Report Number: ICRR0024693

1. Project Data

Project ID	Project Name
P164431	Mozambique IRRIGA 1
Country	**Practice Area(Lead)**
Mozambique	Agriculture and Food

L/C/TF Number(s)	Closing Date (Original)	Total Project Cost (USD)
IDA-D3510	31-Dec-2024	43,956,254.86
Bank Approval Date	**Closing Date (Actual)**	
29-Jun-2018	31-Dec-2024	

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	55,000,000.00	0.00
Revised Commitment	49,297,488.34	0.00
Actual	46,462,291.25	0.00

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2. Project Objectives and Components

a. Objectives

Stated similarly in the PAD (para 20) and the Financing Agreement (page 5), the Project Development Objective (PDO) was to improve smallholder agriculture productivity and market access in the project areas developed with irrigation and provide immediate and effective response to an eligible crisis or emergency.

For this review, the PDO is parsed into three subobjectives:

Subobjective one: to improve smallholder agriculture productivity in the project areas developed with irrigation

Subobjective two: to improve market access in the project areas developed with irrigation

Subobjective three: to provide immediate and effective response to an eligible crisis or emergency.

An eligible crisis was not declared; this review will not discuss subobjective three in section four.

b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

Did the Board approve the revised objectives/key associated outcome targets?

No

c. Will a split evaluation be undertaken?

No

d. Components

The project had five components.

Component 1- Institutional Capacity Building (Appraised: US$8.0 million; Actual: US$13.8 million)

This component aimed to strengthen institutional capacity for sustainable irrigation development. It supported the activities through three subcomponents:

Subcomponent 1.1 – Strengthening Irrigation Institutional Capacity: to improve the institutional and regulatory framework for irrigation development (e.g., public-private partnership [PPP] regulations, code of practice for irrigation design and construction, guidelines for WUAs); and establish a national irrigation water monitoring system.

Subcomponent 1.2 – Strengthening Agriculture Institutional Capacity and Market Linkages: to strengthen institutional capacity for collecting and disseminating agricultural statistics and market information, the agricultural extension services, and the Agricultural Research Institute. It also supported the establishment of a satellite-based system monitoring for all areas developed with irrigation in the country.

Subcomponent 1.3 – Agriculture Investment Management Unit (AIMU): to finance the establishment of the AIMU to lead agriculture sector investment planning and implementation at the Ministry of Agriculture and Food Security (MASA). AIMU would manage all projects funded by development partners, including IRRIGA-1.

Component 2- Smallholder Irrigation Development and Management (Appraised: US$28.0 million; Actual: US$26.6 million)

This component financed the design, construction, and supervision of irrigation systems. It supported the activities through two subcomponents.

Subcomponent 2.1 – Irrigation Infrastructure Investment: financed detailed engineering designs for 5,000 ha of irrigated land, of which 3,000 ha would be rehabilitated and modernized under SOP-1 (IRRIGA-1) and 2,000 ha under SOP-2.

Subcomponent 2.2 – Irrigation Infrastructure Management: financed the establishment and strengthening of Water Users' Groups and Associations in all irrigation schemes in the project areas to manage, operate, and maintain the irrigation and drainage systems.

Component 3- Agriculture Intensification and Market Linkages (Appraised: US$13.0 million; Actual: US$0.4 million)

This component aimed to improve productivity, production, cropping intensity, competitiveness, and market access for 9,000 small-holder farmers cultivating roughly 6,000 ha of land in the project area. It provided support through three subcomponents.

Subcomponent 3.1 – Capacity Building for Smallholder Farmers: supported the organization of farmers into producer groups and trained them on GAPs.

Subcomponent 3.2 – Investment Support to Enhance Smallholder Agricultural Production: financed vouchers for eligible farmers to access improved farm technologies, such as seeds and mechanization services (draft animals, power tillers, tractors, etc.).

Subcomponent 3.3 – Matching Grants for Market-led Production and Value Chain Development: financed matching grants to support business proposals to improve production, post-harvest processes, value addition, equipment, storage, and marketing facilities, with the project contributing 50 percent through two windows: Window 1 for producer groups (with subprojects of up to US$100,000) and Window 2 for small and medium enterprises (with subprojects ranging between US$100,000 – US$1,000,000).

