Report Number: ICRR0022401

1. Project Data

Project ID	Project Name
P107343	Bi-Ag. Past. Product. & Market Devel.
Country	**Practice Area(Lead)**
Burundi	Agriculture and Food

L/C/TF Number(s)	Closing Date (Original)	Total Project Cost (USD)
IDA-D1510,IDA-H5620	30-Apr-2016	65,118,983.54
Bank Approval Date	**Closing Date (Actual)**	
29-Apr-2010	31-Jan-2020	

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	43,000,000.00	0.00
Revised Commitment	65,664,308.48	0.00
Actual	65,118,983.54	0.00

Prepared by	Reviewed by	ICR Review Coordinator	Group
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2. Project Objectives and Components

a. Objectives

The project development objective (PDO), as stated in the Grant Agreement (GA, 2010), for this project was “to increase small producers’ productivity and market access for targeted commodities in the Project Area”.

For purposes of assessing the extent which the PDO was achieved in Section 4, this review will parse the PDO into two objectives, namely:

Objective 1: to increase small producers' productivity for targeted commodities in the project area; and

Objective 2: to increase small producers' market access for targeted commodities in the project area.

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

No

c. Will a split evaluation be undertaken?

No

d. Components

Component 1: Support to agricultural productivity and access to markets (Original allocation: US$39.27 million; Actual: $39.2 million). This component aimed to promote the adoption of improved technology packages by beneficiaries through the implementation of productive and post-harvest as well as watershed management investments. It included two subcomponents: (1.1) financed matching grants for productive sub-projects to be implemented at various stages of the value chains: production; post-harvest activities; Component 1 also provided advisory support and training for professional associations and cooperatives in the value chains as well as capacity building for partner public institutions; (1.2) financed the following activities: (a) building the capacity of producer organizations (POs) benefiting from sub-projects; (b) building the capacity of public institutions supporting sub-project beneficiaries;

Component 2: Irrigation development and feeder road rehabilitation (Original allocation: US$19.19 million; Actual: $17.27 million). This component aimed to improve basic collective infrastructure so that producers could increase the volume of agricultural production and improve their connection to the market. There were two subcomponents: (2.1): development of marshland irrigation; (2.2): rehabilitation of feeder roads, as well as establishment of the systems needed to manage this infrastructure. Eligible infrastructure was to include: basic infrastructure for developing marshland irrigation; development of the watersheds adjacent to the marshlands; tracks within marshlands; and the feeder roads linking marshlands to the communal road network. Activities included establishing water user associations (WUAs), building their capacity, and preparing management and maintenance programs for irrigation facilities and equipment.

Component 3: Management and coordination of project activities (Original allocation: US$7.20 million; Actual: US$8.65 million). This component aimed to finance project coordination and management activities, including the project communications activities and dissemination of information related to project implementation. It covered the costs related to the equipment, staff salaries, and recurrent expenditures of the Project Implementation Unit (PIU) and Interprovincial Project Implementation Units (IPIUs). This component included funding the costs of the project's financial management (FM) system and associated costs; M&E activities, as well as a Management Information System to collect baseline data and information on progress in project implementation, monitoring environmental and social impacts and develop the required tools and procedures to provide capacity building for the actors involved in these activities.

Revised Allocations Across Disbursement Categories and Additional Financing: While the components were not revised, following the mid-term review (early 2014) there was a level 2 restructuring (mid-2015), followed by additional financing (end of 2016). First, the restructuring involved reallocating funds across disbursement categories to offset cost overrun under Category II (Goods, works and consultant services) to fund activities related to: Subcomponent 1.2 (capacity building, institutional support,

and facilitation of access to markets); Component 2 (Irrigation development and feeder road rehabilitation); and Component 3 (Management and coordination of project activities). The primary reasons for the reallocation were the significant strengthening of the US dollar versus the SDR and the underestimation of construction costs of rural infrastructure. This restructuring also reallocated the remaining funds (about US$400,000, under the Project Preparation Facility Refinancing Category) to Category II (ICR, para. 13).

Second, the Additional Financing (AF), approved in December, 2016, did not change the PDO, project description or safeguard category, but included changes in: (a) scaling up support for improved agricultural technology packages, as well as on consolidation and further rehabilitation/development of rural infrastructure; and (b) the results framework, which underwent four main changes: (i) increase in the targets for the three existing PDO indicators; (ii) introduction of two new PDO indicators; (iii) increase in the targets of eight intermediate results (IR) indicators; and (iv) introduction of four new IR indicators (ICR, para 15).

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

(i) Project Costs: The original total project cost was US$70.0 million. The revised project cost was US$65.66, including the approved AF (US$ 22.664 million, end-December, 2016). The actual cost at project closing was US$65.12, or 93% of the original cost, and 99.2% of the revised project cost (with the slight difference due to exchange rate fluctuation).

(ii) Project Financing: The World Bank (IDA) financing was US$68.0 million. By the end of the project, total Bank disbursement was US$65.12 million (or 98.5%)

Borrower Contributions: At approval, the Borrower counterpart contribution was expected to be US$2.0 million, but the eventual Government contribution of 0 was due to the country's political and fiscal crisis.

Also, the ICR reported an unexpected contribution from the beneficiaries, estimated to be US$2.2 million (mostly in-kind labor contributions for project-funded subprojects).

Dates: The project was approved on April 29, 2010, becoming effective on December 17, 2010. A mid-term review was carried out in February, 2014. The original closing date was April 30, 2016; the actual closing date was January 31, 2020.

Restructuring: As stated above at the end of Section 2d, a level 2 restructuring was carried out in mid-2015 and an Additional Financing (AF) of US$25.00 million to scale up project activities and enhance market access was approved in late 2016. There was no change in the project's level of ambition because of either the restructuring, the AF or the addition of two PDO indicators, and therefore, this review does not undertake a split assessment of the project's outcomes.

