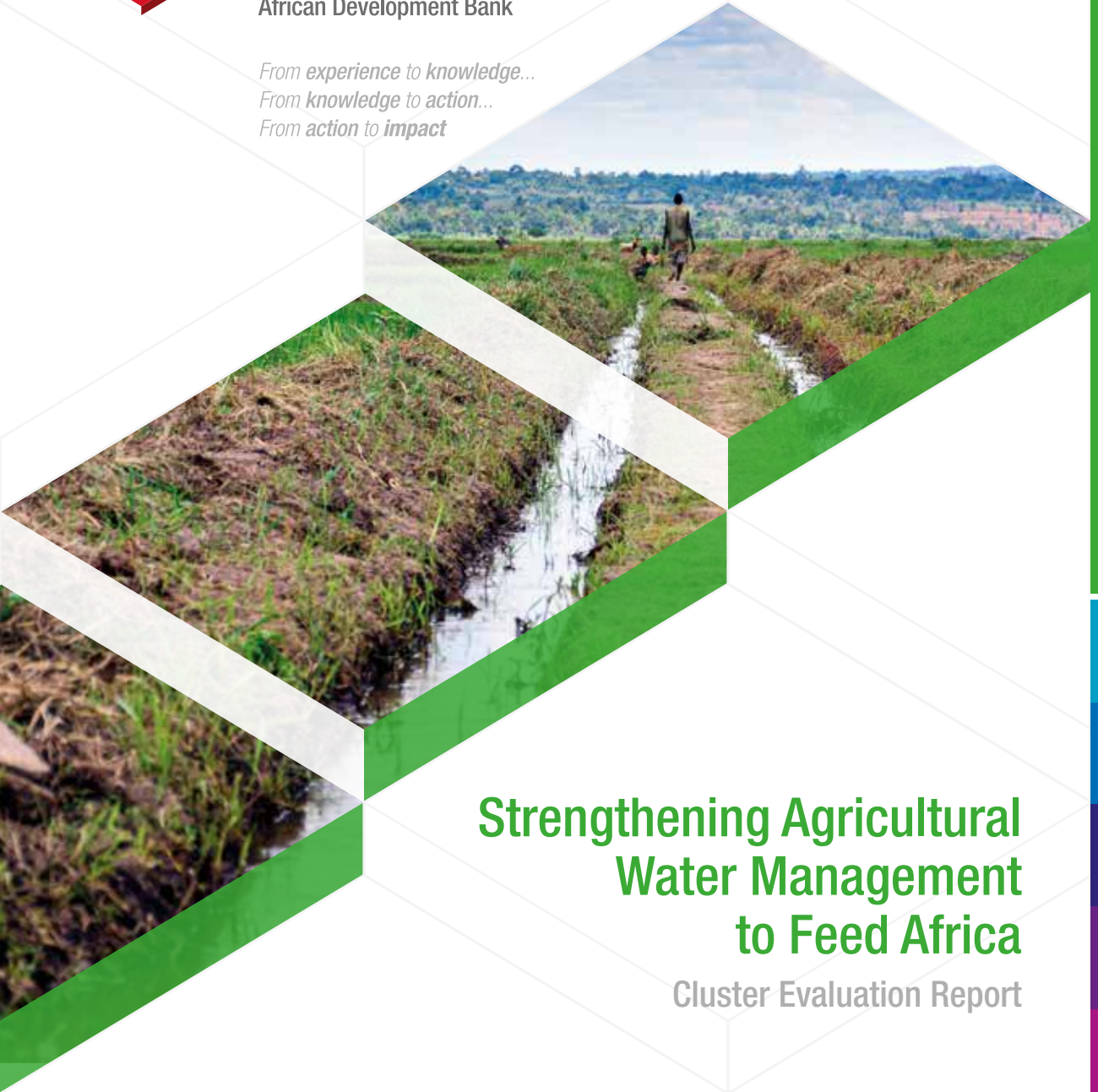


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## Strengthening Agricultural Water Management to Feed Africa