Component 4- Project Management and Monitoring and Evaluation (Appraisal: US$6.0 million, IDA; Actual: US$5.7 million)

This component supported: (i) project coordination and management; (ii) monitoring and evaluation; (iii) communication; (iv) safeguards, citizen engagement, and beneficiary feedback; and (v) a Grievance Redress Mechanism.

Component 5-Contingency Emergency Response (Appraisal: US$0.0; Actual: US$0.0)

This component would use the IDA Immediate Response Mechanism to rapidly deploy uncommitted project funds to respond to a qualifying crisis or emergency.

Changes to components

At the first restructuring in July 2021, the priorities of the components were changed as follows:

Component one: an agricultural survey to underpin irrigation investments was included.

Component two: restoration of land developed under the previous project but damaged by Cyclone Idai was included, reducing the new area to be developed.

Component four: day-to-day management of the project was transferred from AIMU to the National Sustainable Development Fund (FNDS).

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project cost

The project cost was appraised at US$57 million. It cost US$46.62 million.

Financing

The project was financed through an IDA credit of US$55 million.

Borrower Contribution

Local beneficiaries were expected to contribute US$2 million. They contributed US$0.1 million.

Dates

The project was approved on June 29, 2018, and it became effective on December 28, 2018. The Mid-Term Review (MTR) was organized on May 22,2022. The project closed as planned on December 31, 2024.

Restructurings

The project underwent two restructurings.

July 2021: to reorganize the project following the damage by Cyclone Idai to the irrigation infrastructure built by the previous Bank-supported project. It entailed changes to implementation arrangements, Results Framework (RF), components, and implementation arrangements. The changes to RF included revisions to targets for several intermediate results indicators (IRIs).

January 15, 2025: to cancel the undisbursed funds.

Changes to RF

Several changes were made to IRIs.

Targets increased: area completed with detailed design from 5,000 to 5,824 ha, and the area provided with improved irrigation increased from 3,000 ha to 4,400 ha.

Targets decreased: the number of policy instruments to be prepared from five to four, and the area under irrigation during the most recent dry season from 6,000 to 3,500 ha.

Split analysis

The PDO did not change. The targets for PDO indicators were also not changed. The scope of the project expanded as the restructuring required a larger area to be brought under improved irrigation and drainage. This review will not apply a split rating.

3. Relevance of Objectives

Rationale

Country context

Between 1995 and 2015, Mozambique's economy was stable and grew significantly, driven primarily by a few large-scale capital investment projects. The growth did not reduce poverty, especially in rural areas where 70 percent of the population lived. Approximately half of the children aged five or less were stunted (PAD para 20). Agriculture was the largest economic sector, accounting for 26 percent of GDP and 78 percent of the labor force, and 90 percent of the rural population depended on agriculture as the main source of livelihood. Poverty reduction required raising agricultural productivity and rural incomes (ICR, para 1).

The agriculture sector was dominated by smallholders—99 percent of the farms belonged to smallholders—who practiced rainfed subsistence agriculture. The productivity of major crops like rice and maize was lower than the average for low-income countries in Southern Africa. The usual set of conditions limited agricultural productivity: limited use of improved crop varieties and fertilizers, inadequate agricultural extension, small areas under irrigation, limited access to agricultural credit, and limited access to input and output markets. The country was also prone to extreme weather events, such as the prolonged drought of 2014–2018; it was one of the countries most affected by climate change: high rainfall variability, more frequent droughts, and floods.

Country strategy

The PDO aligned with the National Irrigation Program (PNI), which the government adopted in 2016. The government planned to implement a Series of Projects (SOPs) to develop or rehabilitate 8,000 hectares of irrigated land, benefiting 12,000 smallholder farmers. The PDO continues to align with Mozambique's Strategic Plan for Agricultural Development (PEDSA-II) 2022-2030 and the National Investment Plan for the agrarian sector 2022-2026, which includes various rural development initiatives including irrigation development (ICR, para 22).

