be involved in planning, design and operation of the irrigation system, and in routine water management decisions;
- (h) “optimize production and water productivity” means farmers must endeavor, and be supported through technology transfer and extension services, to optimize the productivity of their land with the available water.

In this definition, modernization is not limited to the introduction of modern hardware and/or software techniques but involves fundamental transformation of the way in which the business of irrigated agriculture is done. In the majority of cases, modernization of irrigation infrastructure and services will be a more relevant and cost-effective investment than rehabilitation, or restoration, of the original infrastructure.

2.2. Definition of applicability of different M&R strategies

One size does not fit all situations

2.3. Definition of Institutions and Governance arrangements (Lead author required)

Understanding of the system specific current, and potential, institutional and governance arrangements is essential to achieve sustainable modernization of services. Roles and responsibilities, constraints, and opportunities.

2.4. Definition of performance measures (Dr. Kuno Toshihiko) – draft received 24 January

What are the appropriate performance measures in different situations – determining what must be measured rather than deciding what can be done from what is available

2.5. Diagnostic approaches to design of interventions – case study examples (Dr. Mona Liza Delos Reyes)

2.6. Approaches to selection of modernization interventions (Prof. Dr. Tarek Ahmed El-Samman)

Discussion of the role of Economic analysis and cost benefit analysis in determining which interventions to prioritize.

3. Irrigation and drainage services – getting the relevant stakeholders involved (Engr. Muhammad Sani Bala, Sanjay Belsare)

Which stakeholders is modernization intended to address – whose problems is modernization of I&D services intended to resolve? What are the real problems in the specific system being addressed?

What are the roles and responsibilities of different stakeholders in different settings? Governance and institutional developments achievable.

4. Modernizing irrigation and drainage systems for service delivery (20 pages+ plus case study examples)

Definition of what are the objectives of modernization and revitalization interventions

- 4.1. Services (Dr. Shinji Fukuda) - – draft received 24 January
- 4.2. Infrastructure – (Brian Wahlin tbc)
 - 4.2.x Irrigation Modernization with Pipe Systems (Alan Clark) – received 6 February 2023
- 4.3. Management (Mr. Yazid Bin Abdullah)
- 4.4. Capacity development for modernization (Melvyn Kay)
- 4.5. Change management (SG Ashwin Pandya)

5. Sustaining revitalized I&D services (up to 20 pages plus case study examples/illustrations)

- 5.1. Asset management (Dr Martin Burton)
- 5.2. Financing sustainable service delivery (Ian Makin – with ADB/WB colleagues)
- 5.3. Responding to changing needs (Ian Makin and Ms. Mona Liza Delos Reyes)
- 5.4. Stakeholders roles and responsibilities (Jan Potgieter and Dr. Shinji Fukuda)
- 5.5. Capacity development for sustainability (Melvyn Kay)

6. ICID recommendations on Modernization and Revitalization of I&D services (4-5 pages) – to be drafted as final draft is developed

- 6.1. What can ICID members do to enhance I&D services
- 6.2. How will ICID help members and other stakeholders?
- 6.3. What next

References