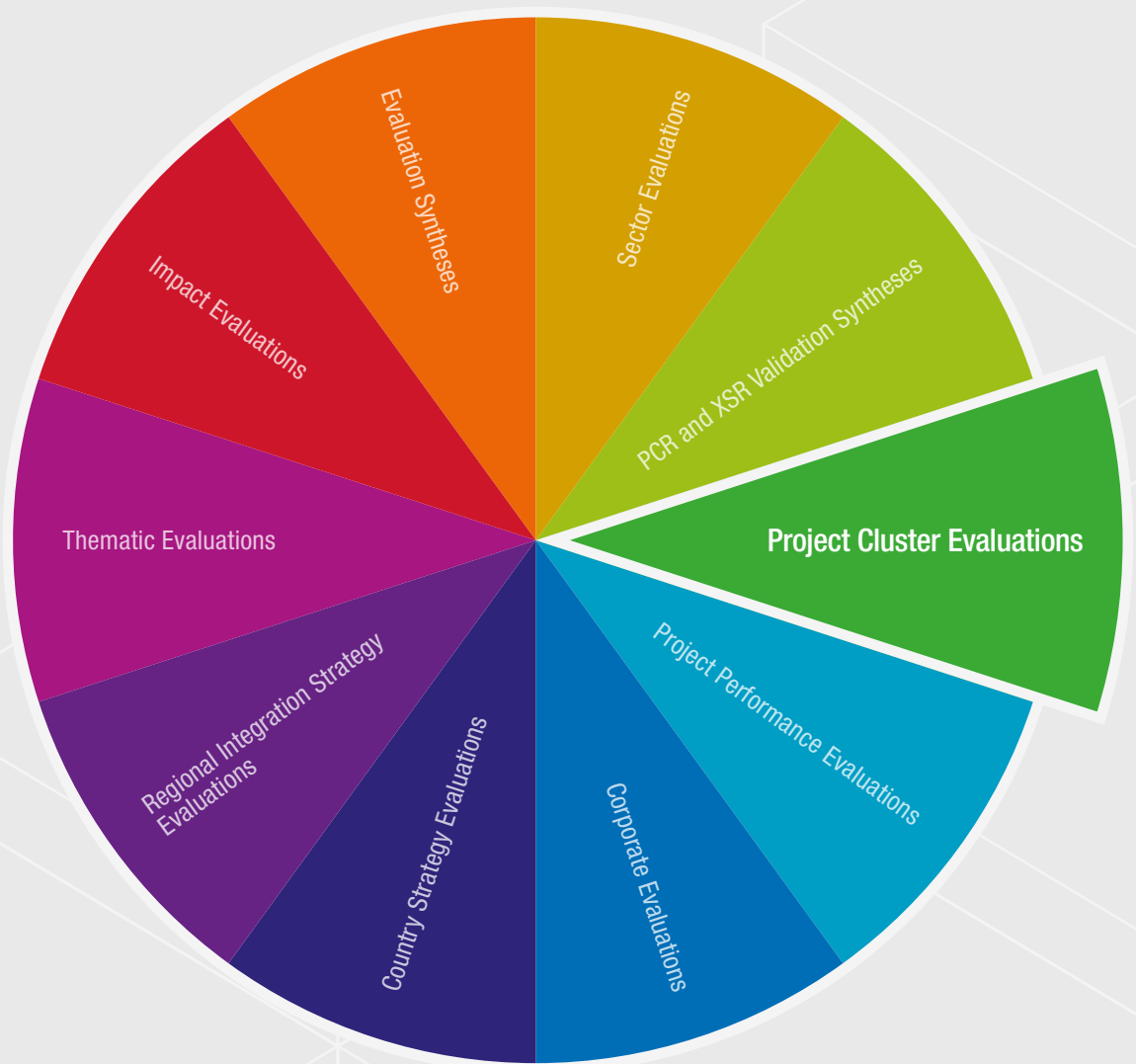
Cluster Evaluation Report



AFRICAN DEVELOPMENT BANK GROUP

January 2020

IDEV conducts different types of evaluations to achieve its strategic objectives



# Executive Summary

## Evaluation Objectives and Methodology

This report synthesizes the results of the evaluations of nine Agricultural Water Management (AWM) projects that were approved and implemented by the African Development Bank Group (the Bank) in 2005-2016.

These nine AWM projects constitute a project cluster. The objectives of this project cluster evaluation were to a) measure Bank-financed AWM results from 2005 to 2016; b) analyze performance related to the management of those AWM interventions; and c) document lessons to improve the Bank's future AWM interventions within the context of the Bank's High 5s priorities, especially "Feed Africa". It will also contribute to the evaluation of the Bank's support to the water sector (2005-2016).