World Bank Strategy

The PDO aligned with the World Bank's Country Partnership Framework for Mozambique (CPF, FY27-21) by contributing to Focus Areas 1 and 2, which aimed to promote diversified growth, improved productivity, and investments in human capital. The project was expected to build on the previous bank-financed project (Sustainable Irrigation Development Project (PROIRRI)), including completing the reform process that was started. The PDO remains relevant to Mozambique's CPF FY23-27, supporting the country's gradual shift to greener, more resilient, and inclusive development (GRID). It aligns with Higher Level Objectives 4, 5, and

6, which focus on green growth through sustainable natural resource use, increased productivity in selected labor-intensive industries, and expanded infrastructure (ICR para 22).

The level at which the PDO is pitched

The PDO, aimed at increasing productivity and enhancing market access in irrigated areas, was focused on outcome levels. Achieving these would directly help the Government of Mozambique realize the benefits of its strategy to expand irrigation.

Summary: Mozambique's economy was growing, but rural areas where most people lived did not benefit, as smallholder farmers relied on low-productivity, rainfed agriculture that remained vulnerable to extreme weather. Rural poverty persisted despite agriculture's significant role in the economy. The PDO to raise productivity and improve market access in irrigated areas was highly relevant to national strategies for agricultural transformation through irrigation development and the Bank's strategy of supporting diversified growth and productivity.

Rating
High

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1
Objective
To improve smallholder agriculture productivity in the project areas developed with irrigation

Rationale
Theory of Change (ToC)

The ToC articulated in PAD (paras 23 to 25) and reproduced in ICR (para 5 and Figure 1) states that project activities, such as i) improving enabling conditions through new policies and standardized regulations, ii) developing irrigation infrastructure, iii) organizing and training farmers in managing irrigation and adopting improved agricultural practices, iv) and disseminating improved agricultural production technologies among farmers would result in project outputs, such as improved policies in place, area provided with new irrigation and drainage, and area under irrigation during the rainy season.

These outputs were expected to promote effective management of irrigation schemes and encourage the adoption of irrigated agriculture with good agricultural practices, resulting in increased agricultural productivity.

The ToC was plausible, and the project outputs could be expected to result in the outcomes. However, some assumptions in the theory needed to hold: Farmers would adopt irrigated agriculture with improved agricultural practices, and the recommended technologies would increase productivity as expected.

The indicators used to evaluate the achievement of the objectives — such as average crop yields of selected commodities in irrigated production systems, the number of farmers reached with agricultural assets or services, and the total number of beneficiaries – effectively measure productivity gains and the extent of farmer outreach.

Outputs

Improved moisture management, facilitated by restoration and rehabilitation of irrigation systems and agricultural intensification, and by training and enhanced access to inputs, contributed to the outcomes.

A total of 21 irrigation schemes, averaging 161 ha, were rehabilitated. The CERC was not triggered, but the project restored 1,900 ha of the 2,500 hectares developed through the previous project, which the Cyclone Idai severely damaged. Farmers in the irrigated areas used 61 percent of the irrigated land for rice production and the remaining 39 percent for vegetables.

The project trained the farmers through their groups, some of which were organized by the previous project. The project supported the development of suitable, improved varieties of rice and ensured their availability by organizing farmer groups to multiply them. The project also worked with a private firm to make suitable vegetable seeds available.

The project's intensification efforts, however, were limited due to the delay in constructing the irrigation infrastructure. Only 400 farmers received input vouchers, and the project did not support any subprojects.

Relevant output indicators are as follows:

- 3 improved irrigation-related policies, standards, and regulations were in place, falling short of the target of 4
- National irrigation water use monitoring system (NIWUMS) was in place, as planned (satellite-based irrigation monitoring system was developed, as planned)
- Detailed designs were completed for 3,824 ha, falling short of the target of 5,824 ha
- 3,376 ha were provided with new/improved irrigation or drainage services, falling short of the target of 4,400 ha
- 71 percent of the Water User Groups (WUGs) and water user associations (WUA) had women in the management committee, falling short of the target of 90 percent
- 65 percent of the beneficiaries were satisfied with the quality of services and technical assistance by the project, almost meeting the target of 70 percent
- Average cropping intensity reached 1.61 in the rice system, exceeding the target of 1.5
- Average cropping intensity reached 2.72 in vegetable systems, almost reaching the target of 3.00
- 1,834 hectares were under irrigated agricultural production during the most recent dry season, falling short of the target of 3,500 ha

Outcomes

The outcome of this objective is measured by increases in productivity of four selected commodities and the number of farmers that were reached.

