

25th ICID Congress on Irrigation and Drainage

1-8 November 2023, Vishakhapatnam (Vizag), Andhra Pradesh

Concept Note for International Symposium

Theme: Pathways and Technologies for Modern Irrigation Services

1.0 Background

For decades, pursuing and achieving water security has become one of the topmost agendas of global development. Increasing population and subsequent development demand an increasing amount of fresh water for consumption. Historically, irrigated agriculture has been the biggest freshwater consumer, but its share is reducing due to its limited availability as well as competition from other sectors. However, in the current scenario of increasing water scarcity, agriculture and subsequently food security will bear the brunt of this reduced supply. Thus, improving the irrigation water management and propagating modernization of irrigation systems is of utmost importance in current times.

Modernization is the ***“Process of upgrading infrastructure, operations and management of irrigation systems to sustain the water delivery service requirements of farmers and optimize production and water productivity (ICID, 2016)”***. Modernization focuses more attention on the needs of farmers as the core objective of irrigation operations and modernization efforts. Irrigation modernization undertakes technical and managerial upgrading (as opposed to mere infrastructure repair or restoration) of irrigation systems combined with institutional reforms, with the objective to improve resource utilization (labour, water, economic, social, and environmental assets) to provide improved water delivery service to farms. Irrigation systems not only include the physical infrastructure for agricultural development, but also include stakeholders' participation as well to holistically improve the irrigation systems for all the beneficiaries. To improve the management of these irrigation systems, all aspects of irrigation and drainage services from reservoir and canal operation to farm management need to be considered from planning to operational stages. Thus, modernization of irrigation systems entails holistic assessment and improvement of resource mobilization, delivery to farm gates, use of water saving techniques, upgraded management practices, policies, institutional and financing mechanisms that ultimately result in agricultural, social, environmental, and economic benefits for both farmers and the wider community of water users.

With respect to modernization and revitalization of irrigation systems, some of the significant aspects to be considered are understanding current status of infrastructure and the operation, maintenance and management practices, available financial resources, political, economic, social and environmental facets, institutional and organizational arrangements, stakeholders' involvement and prevalent codes of practice and standards. For some schemes, revitalization may be required before modernization activities can be undertaken. Revitalization may require reforming broader policy and strategy aspects that impinge of the irrigated agriculture sector. Modernization will involve technical, operations and management, social, institutional, financial and environmental aspects. Ensuring that irrigation systems are designed, implemented, managed, and maintained appropriately is essential if production gains and subsequent direct, indirect and induced economic benefits are to be realized, all whilst managing direct and indirect environmental impacts. Modernization and revitalization of irrigation systems play a crucial part in ensuring the sustainability of irrigated agriculture in the beneficiary areas as the life of schemes should span over generations of farmers. Maintaining the relevance of the irrigation and drainage systems under the evolving contexts of agricultural water management require appropriate responses from the scheme operators.

The topic of modernization and revitalization of irrigation systems is relevant to the vision and mission of ICID and of interest to its members. Members view the activity in contexts relevant to their economic and developmental stages. While the advanced countries would like to propagate the experiences, skills and materials developed, the countries with a medium and low Human Development Index would like to be aware about the solutions available and means to deploy them.

Thus, to understand the global perspective of such a large interdisciplinary area of management of irrigation and drainage projects for sustainable agriculture development, an **International Symposium** on the theme '**Pathways and Technologies for Modern Irrigation Systems**' is being held **during the 25th ICID Congress in Vishakhapatnam (Vizag), Andhra Pradesh, India in November 2023**. Selected Authors of the papers for earlier WIF-4 and National Committees (NCs) are requested to submit a country paper presenting case studies on the various aspects of modernization of irrigation systems.