3. Relevance of Objectives

Rationale

At the time of the design of this project (Agro-Pastoral Productivity and Markets Development or PRODEMA) the main livelihoods for 85 percent of Burundi's population depended on agriculture, with the

sector contributing to about 50 percent of the country's GDP. In 2010, over 70 percent the population was affected by food insecurity. Despite the official priority assigned to agriculture, it had not been restructured or modernized, The sector was dominated by smallholders using traditional and low productivity technologies (ICR, para. 3). While PRODEMA was being appraised, another project, the "Agriculture Rehabilitation and Support, and Sustainable Land Management Project of Burundi" (PRASAB), which had moderately successfully focused on improving the productive capacity of mainly subsistence farming through investments in production and sustainable land management and through capacity building of producer organizations and local communities, was coming to an end. PRASAB had, apart from its to support to subsistence farmers, provided matching grants for small productive investments at the community level. PRODEMA's community drive development (CDD) design was a successor to PRASAB, with the objectives “to increase small producers’ productivity and market access for targeted commodities in the Project Area”. The PAD stated that this "project will use the approach introduced by PRASAB to help households move modestly beyond the recovery of subsistence production and toward production for markets - largely but not exclusively local markets - by making those markets more accessible (PAD, para 10).

The project's two objectives were complementary, and their three supporting components were all relevant to addressing the main sectoral constraints and aspirations of the farmers, agro-processors, traders, and consumers by addressing strategic aspects of the Government’s national and sectoral/thematic policies, strategies and targets, including: Vision 2025; Poverty Reduction Strategy Paper (2012 – 2025); and Burundi’s National Development Plan (2018 – 27); National Agricultural Strategy: 2008-2015 (2008); and three core programs of the National Agricultural Investment Plan (2018 – 2022). The project addressed core elements of these framework documents, including: food insecurity; tapping the comparative advantage of the agriculture sector to meet domestic needs and profitable export markets; promoting value-addition and value chain development; competitiveness of the agricultural sector, consistent with the Comprehensive African Agricultural Development Program (CAADP) objectives and strategies; and strengthening institutional and organizational capacities of the agricultural sector (ICR, para. 5).

The clear two-pronged project objectives, for both the initial project and the Additional Financing, were also strongly aligned with key pillars of the World Bank’s Country Assistance Strategy (CAS) over two periods: the CAS, FY09 – FY12 and the CAS FY13 – FY16. The project contributed to key pillars of these CASs, including supporting directly: the strategic objective of ‘increasing the productivity of food and high-value export crop production, improving the business environment, and improving infrastructural services’ which contributed to the country’s transition to an increasingly stable, competitive, and diversified economy, with enhanced opportunities for productive employment and improved standards of living. These elements were at the core of the implementation of the Bank’s Poverty Reduction Strategy Paper for Burundi (2012 – 2025), which “placed agriculture at the heart of Burundi’s economic development as the main factor for poverty and food insecurity reduction and promotion of shared prosperity” (ICR, para. 4).

Rating

Substantial

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective

To increase small producers' productivity for targeted commodities in the project area.

Rationale

Theory of Change (ToC): While the project's design included a results framework (RF), the PAD did not develop a ToC because it was not required at the time the PAD was prepared. The ICR reconstructed a generally sound ToC (ICR, paras. 9 - 11, and illustrated in Figure 1); while the figure illustrates how the two broad and inter-related objectives of improved productivity and increased market access for targeted commodities would be achieved, there was limited accompanying narrative, or implied from the subsequent description of the project components. The ToC for Objective 1 (increased yields for targeted crops) involved: capacity building and associated training of producer organizations and participating service agencies (providing improved technology and extension services) and partnerships, rehabilitation of marshlands and irrigation infrastructure; and protection of watersheds would provide technical support to the participating farmers to increase yields of important local crops. Although the basis for selecting the crops is not explicit in the PAD or the ICR, the selection was implied as part of Government's overall agricultural strategies cited above, consistent with an assumed competitiveness of the selected crops and their potential for marketing and processing. Also, the targeted commodities were the basic staple products most important in Burundi's household farm economy for food security, cash generation and livelihoods, while also considering crop and livestock production systems (as communicated to IEG by the Bank's project team) .

The ICR presented supporting evidence on key outputs and outcomes which contributed to the achievement of Objective 1, reflecting also the results arising from the Additional Financing (AF) (ICR, paras. 22-27, Annex 1; Project Impact Evaluation Study, 2020). Attribution of these results to the project's direct interventions is reflected in the ToC and supported by available evidence generated by the project's M&E system, the project's independent Impact Evaluation Study (2020, see below for details) and a supplemental independent Economic and Financial Analysis of PRODEMA (2020).

Outputs: The project's main outputs are summarized in Table 1 (ICR, Annex 1):

Table 1: Summary of Key Output Targets and Achievements

Output (or "Intermediate Result Indicators")	Original Target	Revised Target	Actual Achieved	% of Target
a) Number of production subprojects financed/completed (involved multiple activities)	2,630	2,786	2,762	99
b) Number of nurseries established for bananas and fruit trees	0	15	13	87
c) Hectares of marshlands rehabilitated	2,000	2,300	2,401	104
d) Hectares of hillside areas protected	10,000	15,000	13,931	93

The income-generating subprojects financed by the project included different types of activities which contributed to the outcomes and achievement of objective 1 (e.g., establishment of nurseries, access to improved seeds and breeds, production advice for several commodities, ICR, paras. 25 & 26). In addition, the subprojects included technical support and funding to enhance the capacities of key public institutions (including extension advisory and veterinary services) and Producer Organizations (POs). These public and producer entities provided direct services to the beneficiary farmers to enable them to contribute toward the achievement of the project's targets (both outputs and outcomes, see below) through provision of training workshops and funds to enable field visits and provision of technical services to the beneficiary farmers (ICR, Annex 2, paras. 6-10). It is noted that the ICR did not specify the number of training workshops and participants.

Outcomes: The project's strategic outcomes are summarized in Table 2 (ICR, paras. 22-28, and Annex 1):

The key outcomes cited in Table 2 were generated by the subprojects, which supported relevant activities and outputs (consistent with the ToC; ICR, paras. 25 & 26). At the same time, the ICR recognized that the increases in productivity were not estimated based on a survey of randomly selected sample of value chain participants in the project zones, as should have been the case, to better inform the achievement of the PDO regarding the evolution of productivity of project-supported value chains. Hence, the M&E results based on subprojects were not a completely reliable assessment of the full project's impact on all value chain participants.