The indicators are as follows:

- Rice yields were increased to 5.8 metric tons (MT) per hectare, exceeding the target of 4 MT per ha
- Onion Yields were increased to 21.6 MT per ha, exceeding the target of 20 MT per ha
- Cabbage yields were increased to 37.10 MT per ha, exceeding the target of 32 MT per ha

Outreach indicators

- 5,672 farmers were reached with agricultural assets or services, falling short of the target of 9,000 (of whom 3,429 were women, falling short of the target of 4,500)
- 28,519 benefited from the project, falling short of the target of 45,300 (of whom 17,417 were female, falling short of the target of 22,650)

The yields of the three selected crops were increased, exceeding the targets. The yields achieved were also significantly higher than the yields in non-project areas. For example, rice yields achieved were considerably higher than the 1.0 MT per ha harvested by non-beneficiaries in rainfed rice production using traditional varieties or the 3.00 to 3.50 MT per ha harvested using improved varieties (ICR para 26). Cabbage and onion yields were also higher than the national averages. Farmers also increased cropping intensity, indicating that they had benefited from irrigation.

However, the project did not develop the targeted irrigation capacity (3,376 ha against 4,400 ha) or reach the targeted number of farmers (5,672 against 9,000). The project achieved this objective with substantial efficacy but with moderate shortcomings.

Rating
Substantial

OBJECTIVE 2

Objective
To improve market access in the project areas developed with irrigation

Rationale
ToC
The ToC states that project activities or inputs, such as facilitating partnerships along agricultural value chains t increase access to inputs and finance, improving post-harvest management, and developing knowledge of bett

business practices—including behavioral changes toward collective action—would enhance market access (PAD, para 25).

Critical assumptions in the theory were that farmers and agents in the input and output markets could enter into mutually beneficial arrangements.

The outcome indicator, the proportion of total agricultural production marketed for selected commodities, robustly measures increased access, as long as there is evidence of project activities and intermediate outcomes that indicate improved market access. The share of crops sold by producers is affected by both the quantity produced by farmers (through higher productivity and cropping intensity) and better access to markets, in terms of prices received or the ability to sell.

Outputs

The project promoted connections between farmers and processors, provided market information to farmers, supplied post-harvest equipment, and facilitated contractual arrangements. Intensification efforts—measures to help farmers maximize irrigated land for increased productivity and output—were delayed due to slow irrigation development. The project barely made use of the funds allocated for giving input vouchers and farmers and did not support any subprojects. The farmers, however, were able to obtain some credit from input traders.

The RF does not have any relevant output/intermediate indicators.

Outcomes

The share of produced crops marketed measures access to markets. The outcome indicators are as follows:

- 80 percent of rice produced was marketed, exceeding the target of 75 percent
- 91 percent of onions produced were marketed, exceeding the target of 80 percent
- 96.5 percent of cabbage produced was marketed, exceeding the target of 80 percent

The targets for the share marketed were exceeded, but there is only weak evidence to suggest that it was a result of improved market access. The increase in yields and cropping intensity alone could have contributed to the change in the share of production marketed. Additionally, the achievement was over a smaller area and a smaller group of farmers than targeted. The efficacy with which the objective has been achieved is rated Substantial but with moderate shortcomings.

Rating
Substantial

OVERALL EFFICACY

Rationale
The ToC stated that creating enabling conditions, developing irrigation infrastructure, organizing and training farmers to manage them effectively, and disseminating improved agricultural production technologies would enable farmers to adopt irrigated agriculture practices to increase cropping intensity and crop productivity.

Furthermore, facilitating partnerships along agricultural value chains to enhance access to finance, inputs, and markets, and helping farmers adopt improved post-harvest practices would allow them to sell a larger share of their produce than before.

The project succeeded in increasing the yields of selected crops in the irrigated area, but it developed only three-quarters of the targeted irrigated area, benefiting about two-thirds of the targeted population. The efficacy in achieving this target was rated substantial but with moderate shortcomings. The project also increased the share of crops sold by farmers; however, there is insufficient evidence to suggest that this increase was directly attributable to project activities aimed at improving market access. The increased crop share marketed could have resulted from higher production from increased productivity and increased cropping intensity. The efficacy in achieving this objective too was rated substantial but with moderate shortcomings. The overall efficacy too is rated Substantial with moderate shortcomings.