2.0 Scope

The symposium will provide a platform for irrigation and drainage professionals and other stakeholders to share their knowledge and experience in sustainable agriculture water management focusing on irrigation management and its related/integrated aspects. Participants will deliberate on aspects of modernization of irrigation and drainage services, including:

- (i) Current status of national irrigation sectors
- (ii) Future investment in irrigation infrastructure modernization and management
- (iii) National factors affecting irrigation management, including water policy, institutions, and capacities.
- (iv) Prospective areas for future management: resource management, supply and demand management, infrastructure management, on-farm water management, climate change adaptation and disaster risk reduction, institutional and policy reforms, data management, technological interventions, capacity development, gender issues, among others specific to local contexts

ICID National Committees (NCs) and selected authors of papers previously selected for the WIF4 are requested to submit country papers representing geographical regions and covering small, medium and large landholding irrigation and drainage practices. Authors are requested to address different levels of technology and modernization practices to present a general perspective and, to the extent possible, enable a global comparative review from the country papers. The tentative programme of the International Symposium is at **Annex 1**.

Each national paper presented must cover the Symposium theme for the represented region of the NCs, covering various aspects. Broad contents of country paper are at **Annex 2**. Selected Authors of the papers for earlier WIF-4 and NCs are requested to send their country papers **by 5 June 2023 to VPH Ian Makin (E-mail: ianwmakin@gmail.com), Chair of Working Group on Modernization and Revitalization of Irrigation Schemes (WG-M&R), with a copy to ICID Central Office (E-mail: icid@icid.org)**.

The outcomes from this symposium are planned to be compiled in the form of a "Post-Symposium Publication" which will be utilized as reference material for further investigation and analysis as well as dissemination of information. It is hoped that the symposium will provide an up-to-date view of new developments, methods, and approaches in use in the irrigation and drainage professions. This information will contribute to the effective implementation of the ICID Strategy Theme-Schemes to promote and support sustainable irrigation and drainage development, management, and operations – as targeted by ICID Vision and Mission.

Timeline (TBC)

- **5 June 2023** : Receipt of invited country papers
- **30 June 2023** : Review and finalization of country papers
- **31 July 2023** : Finalization of soft copy of papers to be shared with participants.
- **March 2024** : Finalization of Post-symposium publication

INTERNATIONAL SYMPOSIUM

04 November 2023 (11:30-13:00 hours, Session-I)
04 November 2023 (14:00-15:30 hours, Session-II) – TBC

Theme: Pathways and Technologies for Modern Irrigation Services

Tentative Programme

11:30-13:00	Session I
11:30-11:45	Opening remarks by President, ICID
11:45- 11:55	Introduction about objective of Symposium by Coordinator
11:55-12:10	Keynote speech by
12:10-13:00	Country paper / paper presentation and discussion (10 minutes each) <ul style="list-style-type: none"> • • • • •
13:00-14:00	Lunch Break
14:00-15:45	Session II
14:00- 14:15	Keynote speech by
14:15-15:30	Country paper/paper presentation and discussion (contd.) (10 minutes each) <ul style="list-style-type: none"> • • • • •
.....	Discussion and Finalization of Recommendations, Way Forward and Wrap Up

Chairman : **President, ICID**
Co-Chair :,
Coordinator : **VPH Ian Makin, Chair of the WG-M&R**

Er. B.A. Chivate, Director (Technical), ICID Central Office (icid@icid.org)

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Theme: Pathways and Technologies for Modern Irrigation Services

Contents of Country Papers

1.0 Introduction

2.0 Overview of National irrigation and drainage services

- 2.1
- 2.2
- 2.3
- 2.4

3.0 Assessment of modernization and revitalization requirements

- 3.1
- 3.2
- 3.3
- 3.4

4.0 National factors affecting irrigation and drainage services, including water policy, institutions, and human resource capacities

- 4.1
- 4.2
- 4.3
- 4.4

5.0 Priority issues for modernization of I&D services:

- 5.1
- 5.2
- 5.3

6.0 Conclusions and Recommendations

- 6.1 Future modernization plans
- 6.2 Recommendations

Note: All Country papers /paper should cover the main head under 1.0, 2.0 6.0 (**shown in bold**). However sub-heads shown under main heads are indicative and may be deleted/ modified/new added depending on the ground situation, relevance to the country etc.