Over the period 2005-2016, the Bank approved 353 loans and grants in agriculture and rural development (amounting to UA 3.6 billion), 42% of which had AWM components.

The nine AWM projects for the cluster evaluation have a total net approval amount of UA 150 million. They were purposively selected for this evaluation, and are located in seven countries including The Gambia, Madagascar, Mali, Nigeria, Kenya, Rwanda, and Senegal.

The evaluation was based on a theory of change approach, and on quantitative and qualitative data drawn from multiple sources including desk review, project site visits and interviews with key stakeholders.

## Project Cluster Performance

### Relevance

*AWM projects' objectives are relevant in terms of alignment to Bank and national water strategies,*

*and to the needs of intended beneficiaries. However, relevance of project design is limited especially by weak results frameworks.*

In terms of alignment, the AWM projects considered in the cluster analysis are relevant to the Bank's key policy and corporate objectives, the Millennium Development Goals (MDGs), the Sustainable Development Goals (SDGs) and the various national strategies of the Bank's Regional Member Countries (RMCs). The common theme across all these policies and strategies is a focus on poverty reduction, improved food security, and enhanced economic development. Based on a demand-driven approach, the project objectives reflect the needs of the intended beneficiaries.

However, the relevance of the project design was found to be limited, mainly due to weak project results frameworks. The quality of the project design was found to be inadequate. In most cases project design did not adequately take into consideration the water management issues and social dimensions of the beneficiaries. The inadequate skills mix of project teams limited the quality of project design. In addition, the weak quality of the studies that informed the project design led to underestimation of project costs and implementation periods. As a result, both project cost overruns and implementation delays were high. Furthermore, although the links between project activities and expected outcomes were established, they were not always clearly articulated. Unintended effects were also not captured.

### Effectiveness

*Although positive results were achieved, there was room for improving the output execution ratio and outcomes achievement. Multiple factors, including context, account for performance shortfalls.*

The overall output execution ratio for all the projects was 68%. The highest AWM output delivery rate was around 80%, while the lowest delivery rate was about 51%.

In most cases, the focus was on the achievement of major civil works including main canal/intake, dam rehabilitation, etc. The outputs for minor civil works, secondary and tertiary canals, which were equally important to enable farmers' better and more efficient access to water supply, were not fully achieved (only 46%). Outputs such as feeder roads and accessible lines of credit that would have been useful for realizing the benefits of a value chain approach to agricultural water supply were under-delivered.

The AWM project cluster produced positive but moderate outcomes, typically improving access to water for domestic and farm use, but below expectations. None of the AWM projects reached its target of increasing access to water for agriculture. Only 35% of the AWM projects' target of smallholder farmers gained access to water for irrigation or livestock.

With regard to improved water management and access to markets, the AWM project cluster also achieved modest results. Only two projects had satisfactorily improved access to markets. Two other cluster projects had satisfactory water management outcomes.

The limited outcome achievement was mainly due to a) insufficient development of tertiary canals; b) limited irrigated/developed area; c) lack of complementary inputs such as fertilizer and improved seeds and plants; and d) inadequate capacity of water users' associations to manage the resources optimally.

Factors internal to the Bank that enabled or inhibited project development results were a) quality of preparatory studies; b) quality of project design; c) partnership during project implementation; and d) analytic capacity and management for development results.

Factors external to the Bank that enabled or inhibited project development results were government capacities in a) assessing needs; b) taking ownership and coordinating development aid; c) supporting participation of project beneficiaries and other stakeholders; and d) sustaining project benefits.

## Efficiency

*The AWM project cluster was efficient economically, though implementation delays were challenging.*

The AWM project cluster was economically viable. Seven of the eight AWM projects were found to have achieved satisfactory results in terms of estimated economic internal rates of return in excess of their respective costs of capital.

The AWM project cluster was found to be inefficient in terms of timeliness (from approval to completion) of its output delivery. Only two of the nine AWM projects were rated satisfactory in regard to estimated delivery timeliness. Implementation delays between approval and completion were primarily due to changes in the project scope and budget, inadequate staff capacity, staff turnover, insufficient preparedness and procurement inefficiencies.