Table 2: Summary of Key Outcome Targets and Achievements

Outcome	Baseline	Original Target	Revised Target	Actual Achieved	% of Target
a) Number of Direct Project beneficiaries	0	92,000	156,000	173,356	90
b) Percentage of Female Beneficiaries	0	44.6	50	48.1	96
b) Productivity increases in selected commodities (MT per ha.)					
- Rice	2.5	4.0	4.5	5.7	127
- Bananas	9.0	16.0	22.9	22.9	100
- Coffee	0.4	0.8	1.2	1.2	100
- Milk (liters/cow/year)	360	950	1,350	1,439	107
c) Percent of farmers adopting new/improved technology packages	NA	70	75	85	113
d) Percent of producers adopting improved animal breeds/practices for milk	NA	70	70	75.5	108
e) Percent of beneficiaries adopting climate-resilient technologies	NA	0	25.0	47.3	189

The ICR noted that the "achievements of the project in terms of increased value chain productivity as reflected by the project M&E data may have been skewed upward" (ICR, para. 27). Also, the Bank project team provided the following clarifications regarding the attribution of project-induced productivity increases to the project's interventions: "(a) the increases in productivity were assessed based on PRODEMA-supported production subprojects (more than 2,300); and (b) there is no question of attribution since the data is from PRODEMA-supported farmers. Since these farmers were not supported directly by other projects, the results reported by the PRODEMA M&E system are definitely attributed to PRODEMA". In addition, the results of the project's independent impact evaluation study (summarized in Tables 2 and 3 and section 2.3.4.2, dated 2020) and the Report on the Economic and Financial Analysis for the ICR (EFA, 2020), together, provide analyses of the value chains directly supported by the project. Together, this analysis and supporting evidence, help support, albeit partially, the overall attribution of project activities/outputs/outcomes, including productivity increases, to the project's interventions. Also, during discussions between IEG and the Bank's project team, it was stated by the team that there were no other investments by development partners with similar objectives to increase productivity in the project area, helping to substantiate inferred attribution to PRODEMA's interventions to increase productivity. Accordingly, given the low baseline figures overall evidence on the patterns and level of the increases and progress toward the objectives/targets of objective 1 (which had been revised upwards following the AF), the further evidence and clarifications provided by the project's Impact Evaluation Study and by the supplemental EFA analyses, and and further clarifications provided by the Bank's project team, the efficacy with which Objective 1 has been achieved is rated Substantial by this review.

Rating
Substantial

OBJECTIVE 2
Objective
To increase small producers' market access for targeted commodities in the project area.

Rationale
Theory of Change: Figure 1 in the ICR illustrates that to achieve an increase in market access for targeted commodities for small producers in the project area it would be necessary to: foster marketing arrangements and business development capacities by beneficiary producer groups/cooperatives and farmer group leaders through the establishment of market information systems and the rehabilitation of prioritized rural roads to enable lower cost access to competitive markets; as well as to enable post-harvest processing subprojects to generate value added and promote value chain development to markets where there is a demand for the processed commodities.

Outputs The project's main outputs are summarized in Table 3 (source: ICR, Annex 1):

Table 3: Summary of Key Output Targets and Achievements for Objective 2

Output (or "Intermediate Result Indicators")	Original Target	Revised Target	Actual Achieved	% of Target

a) Percent of participating producer groups/associations/coops having contractual marketing arrangements	20	30	18.3	61
b) Number of post-harvest subprojects financed	0	NA	72	NA
c) Number of farmer group leaders trained in mgt. & business development	0	120	162	135
d) Number of kilometers of rural roads rehabilitated	58	123	129.6	105
e) Number of post-harvest/processing subprojects financed/installed	0	20	20	100

As shown above, most of the output targets, other than a shortfall in the percent of producers with contractual marketing, were achieved arrangements. These outputs contributed to the market-based outcomes shown below.

Outcomes: The project's main outcomes with respect to Objective 2 are summarized in Table 4:

Table 4: Summary of Key Outcomes Targets and Achievements

Outcome	Revised Target	Revised Target	Actual Achieved	% of Target
a) Percentage of production of commodities in targeted value chains marketed by participating producers	47.5	63	72.5	115
b) Percentage of increased volume of processed produce marketed	0	15	0	0

With respect to the progress toward objective 2, given the nature of the activities and the time required to achieve their results, by the end of the project closure, there was a mixed picture, especially due to the delay in procurement of the processing equipment prior to project closure, which are now delivered and installed. Nonetheless, an important target for Objective 2 was exceeded, with respect to the proportion of

produce marketed, which involved a large proportion of the total beneficiaries. The ICR (para. 28), the project's impact evaluation study (dated 2020, various sections, including Tables 2 and 3, Annex 16) and the project's independent EFA study (dated 2020, regarding positive financial and economic returns for the major value chains, supported by the project) also presented positive evidence regarding: (a) the role of the project in promoting aggregation of production; (b) enhanced production, coupled with marketing alliances, and product post-harvest treatment, enabling subsequent processing; (c) and expanded storage and price stabilization. While the commodity processing activities during the AF period did not yield the intended results, it is recognized that the number of sub-projects of that type was only about 1 percent of the total number of sub-projects implemented by the project. They should be regarded as pilot activities to be taken up by future operations, and their shortcomings should not negatively affect the project's overall efficacy rating. Accordingly, the evidence and positive results presented by the two reports cited above, arising from the value chains supported by the project, substantiate the "Substantial" rating.

Rating
Substantial

OVERALL EFFICACY
Rationale
Overall efficacy is rated substantial, based on the assessment and evidence outlined above for each of the two objectives. With respect to Objective 1 on increased productivity, all of the targets were met or exceeded. With respect to Objective 2, while there were some shortcomings, the main target involving percentage of production marketed and the corresponding numbers of beneficiaries were exceeded, while laying the foundation for subsequent expanded market development, for both primary and processed forms of production.