Overall Efficacy Rating

Substantial

5. Efficiency

Economic efficiency

Ex ante

The analysis at appraisal considered quantifiable benefits from improved crop productivity and marketed production by beneficiary farmers.

The analysis estimated an Economic Net Present Value (NPV) of US$44.9 million, with a discount rate of 5.5 percent over 20 years and an Economic Internal Rate of Return (IRR) of 20.9 percent.

The sensitivity analysis demonstrated that the project is not sensitive to moderate increases in costs, delays in realizing benefits, or decreases in expected yields and farmers' participation (PAD, para 88).

Greenhouse Gas (GHG) accounting analysis found that the project will result in carbon emission savings of 238,344 tCO_2-eq over the project duration of 20 years.

Ex post

At completion, the analysis considered similar benefits, but unlike in the ex ante analysis, the crops considered were only rice and horticulture. Sugar cane cultivation expected at appraisal did not materialize.

The analysis yielded an estimated NPV of US$39.9 million, using a discount rate of 12.5 percent over 20 years and an IRR of 29 percent.

Sensitivity analysis showed that the results are robust to changes in adoption of irrigated area or vegetable prices. When the adoption of irrigated agriculture is reduced to 70 percent and vegetable prices are decreased by 10 percent, the IRR decreased to 21.9 percent and 26 percent, respectively. However, when yields were reduced by 20 percent, EIRR decreased to 20 percent.

Ex post GHG accounting showed that the net balance was positive at 188,506 tCO_2-eq over 20 years. The main reason was that sugarcane, a potential perennial carbon sink, was not cultivated as expected at appraisal (ICR, Annex 4, para 31).

Administrative efficiency

Several factors undermined efficiency (ICR, para 39):

- Inability to use a designated Account disrupted implementation during the first 12 months.
- The COVID-19 pandemic limited field monitoring.
- High turnover of key staff delayed decision-making. The turnover of technical specialists at the provincial level affected procurement in particular.
- The lack of extensionists knowledgeable in irrigated farming was a constraint to agricultural intensification.
- A series of cyclones damaged irrigation infrastructure, disrupting implementation.

The cost of restoring previously damaged systems and making them cyclone-proof averaged US$8,000 per ha, and that of building new cyclone-proof systems averaged US$11,500 per ha. They compare favorably with average costs of rehabilitating at about US$8,300 per ha and building new schemes at US$14,500 per ha in Sub-Saharan Africa (ICR, para 40).

The estimated returns are higher than projected, irrigation systems were rehabilitated and built at comparable costs, and the project was completed without delay. The project was implemented with substantial efficiency.

Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	20.90	0 ☐ Not Applicable
ICR Estimate	✓	29.00	0 ☐ Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The PDO to increase productivity and improve market access in areas with irrigation was highly relevant to Mozambique's strategy to expand irrigation to develop its smallholder rainfed agriculture, vulnerable to climate events. The PDO was achieved with substantial efficacy but with moderate shortcomings. The project met the productivity and marketing share targets, but there was not enough evidence to link the increased share marketed to project activities or improved market access. The project also only developed about three-quarters of the targeted irrigation and reached two-thirds of the planned farmers. Despite these issues, the project was implemented with substantial efficiency. The overall outcome is rated moderately satisfactory.

a. Outcome Rating

Moderately Satisfactory

7. Risk to Development Outcome

There were several risks to the development outcome.

Adverse weather: Cyclones have emerged as an even greater threat than droughts and floods that have plagued rainfed agriculture in the country. Although the project cyclone-proofed the irrigation infrastructure, adverse climate events pose a risk to the development outcome.

Operation and maintenance of collective Infrastructure: The project trained irrigation user groups in operation and maintenance of the irrigation infrastructure, including collecting water fees to pay for operating expenses and equipment maintenance. Their continued ability to earn adequate incomes from irrigation and collect the dues from members to operate and maintain the systems poses another risk to the development outcome.