## Sustainability

*Overall, the AWM project benefits were somewhat likely to be sustained, notwithstanding the risks from the various weaknesses especially in project design, capacity building, institutional and political environment and governance, and economic and financial viability of the achievements.*

*Technical soundness was adequate.* Overall, the project cluster countries had access to the right technology to sustain the infrastructures that were built in the project-areas. However, the projects' dependence on electricity to operate irrigation systems was costly and a threat to the sustainability

of project results. Another threat to sustainability was the challenge faced in maintaining project facilities.

*Financial viability of the AWM project cluster was also challenging.* Only four of the nine AWM projects established the means to ensure financial viability of the implemented infrastructure.

*Weak capacity building, institutional and political environment, and governance,* were found to be critical threats to the sustainability of project benefits. The AWM project cluster contributed to a) improving the capacity of public and private sector institutions; b) legalizing institutional/community associations; c) training project staff and beneficiaries; and d) developing water policies and laws.

However, unpredictable political contexts, weak beneficiary management and insufficient organizational capacities of beneficiaries weakened the sustainability of the projects.

*Ownership and sustainability of partnerships* was generally adequate. In fact, the projects promoted ownership by providing economic incentives for participation in project activities and allowing beneficiaries to manage their own project activities through their own institutional structures.

Projects further strengthened community ownership by integrating a broad stakeholder approach from project conceptualization to implementation. Involvement of local officials and the presence of a decentralization policy further contributed to building ownership.

However, project ownership was limited by insufficient mobilization of beneficiary contributions and development of relevant partnerships.

## Inclusiveness

**The evaluation found no evidence of the Bank's role in facilitating and engaging partnerships.** Yet, project planning and implementation can

positively influence project performance by explicitly and effectively involving relevant beneficiaries and the connections between them.

Although the project cluster used a participatory approach and satisfactorily mainstreamed gender, it was modest in effectively engaging stakeholders including the private sector.

## Managing for development results

**Managing for AWM development results was challenging, as the AWM monitoring and evaluation systems were inadequate.** Although the AWM projects had monitoring and evaluation (M&E) systems, they were not fully operational, and were not used effectively. The M&E systems were specified in project documents, but they were hardly operational. They also lacked a comprehensive set of indicators, baselines and targets. Furthermore, the availability and accessibility of project data, especially at the outcome level, was limited.

## Key issues and lessons

The nine AWM projects were implemented in different communities and under varied contexts. The evaluation has distilled five key lessons, which can guide the design and implementation of the Bank's AWM interventions in the context of the "Feed Africa" Strategy, and its long-term development of the agricultural sector in Africa.

## Integrated project design and its subsequent adaptation during implementation matter in improving development results of AWM interventions

**Lesson 1:** AWM intervention design, based on an integrated framework that considers trade and market development changes and contexts (e.g., agricultural sector, agricultural water use, market actors), matters for the achievement of desired development results.

Ensuring more sustainable access to water in order to increase productivity and income requires a multidisciplinary approach that includes a) coordination between water, irrigation and agriculture actors; b) a value chain approach and market opportunities; c) access to credit; d) access to market infrastructures such as feeder roads; e) capacity development; as well as f) private sector engagement.

AWM interventions need to be supported by a robust and specific analysis, which is coherent with local contexts and integrates technical packages including soil, water, crop management, post-harvest training, and marketing aspects, including value addition for farmers. The analysis should also include identification of risks and assumptions, and remain flexible during project implementation.

Other issues around market linkages include effective forest conservation and the recognition that it cannot be realized in isolation. A comprehensive capacity building program and a sound marketing strategy should support the livelihood component.

Poor quality of the design of the AWM interventions not only affects project implementation but also undermines project development results. Finding win-win partnerships between farmers and private operators for an efficient use of available water is important in promoting value chains for value-added products.

### **Technical aspects and incentives are essential for ownership and sustainability**

**Lesson 2:** Intervening in AWM requires looking not only at technical solutions but also at the incentive aspects that encourage participation and partnership with, among others, the private sector, the government and other development actors. Participation and partnership, if properly managed, can improve project quality, profitability, and ownership, and sustainability of development results.

Technology choices are important and should be relevant to beneficiary needs (i.e. multiple uses of water) and capacities, the physical characteristics of the intervention area, and the scale of the project.