While not reflected explicitly in the project objectives, the project also contributed to the improved wellbeing of one of the vulnerable population groups, in terms of subprojects which improved living/housing conditions of and nutritional support (for mothers' groups) for a portion of the Batwa community residing in the project area.

Finally, the project carried out an independent satisfaction survey (PDO indicator #5) at the end of 2019 and reported in Annex 1of the ICR, The survey assessed the degree of satisfaction of beneficiaries with general project interventions involving both objectives. The survey revealed a general satisfaction rate of 96 percent, far exceeding the target of 75%.

For these reasons this review concludes that the overall efficacy with which the PDO was achieved was substantial.

Overall Efficacy Rating

Substantial

5. Efficiency

The ICR provides no substantive information on the ex ante economic analysis of this project. The only information is the estimated economic internal rate of return (EIRR) at appraisal. This review notes that, with respect to the ex-ante financial and economic analysis, the PAD stated "Given that (farm level sub-projects) are to be demand-driven, the type and size of sub-projects cannot be known beforehand, and the economic and financial analysis cannot be based on a pre-set portfolio of sub-projects. Rather, the analysis is based on the typology of sub-projects expected to be implemented as a proxy for actual investments". The PAD also stated that "no cost-benefit analysis has been prepared (for public investments) because benefits are hard to quantify" (PAD, Annex 9, para 3). In its analysis, the PAD estimated crop and livestock returns and costs for sub-projects and aggregated them to the project level according to the number of sub-projects expected to be funded during project implementation. The total net benefit stream was compared to project costs to derive the project's net present value (NPV) and to compute the project's financial and economic IRRs. Details of the methodology used were provided in the PAD (Annex 9, para 12). The results showed a financial IRR of 28.2 percent and an ERR of 21.2 percent. The NPVs (at a discount rate of 12 percent) were respectively: FBu33.7 billion (US$ 27.4 million) and FBu 10.4 billion (US$ 8.4 million).

The ICR analysis used the same methodology as in the PAD. It was performed on an incremental basis, comparing the value of quantifiable benefits (incremental production, reduction in transport costs, and mitigation of losses) versus project costs, “with” and “without” project interventions.

(a) The financial analysis presented in the ICR (paras.33-35) concluded that: (i) positive financial rates of return for the farm/enterprise level analyses, based on different commodities, ranged between 20 - 42%, and was based on “representative” model enterprises drawn from the project’s actual portfolio of subprojects for the main commodities, accounting for almost 90% of the project’s portfolio. The ICR modified the approach to assessing the financial analysis, according to each type of commodity-based farm model, rather than estimating an aggregate financial rate of return, as was done in the PAD; this revised approach used in the ICR provides a more meaningful assessment of financial returns; (ii) project-supported activities at the farm level provide clear ex-post evidence that small producers have had substantial financial incentives to adopt the project-sponsored production technologies. On the other hand, the ICR also states that "the cash flow analysis shows that a subsidy was necessary to support the uptake of the commodity technologies" (para 35). The ICR observed that in the absence of funding from financial institutions or other partners in the value chains, the small-scale farmers would have found it difficult to cover their early negative cash flows without the subsidy. At the same time, the ICR noted that financial analysis also assessed scenarios without the subsidy and concluded that it "clearly demonstrated that the intrinsic long-term financial viability underpinning the new technologies was positive". The ICR concluded therefore that "producers in the future should be able to negotiate co-financing possibilities with other value chain partners as part of fully private contractual productive alliances, instead of project-provided subsidies" (para 35). While the ICR provided evidence in footnote 19 that 21 such contracts had been implemented for milk following the Additional Financing, milk marketing has unique features which support contracting arrangements that other agricultural products do not. There was no evidence that small-scale farmers in Burundi producing other products were able to "access finance and partnerships" to enhance marketing efficiency, and hence justify scaling up the adoption of improved agricultural technologies. Indeed, the evidence reported in the assessment of the achievement of Objective 2 is the opposite, since there was a reported shortfall in the percent of producers with contractual marketing arrangements.

(b) The economic analysis for the ICR generated an economic internal rate of return (EIRR) for the entire project of 21.3 percent (weighted average of the initial and AF phases). This rate is of similar magnitude as the rate of 21.2 percent estimated at appraisal (PAD). The assumptions underpinning the ICR estimate were very conservative, including all project costs, whereas on the revenue side, only the increase in the value of production of the targeted commodities is included. On the other hand, this estimate was comparable to the EIRR estimated in the PAD because the same approach was used. This is therefore a sound economic performance.

(c) The cost-effectiveness analysis (ICR, para. 37) reveals how project costs compared with standard costs for marshland development, road rehabilitation, and construction of social and productive infrastructure. The unit cost analysis is compared with unit costs of similar investments, showing that this project was cost-effective for marshland development (about 10% lower unit costs), all the more, because project interventions were demand driven and customized to suit local irrigation perimeters, hence often requiring higher costs, as compared to standard interventions. The comparative analysis for some other interventions showed that this project's costs were higher, due to the remoteness of the project area and to various specifications used.

(d) The administrative efficiency of the project was deemed to be strong, partly because the project was able to build on and use the administrative arrangement of a predecessor project. The project's management and coordination costs were somewhat high at 13 percent of total actual costs, although the fragile/conflict conditions in the country no doubt had an impact on costs The project has been singled out as a model of efficiency and used by the World Bank in support of a number of initiatives that were outside its primary mandate, such as support for the preparation and implementation of several World Bank projects. The ICR does, however, mentions "some minor shortcomings that diminished its performance"(para 38).

In summary, the efficiency analyses indicates that the project was efficiently implemented in terms of generating positive net financial benefits for farmers, positive economic returns for the national community, cost-effective construction of public infrastructure, and generally strong project management. Hence, this review rates the project's overall efficiency as Substantial.