Maintenance of small-scale irrigation systems: Although the recipients of solar pump-based irrigation systems are shielded from the availability and cost of electricity, whether they will be able to get the spare parts necessary to maintain the systems poses another risk.

8. Assessment of Bank Performance

a. Quality-at-Entry

The project to increase productivity and improve access to the market in irrigated areas was consistent with the country's strategy to transform its rainfed subsistence smallholder agriculture through irrigation development.

The activities included – improving enabling conditions, developing irrigation infrastructure, organizing farmers to maintain the systems and practice sound irrigated agricultural practices, and helping farmers get into productive partnerships with other agents in value chains – could be expected to help farmers increase yields and commercialize to a greater extent.

The project also drew heavily from the experience of the previous project, Sustainable Irrigation Development Project (PROIRRI), in areas such as the establishment and strengthening of WUAs. The design also drew from the experience of the Agricultural and Natural Resources Landscape Management Project (LANDSCAPE) on input vouchers.

The implementation arrangements relied on service providers under the supervision of the ministry. At the national level, the Ministry of Agriculture and Food Security (MASA) was responsible, in consultation with other ministries. An Agricultural Investment Management Unit (AIMU) established by MASA would be responsible for project coordination and management of fiduciary issues, with participating provinces establishing provincial IMUs. Activities on the ground would be implemented primarily by service providers.

The M&E system was adequate to monitor progress and assess outcomes, but outcomes could have been better attributed to project outputs with more IRIs related particularly to activities to help farmers establish links with other agents in value chains.

The design required modifications later to address the vulnerability of infrastructure to cyclones, but cyclones hadn’t been identified as a threat before the project was designed.

Summary: The project was well-aligned with the country strategy, used proven components, and had appropriate implementation and M&E systems. The quality at entry was Satisfactory.

Quality-at-Entry Rating

Satisfactory

b. Quality of supervision

The team provided supervision through two support missions per year, totaling 15, in addition to daily support from the Maputo office. The supervision was carried out by teams with the necessary skill mix, with only one leadership change during the project.

The bank team was agile and proactive. It restructured the project as needed to restore production in previously developed irrigated land. Aide Mémoires were detailed and precise on agreed actions (ICR, para 60)

Quality of Supervision Rating

Satisfactory

Overall Bank Performance Rating

Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The M&E framework was adequate, but it could have benefited from more IRIs. The PDO indicators were appropriate to measure the achievement of the objectives, and they were clearly measurable.

There were ten IRIs. Six of them were project outputs, such as the number of policies revised and in place. Four were intermediate outcomes, such as the number of farmers adopting intermediate technologies. More intermediate indicators on project activities to strengthen market access would have enabled the attribution of market access to specific project activities. The “number of farmers reached with assets and services” is a catch-all indicator that does not adequately explain the links.

The project was to establish a Progress and Results Information Monitoring System (PRIMS) at MASA to implement the framework. Indicator data would be collected at the farm, irrigation scheme, and organizational level primarily through progress reports from implementing agencies. MASA will recruit an M&E specialist responsible for managing PRIMs. Two evaluations of project outputs, one at mid-term and the second at completion, would be commissioned.

b. M&E Implementation

Qualified M&E specialists at the national level, supported by coordination at provincial levels, implemented the framework.

Data was collected using the Kobo Toolbox. The ICR does not indicate whether the two evaluations were conducted.

c. M&E Utilization

The M&E was used in multiple ways. It provided a feedback loop for calibrating project interventions. For example, the information was used to assess the performance of irrigation infrastructure against adverse weather events to inform the design to climate-proof them. Studies implemented, such as those of the river basin, informed irrigation restoration designs.

Summary: The M&E system was adequate and implemented as planned, effectively informing project design and adjustments. Its main shortcoming was the lack of sufficient intermediate indicators, but overall quality is rated substantial.

M&E Quality Rating

Substantial

10. Other Issues

a. Safeguards

Environmental and Social Compliance

Classified as category B, the project triggered World Bank safeguard policies on Environmental Assessment OP/BP 4.01, Natural Habitats OP/BP 4.04, Pest Management OP 4.09, Physical Cultural Resources OP/BP 4.11, Involuntary Resettlement OP/BP 4.12, Safety of Dams OP/BP 4.37, and Projects on International Waterways OP/BP 7.50.

