

### WORKING GROUP ON MODERNIZATION AND REVITALIZATION OF IRRIGATION SCHEMES (WG-M&R) Bali, Indonesia

05 September 2019, 14:00-16:00 hours (Session I)  
05 September 2019, 16:15-18:15 hours (Session II)



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### Action taken report by Chair

- Workshop – Modernization – held Sunday 1 September
- Membership – CO advise a number of members are considered no longer active
- Proposed New member Ms Mona-Liza Delos Reyes (Philippines)



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### Road Map to ICID Vision 2030 – Status of activities on modernization and revitalization

- A1. Strategy: Modernizing irrigation systems
- Case studies



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### Case studies presented to WG-M&R (2015-2018)

| Title   | Country   | Presented in    |
|---|-----------|-----------------|
| Definition of Modernization   | UK        | Montpelier 2015 |
| FAO Modernization (Thierry Facon)   | FAO       | Montpelier      |
| ICID Modernization (Harish Varma)   | ICID      | Montpelier      |
| Modernization and Rehabilitation of Irrigation In Indonesia   | Indonesia | Chiang Mai 2016 |
| Workshop Survey Summary Of Modernization  |           | Chiang Mai      |
| Modernization of Irrigation Schemes Through Training of Water User Associations in the Rapid Intervention Program | USA       | Chiang Mai      |



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### Case studies presented to WG-M&R (2015-2018)

| Title   | Country       | Presented in |
|---|---------------|--------------|
| Planning for Modernization Investments – Consultant Lessons (Beau Freeman)        | USA           | Chiang Mai   |
| Modernization and Revitalization of Irrigation in Pakistan- A case study of Sindh | Pakistan      | Chiang Mai   |
| Investments in Improved Irrigation Services (Lance Gore)                          | ADB           | Chiang Mai   |
| A case study of Jiamakou Yellow River Diversion Project Shanxi Province, China    | China         | Mexico 2017  |
| Irrigation Modernization and Revitalization in Korea                              | Korea, Rep of | Mexico 2017  |



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### Case studies presented to WG-M&R (2015-2018)

| Title   | Country   | Presented in |
|---|-----------|--------------|
| Modernization and Revitalization of Irrigation in Pakistan- A case study of Sindh                           | Pakistan  | Mexico 2017  |
| Rehabilitation and Revitalization of Irrigation Schemes in Nigeria: Lessons from Bakolori Irrigation Scheme | Nigeria   | Mexico 2017  |
| Case study of irrigation modernization in northern victoria   | Australia | Mexico 2017  |
| Modernization & Revitalization—a case study of Japan  | Japan     | Canada 2018  |



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### Case studies presented to WG-M&R (2015-2018)

| Title  | Country                        | Presented in |
|--|--------------------------------|--------------|
| Canal Automation for Irrigation Delivery Systems   | USA                            | Canada 2018  |
| Irrigation modernization with IoT and cloud-top computing: case study in Taiwan  | ICID- Chinese Taipei Committee | Canada 2018  |
| Modernization of the San Luis Canal Company in Central California  | USA                            | Canada 2018  |
| Tertiary Infrastructure Development in the Muda Area (National Key Economic Area [NKEA] – Entry Point Project [EPP]10) | Malaysia                       | Canada 2018  |



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### Road Map to ICID Vision 2030 – Status of activities on modernization and revitalization

- **A1. Strategy:** Modernizing irrigation systems
- **A2. Strategy:** Improving O&M of Irrigation Systems
  - Deleted from work plan in 2018
- **B1. Strategy:** Supporting development of appropriate policies
  - **Propose paper on Modernization for 2020 Sydney Congress**
- **C1. Strategy:** Providing knowledge sharing platform for AWM professionals
  - **Conference Session in Sydney in 2020**
- **F4. Strategy:** Developing and sharing AWM knowledge



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### Publication of the WG

- Modernization is:
- **“Process of upgrading infrastructure, operations and management of irrigation and drainage systems to sustain the water delivery service requirements of farmers and optimize production and water productivity.”**



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### Modernization is further clarified as:

- **“process”** means that **modernization** of systems **is a continuous exercise**. This must account for future changes in the irrigation and drainage system and service requirements of the farmers. Ideally the process will align with existing government development and budgetary timeframes and systems;
- **“upgrading”** means **improving beyond what is existing; not simply replacing or rehabilitating**. It means applying design best practices to infrastructure to optimize operation requirements and maximize system performance and efficiencies;



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### Modernization is further clarified as:

- **“infrastructure”** means **all physical assets related to the irrigation and drainage system** including headworks, conveyance systems, drainage systems, monitoring systems, communication systems, farm and access road networks, operation buildings etc.;
- **“operations and management”** means **all human resources and management processes** responsible for managing, operating and maintaining the irrigation and drainage system including ground and surface water management, and the associated physical infrastructure.



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### Modernization is further clarified as:

- **“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, etc.;
- **“sustain”** means that the irrigation and drainage **system will continue to operate at its optimal performance**. This includes managing the water resources to account for reallocations to other users, prevent adverse depletion, and 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.;



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### Modernization is further clarified as:

- “**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;
- “**to maximize 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**.



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### Exchange of Information, knowledge & networking

- **Updating Multilingual Technical Dictionary (MTD)**
  - Dr Wahlin has provided detailed comments to update the section on Canal Automation. Submitted to Task Force for inclusion in new edition
- **International Workshops on Modernizing Irrigation Services for Water, Food, and Nutrition Security, September 2019, Bali**
- **International Young Professionals Training Program, 22-25 April 2019, Gyeonggi Province, Republic of Korea – Response from YPs on questionnaire**



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