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	✓	21.20	85.00 ☐ Not Applicable
ICR Estimate	✓	21.30	100.00 ☐ Not Applicable

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

6. Outcome

Based on the evidence regarding the project's high relevance, and substantial efficacy and substantial efficiency, this review concludes there were relatively minor shortcomings in the project's achievement of its objectives. Accordingly, the project's overall outcome is rated "Satisfactory".

The summary rationale for the ratings of the three core elements cited above is as follows:

(a) **High relevance of the PDO**, based on strong alignment with the Government's national development and sectoral policies and strategies and with the Bank's Country Assistance Strategies/CASs (over 2 periods) and the current Country Partnership Framework/CPF (FY18 – 22). All of these policies and strategies, which were reflected in the project's objectives and components, emphasized the high priority of promoting agricultural productivity, while also focusing on promoting climate change adaptation and mitigation practices, integrated with expanded value-chain development and expanded access to competitive markets, while also targeting vulnerable population groups.

(b) **Substantial rating for efficacy**, considering that the two main objectives and associated targets/performance assessment for the two objectives were met, or exceeded in many cases, and attributed to project interventions. The shortfalls, especially in objective 2, were due to project delays in the procurement of equipment and related capacity building activities, and insufficient time to test the newly introduced activities, which is one of the key follow-up actions agreed by Government authorities (ICR, para. 40, and information provided to IEG by the Bank's project team).

(c) **Substantial rating for efficiency**, based on the performance assessment using various objective performance measures, resulting in favorable financial and economic returns, cost-effectiveness, reasonable overall level of administrative costs and good disbursement performance.

a. Outcome Rating

Satisfactory

7. Risk to Development Outcome

There is **moderate risk** to sustaining the outcomes and contribution to the project's eventual impacts. The ICR presents a candid assessment of 4 main risks, together with the specific and verifiable mitigation measures, as summarized below (ICR, paras. 76 - 79).

(a) <u>The low technical and organizational capacity of producer organizations (POs) and cooperatives to manage post-harvest sub-projects</u>: During the project's initial phase, emphasis was placed on providing appropriate training to beneficiary producers so that they would adopt the improved technical packages. This was the cornerstone measure to ensuring sustainability of the sub-projects, particularly for milk production and small ruminant sub-projects associating animal husbandry to crops (bananas and cassava). This likely successful outcome of initial production sub-projects is to be contrasted with the outcome of the project's AF phase, involving value-addition/transformation sub-projects. Accordingly, the ICR is correct in concluding that the outcome of these sub-projects remains "uncertain" (para. 76). Most of the post-harvest equipment and infrastructures were delivered in the last months of project implementation. Training regarding the use of the

equipment was briefly conducted just before the equipment arrived, and therefore insufficient; a minimum of operational training should have been provided on site at the time where the equipment was in use. To mitigate this risk, the implementing partners (IRRI and IITA) have agreed to continue providing support to the recipient POs and cooperatives, as part of their general development mandate in Burundi, to further train these groups regarding on-the-job skills for a sufficient period to help them run the equipment properly and address potential issues. The Bank's TTL confirmed to IEG the intention of the Bank team for Burundi to use the on-going Great Lakes Region Integrated Agricultural Project to ensure this support by IRRI and IITA (IEG note, dated January 27, 2021).

(b) Weak O&M Arrangements of Key Infrastructure: Water User Associations (WUAs) have limited capacity, despite the project-provided training, to properly ensure the full operation and maintenance (O&M) of infrastructure, especially the rehabilitated marshlands. According to its contractual arrangements with the project, IRRI provided capacity building for WUAs. But this fell short of what was needed for proper O&M of the marshlands irrigated systems. As a result: (i) some infrastructure built under the first phase are currently not maintained properly; (ii) stealing of water is rampant; (iii) water fees are not collected systematically, hence there are insufficient funds for O&M; (iv) there is weak governance, especially in the management and accountability of the funds collected by the WUA. The ICR highlights various key actions which need to be taken on an urgent basis with respect to marshlands and watershed rehabilitation and its O&M, as part of the post-project period, including: (i) institutional assessment and creation of independent WUAs; (ii) adequate organization regarding water use and budget management of the WUAs; (iii) regular collection of water fees and transparency in their use; and (iv) O&M of watershed rehabilitated areas.

(c) Absence of legal framework for WUAs: The legal framework governing WUAs was not yet enacted at the project's close, which constitutes a hurdle for proper O&M of marshlands. Finalization and operationalization of the legal framework has been delayed, and the draft report is awaiting approval. The approved legal framework would allow the collection of water fees by WUAs, which in turn could be used to finance the O&M expenditures of key infrastructure. The ongoing World Bank-financed Great Lakes Project has taken over the task of getting the legal framework approved and applied to its operating area (also confirmed by the Bank's TTL during the interview with the IEG Evaluator).

(d) Inadequate O&M of Feeder Roads: Inadequate O&M for feeder roads is a recurring problem in Burundi, given the lack of resources of communes. Project-rehabilitated rural roads come under the purview of local authorities, and accordingly have been transferred to communes following work completion. The transfer was predicated on the obligation by the commune to ensure adequate maintenance. However, evidence suggests that the perennial lack of financial resources precludes communes to undertake proper maintenance, so that the rural roads face the risk of reverting to their initial stage of being left again in disrepair and impassable during part of the rainy season. The ICR was not clear on the mitigation measures being taken by the Bank to address this important issue.

8. Assessment of Bank Performance

a. Quality-at-Entry

The World Bank team, in close collaboration with the Government counterpart team, played an active role in the project’s identification, facilitating/supporting its preparation and conducting appraisal and final project design in a manner which addressed strategic constraints and strongly aligned with sound

strategies, while also meeting Bank requirements (including the Bank's fiduciary and safeguard outcomes).