The project carried out the necessary environmental and social assessments for various irrigation perimeters. However, in some provinces, there were no environmental and social safeguards specialists on the project implementation team for extended periods. This issue was addressed by sharing staff across provinces and providing regional staff with support from head office personnel.

The Involuntary Resettlement Policy Framework provisions were put in place to address resettlement issues that arose during project implementation. This related to 143 affected families who were resettled during the development of the Acaboco irrigation scheme.

A Grievance Redress Mechanism was set up and was fully functional. It received 40 complaints, which were all resolved satisfactorily and closed. Complaints were mainly related to water availability, especially in the dry season. No cases of Gender-Based Violence, Sexual Exploitation and Abuse, and Sexual Harassment were recorded. There were a couple of noteworthy workplace safety incidents. The first occurred in the Acabocco irrigation scheme in October 2023. The second incident happened at the Chiverano irrigation facility in March 2024. In both cases, immediate treatment was provided, and areas for improvement were identified, with corrective measures implemented.

b. Fiduciary Compliance

Procurement

The project faced significant procurement challenges. Procurement was unusually slow, partly due to the limited capacity of the procurement team, especially in evaluating proposals. All activities were documented in STEP. Procurement performance at project closing was rated “Moderately Satisfactory.”

Financial Management (FM)

The project regularly submitted acceptable interim financial reports to the World Bank on a quarterly basis. Although the audit reports were sometimes submitted after the deadline due to delays in reviews by the Administrative Court, the audit opinions remained unqualified. Because some project activities were canceled, such as matching grants to farmers’ groups and SMEs due to the delayed completion of irrigation infrastructure, an undisbursed balance of US$5.7 million was canceled. Additionally, about US$2.8 million in funds was reduced due to unfavorable exchange rate fluctuations. The project closed with an FM rating of “Satisfactory.”

c. Unintended impacts (Positive or Negative)

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d. Other

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11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Satisfactory	Moderately Satisfactory	
Bank Performance	Satisfactory	Satisfactory	
Quality of M&E	Substantial	Substantial	
Quality of ICR	---	Substantial	

12. Lessons

The ICR identified five lessons. Four lessons that are likely to be widely applicable are restated below.

Under suitable conditions, small-scale and easily installable irrigation systems can potentially create opportunities to significantly boost smallholder incomes. The project distributed irrigation kits that included solar-powered pumps to be shared by two farmers, to maximize returns to investment. Farmers achieved high vegetable yields and earned substantial profits by producing during the off-season. Whether they will be able to sustain these systems remains uncertain.

Failing to ensure the timely completion of constructions on which other project activities depend can potentially jeopardize achieving project objectives. Completing the construction of irrigation schemes only in the final year of project implementation limited the activities that could be taken to help farmers intensify their agricultural practices, and also train farmers to effectively utilize the systems, including on operation and maintenance.

Lowering production risks can encourage private financing of agriculture. Agro-dealers who were hesitant to finance rainfed agriculture became willing to supply inputs to farmers on credit after the irrigation systems were built. Although the matching grants activities under the project did not take off, private input supply arrangements stepped in to fill the gap.

Implementation arrangements that leverage the capabilities of different organizations can ensure smooth implementation and the technical capabilities needed to address complex issues. In the 2021 restructuring, fiduciary responsibilities were transferred to the National Sustainable Development Fund, while the National Irrigation Institute (INIR) retained the planning, regulatory, and coordination roles. This arrangement, with sector-specific expertise from INIR, proved effective in mitigating climate risks, such as the impacts of cyclones.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The report provides a comprehensive overview of the project, including its outcomes. The report makes use of information from multiple sources, and the information is presented in adequate detail. The analytical approach is sound. Project outputs are discussed in sufficient detail to highlight the links to project outcomes and the reasons for lapses. The broader literature is used to provide context for the achievements and also to strengthen attribution of outcomes to project activities. The writing is clear, with adequate links to different sections to make the report consistent and easy to read, giving a clear overall picture. The report is also candid in its assessment.

Overall, the Quality of ICR is substantial.

a. Quality of ICR Rating
Substantial