

25th International Congress on Irrigation and Drainage & 74th International Executive Council meeting



Theme:

**Pathways and
Technologies for
Modern Irrigation
Services**



25th International Congress on Irrigation and Drainage & 74th IEC Meeting

1-8 November 2023, Vizag, Andhra Pradesh State, India



COUNTRY REPORT ON PATHWAYS AND TECHNOLOGIES FOR MODERN IRRIGATION SERVICES IN NIGERIA

Engr. Prof. Henry E. Igbadun

*Irrigation, Soil & Water Conservation Engineering
Specialist*

*Department of Agricultural & Bio-resources Engineering
Ahmadu Bello University, Zaria, Kaduna State Nigeria*



Presentation made on behalf of the Nigerian National Committee on Irrigation and Drainage (NINCID)



25th International Congress on Irrigation and Drainage & 74th IEC Meeting

1-8 November 2023, Vizag, Andhra Pradesh State, India



Introduction

- ▣ The potential Irrigable area in Nigeria is estimated at 3.0-3.5 million ha. Presently, about 1.0 million ha is put to use in the dry season
- ▣ There are 323 irrigation schemes scattered across the country. 44 % are relatively completed; 40.6 % undergoing development; 12% abandon, and 3.0 % undefined, as at 2017.
- ▣ The schemes are predominantly surface irrigation system with water sources largely dams, and few other irrigated from river and groundwater.
- ▣ The need to modernize irrigation practice is inevitable in Nigeria



Challenges of Irrigation in Nigeria

The NIPS (2015) admitted the following challenges in Irrigation and also charted a path for modernization

- ▣ Infrastructural deficit
- ▣ inadequate human resources capacity
- ▣ inadequate pricing of water charges, poor services delivery & lack of willingness to pay by the user.
- ▣ Insecurity
- ▣ Socio-cultural inhibitions



Goals and Objectives Set by the NIPS

- ▣ Rehabilitate and expand irrigation infrastructure to bring more land under irrigation
- ▣ Enhance access to water for irrigation to facilitate rural development and promote food security
- ▣ Improve water use efficiency by promoting irrigation techniques which reduces water wastage.
- ▣ Encouraging the adoption of environmentally friendly irrigation practices



Critical Strategies

- ❑ Road Map/Agenda for Irrigation
- ❑ Rehabilitation of infrastructures of large public schemes
- ❑ Human capacity development
- ❑ Technology and Innovations for improved water use efficiency
- ❑ Responsive funding mechanisms to stimulate effective stakeholders' participation and rapid irrigation growth



Road Map

- ▣ The Road map for irrigation and drainage development tagged “National Irrigation Programme (2016 – 2030)”.
- ▣ Plans have been made to develop about 500,000 ha,
- ▣ Create an enabling environment for private sector and State governments to develop an additional 1,000,000 ha of irrigation land and associated infrastructure by 2030.



Infrastructure Rehabilitation

- ▣ Between 2016 and 2022, the FMWR has developed and rehabilitated a total of 6,784 ha irrigation projects in Sabke, Shagari, Sepeteri, and Ejule-Ojebe, Middle Rima and Gari Irrigation Projects;
- ▣ Drained and reclaimed a total of 480 ha of land in Manu Akwa and Obinda communities,
- ▣ Supplied and installed 1000 tube wells in selected RBDAs,
- ▣ Supply and installed Centre Pivot Irrigation System over 2880 ha in selected RBDAs.



Infrastructure Rehabilitation

TRIMING) Project (2014-2022+2) has rehabilitated: Irrigation canals in:

- ▣ 7105 ha of Bakolori Irrigation Scheme (BIS),
- ▣ 14,444 ha of Kano River Irrigation Scheme (KRIS), and
- ▣ 5,759 ha of Hadejia Valley Irrigation Scheme (HVIS)
- ▣ Dam safety remedial works,
- ▣ River training
- ▣ Procure and installed 40 Hydrological equipment and 23 Meteorological stations in some hydrological Area towards modernizing irrigation practices



Human Capacity Development

The Irrigation and Drainage Department of the FMWR&S in collaboration with NINCID and TRIMING Project are:

- ▣ Developing and strengthening Water Users Associations through training workshops across the country
- ▣ Developing technical expertise and empowering farmers to enhance the efficient operation, maintenance, and management of irrigation systems.
- ▣ Technical workshops facilitated by NINCID for irrigation practitioners and stakeholders



Technologies and Innovations

- ▣ Adoption of efficient (water saving) irrigation tools: 20 ha Drip irrigation System in Benin-Owen RDBA
- ▣ I&DD is collaborating with FAO to develop 20 ha drip irrigation system in Gari Irrigation Scheme
- ▣ CPS for a total of 2880 ha are being installed in some RBDA
- ▣ Energy-saving means of lifting water for irrigation
- ▣ Farmers are being trained on climate smart agricultural practices .



What We Need To Do More

- ▣ Identify the present capacity gaps in the different irrigation schemes and develop activities to address them;
- ▣ developing service-oriented public institutions to respond more efficiently to the needs of irrigation sub-sector
- ▣ Promote closer collaboration among all stakeholders
- ▣ Provide capacity for cost-effective, demand-driven irrigation support services.
- ▣ Develop the required human resource capacities especially of vulnerable groups (Women, aged and youths, physically challenged).



What We Need To Do More

- ❑ Develop incentive mechanisms that would encourage stakeholders and interest groups to invest host and participate in their effective management.
- ❑ Lease projects with only dams and headworks in place to private investors with a clear win-win financial and economic plan to complete the irrigation infrastructure and put the scheme into use.
- ❑ Promote greater and harmonious engagement among the diverse MDAs with mandate on irrigation and drainage to pool resources, eliminate duplication and wastage.



What We Need To Do More

- ▣ Promote in-field water management tools and techniques that minimize water application losses and increase irrigation efficiency using farmers participatory field demonstrations.
- ▣ Conduct on-farm training events for water users on techniques and tools for effective water management at secondary and tertiary levels in irrigation schemes.
- ▣ Develop training manuals on improved water management techniques and train irrigation supervisors as trainers of farmers.



What We Need To Do More

- ▣ Mobilize and train cadres of young farmers on modern irrigation techniques to serve as vanguard of effective water management in irrigation schemes.
- ▣ Convene, annually, national stakeholder consultation with research institutions, and donor agencies to review progress in modernization and to chart ways forward in sustainable agricultural water management in the country.





Thank You

Provide contact email for presenter and/or lead author



25th International Congress on Irrigation and Drainage & 74th IEC Meeting

1-8 November 2023, Vizag, Andhra Pradesh State, India



INCID

ICID-CHD