The project's quality-at-entry is rated **Moderately Satisfactory** by this review, based on the following evidence (ICR, para. 73): (a) project design was strongly aligned to the Government's national and sectoral strategic objectives and priorities of addressing the strategic issues in Burundi's agrarian sector, notably food insecurity and rural poverty; (b) project design was also strongly aligned with the Bank's CASs (over two periods) and the on-going CPF for Burundi; (c) project design was sound, and focused appropriately on improving agricultural productivity of smallholders, building on relevant experiences and lessons in Burundi and other countries, including from the Bank's supported predecessor project (PRASAB: Rehabilitation and Support and Sustainable Land Management Project for Burundi); the results for PRASAB showed beneficiary producer organizations (POs) achieved increases in yields induced by the project's dissemination of appropriate technological packages and improved access to finance; (d) the project's AF phase supported an integrated approach to value addition and access to markets to enable farmers to sell their surplus production. This justified the introduction of processing and market access facilitation activities in the AF designed to consolidate achievements obtained during the initial phase; (e) the project appropriately focused on a few products (milk, bananas, cassava, fruits, and vegetables) that had shown potential, for which the project adopted a fully integrated value chain approach. The new technical production packages were meant to be scaled up to achieve economies of scale whenever possible and further consolidate gains; and (f) the Bank established a sound M&E system based on the M&E in the earlier PRASAB project.

Notwithstanding these positive design aspects, implementation experience revealed three design shortcomings (especially involving the design of the AF phase): (a) the project's design for value-addition sub-projects was "suboptimal" (ICR, para. 73) in the sense that it failed to fully take into account the complexity of these sub-projects and the timeline required for their implementation; (b) the inclusion of several nutrition-related interventions in the AF phase were not accompanied by specific performance indicators in the updated Results Framework, which could have provided an important tool for promoting further follow-up actions on an important strategic issue, following project closure; (c) the World Bank team anticipated that the Government would contribute US$2 million to project costs. In retrospect, "this was ill conceived" (ICR, para. 73). The Government's contribution never materialized, as it faced a fiscal crisis, especially during the turmoil of the post-electoral period.

Quality-at-Entry Rating

Moderately Satisfactory

b. Quality of supervision

The quality of Bank supervision support was **moderately satisfactory**, based on the evidence provided in the ICR (para. 74), including: (a) The World Bank project team ensured systematic implementation support of the project as reflected by the periodic missions scheduled on time (with the exception of the period during the post-election political crisis when field missions were restricted, in 2016); (b) the Bank's Aide Memoires and Implementation Status and Results Reports prepared by each mission provided a good and candid identification and discussion of strategic and priority implementation issues and agreed follow-up and proactive actions, on a timely basis, especially by the Project's PIU. These actions included:
(i) simplification of the process of channeling funds to project beneficiaries; (ii) reallocation of proceeds

following the strengthening of the US dollar versus the SDR (through a Level 2 restructuring); (iii) processing of an AF, to address strategic issues not covered in the initial design phase; (iv) integration of nutrition-related interventions and nutrition-smart farming in Component 1; (v) encouraging the suppression of goat imports following the PPR/Pests des Petits Ruminants outbreak; (vi) supporting the *de facto* creation of WUAs wherever irrigation schemes were developed, notwithstanding the delays in formalizing their legal status; and (vii) facilitating the construction of a facility for production of in-vitro planting material at ISABU/Institute of Agronomic Sciences of Burundi.

Notwithstanding the Bank's constructive and proactive approach taken during implementation, in retrospect, it is not clear to what extent the Bank (at various levels) took concerted actions to address three implementation issues: (a) formalizing the establishment and operationalization of the Water User Associations/WUAs; (b) resolving the implementation issues/delays involving the value-addition subprojects funded by the AF, which included an overambitious produce processing initiatives, within a limited and unrealistic time frame (e.g., possible extension of the project, even to help focus on these two pending issues); and (c) helping to ensure the release of Government's counterpart contributions, which did not materialize, due to the fiscal and political crisis.

Quality of Supervision Rating
Moderately Satisfactory

Overall Bank Performance Rating
Moderately Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design
The Bank's project team provided technical support to the Government's counterpart team and eventually established the Project Coordination Unit (PCU) in the design of the project's M&E system, building on the results and lessons from the PRASAB's Management Information System (MIS). The Government's PCU was responsible for the implementation of the M&E system, working closely with the Project's Inter-Provincial Coordination Units. PDO indicators captured the main outcomes and contribution to core impacts, which were expected from effective project implementation. However, some of the outcome indicators could have been improved, simplified and sharpened to reflect the project's design, as follows (ICR, para. 62):

(a) The first PDO indicator, "Number of Direct Project Beneficiaries" does not measure outcomes, rather, this indicator should have been shown as an output indicator.

(b) Two indicators related to "market access" partially overlapped: (i) PDO indicator #3 'Production of commodity in targeted value chains marketed by participating producers' and (ii) PDO indicator #4 'Increased volume of processed produce marketed (disaggregated by commodity)'. PDO indicator #4 was partly subsumed under PDO indicator #3 for the marketed fraction of project-affected production and

could have been formulated as an intermediate indicator, measuring only the fraction of production processed, bearing in mind that all processed production is marketed.

(c) Intermediate Indicator #4 'Participating producer groups/associations/cooperatives having contractual arrangements with marketing agents', proved to have little meaning in the project context. In the rural areas of Burundi, few transactions are yet to be formalized under contractual arrangements, and it was not expected that this project would fundamentally change the status of these transactions.

(d) Some of the target values for key project indicators related to productivity increases could have been more precisely specified as referring to the entire targeted value chains in project areas (instead of only the project's subproject portfolio), hence needing a specific production survey in project areas to collect the required data, which was not done.

(e) the AF phase included targeted support for improving nutrition-smart production and consumption practices of vulnerable Batwa sub-population, but there were no indicators proposed to the results framework to track these aspects.

While these shortcomings were individually significant, they did not have a major detrimental impact on the efficacy of the project's M&E design.

b. M&E Implementation

The M&E implementation focused on operationalizing the Results Framework, which faced several implementation challenges. To address and resolve these difficulties, the project supported the following M&E activities: (a) data collection, which was carried by the "Proximity Development Organizations (ODPs) at the grassroots level, using specific forms for each value chain supported by the project. Data were aggregated on a quarterly basis; (b) the participating Provincial Offices of Environment, Agriculture and Livestock (BPEAEs) managed the control and monitoring of data collection activities; (c) the project provided training to both the ODPs and the BPEAEs to develop their capacities in conducting the project's M&E activities; (d) at the central level, the PIU managed the data processing activities; it vetted and aggregated the data; (e) In the process of data collection, international agricultural research institutes (ILRI and IITA) were closely involved during the AF phase, to help consolidate the M&E information for effective use (see below).