Furthermore, the sustainability of AWM development results is not guaranteed without the right incentives for the beneficiaries to pursue the desired common goal; fair representation of water users; and decentralization of authority at the local level.

By providing economic incentives for participation in project activities that improve day-to-day livelihoods for the future, the AWM cluster projects created viable conditions for ownership.

Projects also promoted ownership by allowing beneficiaries to manage their own project activities through their institutional structures. This increased the likelihood that the project objectives would respond to community needs. In addition, the use of local services created stronger connections between the project beneficiaries and the service providers, which strengthened a sense of ownership.

Technical skills should include broad political, institutional and regulatory frameworks that the project strives to implement by creating and reinforcing groups that have interest and capacity to improve the system. Strong rural institutions, favorable policy environments and good institutional arrangements are key for delivering development results.

Without clear roles and responsibilities, conflicts of competency can emerge and undermine the ability of the water system to function efficiently.

### **Adequate skills, scope, and scale**

**Lesson 3:** AWM projects require careful and realistic planning, design, and implementation that include adequacy of the scope in terms of time required, the skills needed for support, and the scale of activities to achieve the project objectives.



The skills, scope and scale of the AWM interventions need to be thoroughly analyzed prior to financing. Specific knowledge on the ground is critical for optimal water conveyance and resulting crop yields.

Timeliness in project start-up and the implementation of interventions is critical to avoid cost overruns; reduction in scope for some key activities; and the loss of an entire planting season for farmers. Particular attention should be given to the award of work contracts and the choice of hydro-agricultural development companies. In this area, delays can be detrimental due to a loss of off-season agricultural campaigns and subsequent reduction in farmer income. Successful contractors must be verified in terms of the actual availability of materials, qualified personnel and financial resources.

#### Ensuring accountability for efficient service delivery

**Lesson 4:** AWM interventions need to be accompanied by both a credible cost-recovery strategy, and governance improvements that ensure accountability for efficient service delivery by the service provider.

Adequate cost recovery and governance improvements are key for results-based AWM interventions. This is demonstrated through several AWM projects such as the ones below:

- Economic and financial viability for the Rwanda Livestock Infrastructure Support Program (LISP)

is moderately unsatisfactory due to project beneficiaries facing issues which threaten economic and financial sustainability.

- In Mali, a series of issues led to the unsatisfactory cost-effectiveness of the project.
- In Rwanda (LISP and Bugesera Agricultural Development Support Project (PADAB)), the use of electricity in irrigation is considered costly and could threaten the sustainability of project results and budgets. There is also a lack of contribution from users.

#### Monitoring and evaluation for AWM project effectiveness and for capturing development learning.

**Lesson 5:** Quality and functional monitoring and evaluation systems are important tools for supporting project development effectiveness, and for capturing lessons to inform the replication and scaling-up of innovative solutions.

The review of the monitoring and evaluation systems of the AWM project cluster highlighted the importance of i) well-designed and functional monitoring and evaluation frameworks; ii) rigorous follow-up on AWM implementation plans; iii) regular outcome monitoring; and iv) establishing appropriate indicators for monitoring unintended effects, project exit strategies, and project sustainability.



## About this Evaluation

This report summarizes the results of a cluster evaluation of nine AfDB-funded Agricultural Water Management (AWM) projects in seven countries that were implemented between 2005 and 2016, in different communities and under varied contexts. Data were collected from multiple sources including desk review, project site visits, and interviews with key stakeholders. Each category of data was analyzed using mainly descriptive statistics and a stakeholder feedback workshop was held in each of the seven countries to validate the collected data.

The agriculture and rural development sector is a priority for the Bank in supporting livelihoods and food security. The ultimate goal of the Bank's interventions in AWM is to reduce poverty and enhance socio-economic development through increased and sustainable agricultural productivity, increased rural revenues, and enhanced food security. This AWM cluster evaluation drew lessons which the Bank and its stakeholders, including governments, civil society and other development agencies, can use in designing and implementing future AWM interventions in the context of the "Feed Africa" Strategy.

The evaluation distilled five key lessons, including the importance of an integrated AWM intervention design framework; the role of incentives that encourage participation and partnership; the need for careful and realistic planning, design and implementation; the need for a credible and affordable cost-recovery strategy and sound governance structure; and the importance of quality and functioning monitoring and evaluation systems.



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