At the central level, M&E activities were entrusted to the national M&E officer stationed in the PIU. During implementation, especially in following up on the AF, there were appropriate staffing changes involving several of the Project's M&E experts, which helped ensure smooth and sustainable implementation (ICR, paras. 63 and 64).

c. M&E Utilization

The Project's M&E information was generated and utilized effectively throughout project implementation, based on the evidence presented in the ICR (para. 65), as follows:

(a) Overall, the M&E section of the PIU performed well on collecting, analyzing and providing decision-makers with a huge amount of useful and pertinent data, which were linked to the performance indicators of the results framework.

(b) M&E data were used to monitor project activities on a day-to-day basis, and provided guidance to the Project Steering Committee/PSC during its annual meetings.

(c) The data also informed stakeholders of project progress toward its outcomes and targets, as specified in the results framework.

(d) M&E data were used in particular to inform the design of the AF phase, leading to the decision to refocus the project on scaling up sub-project activities and move to post-harvest and value-addition activities (processing and commercialization).

(e) The M&E system's results enabled identification of delays in implementing activities, especially commodity processing activities at the tail-end of the AF period. Accordingly, the data and information generated by the Project's M&E system enabled both the Government and the World Bank to issue timely recommendations to address delays and other issues that were encountered.

(f) The PIU deployed efforts to produce further statistical treatment to elaborate what the raw data revealed, as well as to conduct specialized qualitative surveys to complement statistical data and shed light on some key results. These additional efforts and course correction were made in part with the help of the entities involved in project implementation.

Notwithstanding some of the shortcomings in the design stage of the M&E system, a substantial rating for M&E quality is justified because of the satisfactory implementation performance and effective utilization of M&E data to help steer project implementation.

M&E Quality Rating

Substantial

10. Other Issues

a. Safeguards

The Project was classified as Category B (partial assessment), and triggered seven environmental safeguards: Environmental Assessment - OP/BP 4.01; Natural Habitats - OP/BP 4.04; Pest Management - OP 4.09; Indigenous Peoples - OP/BP 4.10; Safety of Dams - OP/BP 4.37; Involuntary Settlement - OP/BP 4.12; and Projects on International Waterways - OP/BP 7.50.

Based on the assessment of evidence presented in the ICR regarding compliance with the relevant safeguard issues identified in the PAD, the project's overall progress with respect to environmental and social safeguards was **Moderately Satisfactory**. The ICR includes the following relevant supporting evidence (ICR, paras. 67 - 70).

(a) The project adhered to the requirements and procedures laid out in the six safeguards policy documents publicly disclosed before project inception

(b) There were some incidental safeguards issues during project implementation, but, overall, the project activities complied with applicable World Bank safeguards policies. The project encountered two issues which were resolved appropriately during implementation (para. 67);

(c) At inception and during most of the project's implementation, the PIU operated without a specialized safeguard expert, with the responsibility to follow up on World Bank safeguard policies entrusted to short-term specialists. This proved a satisfactory arrangement. However, given the workload, the Bank recommended recruitment of a full-time environmental and social specialist within the PIU. This person was subsequently complemented by an external consultant to address the various complex social issues. The ICR provides further details on the main tasks carried out by the PIU to fulfill satisfactorily the environmental and safeguards compliance requirements (para. 69).

However, the ICR recognized that the recommended end-project environmental and social audit was not carried out, therefore, it is difficult to determine whether or not there was compliance with Bank guidelines with respect to ascertaining whether: (a) all instruments related to involuntary resettlement and indigenous peoples were all comprehensively prepared and implemented; (b) there were any outstanding grievances from Project Affected People; and (c) the sustainability of interventions carried out in favor of vulnerable groups was established.

b. Fiduciary Compliance

(i) Financial Management (FM): Based on the evidence provided in the ICR, overall FM performance was satisfactory (para. 71): (a) the PIU had competent FM staff which conducted sound FM practices and performance, which was also enabled by continuity of the same staff throughout project implementation; (b) a drop in FM performance (around 2018 and 2019) warranted a drop in performance rating ("moderately satisfactory"), and whereby two key issues were addressed by mid-2019, to warrant an upgrading to "satisfactory"; (c) external audits were consistently submitted on time. The qualifications regarding the sub-projects were appropriately taken up and corrected, and the last project audit was unqualified.

(ii) Procurement: Overall, the project complied fully with the World Bank procurement procedures; procurement activities were consistently rated Satisfactory during the life of the project. This performance was enabled by the PIU which had strong capacity in procurement matters. The procurement problems related to processing/value-addition sub-projects that occurred at the end of the project were due to external events, including the deficient performance of one of the technical assistance institutes recruited to support the project's AF phase (ICR, para. 72).

c. Unintended impacts (Positive or Negative)

Not Applicable (N/A)

d. Other

The ICR highlights four other positive aspects arising from the project. While there are some attribution issues to determine the precise role of the project in generating these benefits, the nature and scope of these benefits are summarized below, based on the evidence presented in the ICR (paras. 41 – 48).

(a) Gender (para. 41): The project has been successful in reaching a large number and proportion of women, comprising about 48% of the Project's direct beneficiaries. It has successfully prioritized, targeted and reached women (and other vulnerable groups) through most activities and contributed to their empowerment and well-being. The Project's satisfaction survey revealed the project has been very popular among women farmers, since they have benefited from new technologies and technical assistance on the part of the project, in particular, to grow vegetables and develop livestock activities (cows and small ruminants), and the project's support and equipment to reduce their workload, as well as benefiting from nutrition and health education activities which were part of the AF phase;

(b) Vulnerable People (para. 42): The project provided direct benefits to a special category of vulnerable people, the native Batwa people, who often have been marginalized in Burundi's development process. The project financed 175 sub-projects which helped upgrade the Batwas' livelihood conditions, including housing subprojects. The project relied on expanding the role of UNIPROBA, which was the national organization in charge of Batwa people's affairs, for the implementation and monitoring of project activities. The ICR implied that UNIPROBA would build on this experience to continue to provide expanded and sustainable improvements for the Batwa peoples.

(c) Institutional Strengthening (paras. 43 – 45): There were three different dimensions which the project supported, which will have positive implications for helping to sustain and scale-up project activities:

(i) capacity building of public institutions, as part of component 1, and including prioritized training, equipment and infrastructure, especially involving the national and provincial agricultural extension and research systems (see para. 44 for further details); (ii) organizational capacity building of Producer Organizations (POs); and (iii) Water User Associations (WUAs) was one of the project's main tasks, and their enhanced roles and capacities were vital to enable sustainability and scaling up of project benefits;

(d) Nutrition (para. 46 and 47): The project, enabled by the AF phase, supported nutrition-smart farming and feeding activities, which proved to be extremely relevant and elicited great interest with beneficiaries. Project-implemented nutrition interventions were designed to address food insecurity, redress vitamin deficiency, and trigger household behavioral change regarding nutrition practices. The project financed 48 nutrition sub-projects. Notwithstanding the relevance and introduction of these nutrition activities, they were incorporated late in the project, and remained limited in scope. The Project's M&E system did not add any nutrition-related indicators. The ICR concluded (para. 47): "it is not clear what real impacts the project has had on the behavior, diets, and nutritional status of the target population. In that sense, what the project started regarding nutrition-sensitive agriculture activities is certainly an unfinished business that needs to be pursued."

(e) Climate Change: The project promoted climate change adaptation and mitigation practices that included watershed protection and promotion of enhanced climate-smart agriculture technologies and

practices. Paragraph.48 in the ICR provides further details of the project's specific contributions, which can be scaled up.

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Satisfactory	Satisfactory	This review concluded that there were minor shortcomings in the project's relevance, achievements and efficiency which, in the absence of any significant shortcomings, indicated a satisfactory outcome rating, according to the ICRR Guidelines.
Bank Performance	Moderately Satisfactory	Moderately Satisfactory	
Quality of M&E	Substantial	Substantial	
Quality of ICR	---	Substantial	

12. Lessons

The ICR presents 6 sound lessons (ICR, paras. 80-85). The lessons that have broader application than this project have been summarized below, with some sharpening of the text.

(a) A community driven development (CDD) design can be successfully implemented in an FCV environment (para 80): This project successfully combined support to agriculture production, infrastructure development, and access to markets in a participatory approach at the grassroots, It was well suited as a model for other development operations in an FCV context providing targeted support to smallholders and rural entrepreneurs for increasing agriculture productivity, infrastructure development, access to market and capacity development of strategic actors, at various levels.

(b) Innovations Require Adequate Time and Support to Implement and Become Sustainable (para. 81): Given the project's introduction of improved technology involving processing and sophisticated equipment in a low income country like Burundi, the lesson is that the relevant project activities, especially if innovations involve sophisticated equipment, should be carried out with a sufficient lead time, so that the project-funded equipment can be tested and made functional, and to enable the operators to be trained, prior to project closing.

(c) Importance of Integrating Crop and Animal Husbandry Support for Enhanced Productivity (para. 82): Most subprojects provided this type of integrated crops/livestock approach, since most smallholders cultivated crops and raised different types of livestock. Therefore, the project provided an important lesson regarding the rationale of the project supporting increased

productivity of both smallholder crops and livestock activities, which contributed to symbiotic production increases, for the kinds of production conditions prevailing in the project area, or similar contexts. This point was also reinforced by the project's Impact Evaluation Study (2020) and by the Bank's TTL to the IEG evaluator during the interview with the project team (note, January 27, 2021).

(d) Approaches to promoting a successful "solidarity chain" with wider community benefits will impart benefits to other beneficiaries (para 83): The producers benefiting from project-supplied animals (cows) had the obligation as part of their sub-projects to ensure that one of the offspring from the heifer would be given free of charge to another member of the Producer Organization (PO) under strict social control, thereby generating wider benefits for the community. These initial producer recipients also received specific training for enhancing their productivity. The ICR correctly recognized two factors, which are also lessons, which could apply to other countries with similar cultural conditions. The two emerging lessons from this project's solidarity chain are: (i) to ensure the existence of appropriate preconditions for this solidarity approach, where this process of a "solidarity chain" is particularly well attuned to the existing local social fabric of Burundi's/or another country's rural areas, where population is dense, and strict community rules and norms apply; and (ii) to include in the project's appropriate follow-up actions to ensure provision of training for the second-round beneficiaries to further enhance their benefits, and also to ensure viable approaches to scaling-up and sustainability of this mechanism to the next round of beneficiaries.

(e) Sound Market Analysis is an Important Necessary Condition for any Project that Generates increased Production (para. 84): The project experience highlights the lesson, that a project which generates production surpluses, especially by smallholders, the importance of carrying out sound ex-ante market analysis, including assessing: market potential and the competitiveness of the targeted value chains; and realistic domestic and export market outlets.

(f) Legislation to Empower Producer Organizations (POs) needs to be Timely to have a Sustainable Impact (para. 85): The project highlights the vital role of Water User Associations (WUA) to enable beneficiaries-organized into POs to manage and maintain community-based infrastructure provided by the project, in this case, marshland irrigation infrastructure. Accordingly, the ICR highlighted the importance and need for the project to overhaul the entire regulatory framework of WUAs to create and organize independent WUAs, which are essential to maximize project impact and improve sustainability, including collection of water fees and management of the funds by WUAs. The project's specific lesson is to ensure that the project addresses relevant legislative requirements early during project implementation to ensure adequate time for completion of legislation prior to project closure, to the extent feasible, or at least, to ensure clear follow-up arrangements so that legislation is completed within a reasonable period of time.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

Overall, the ICR is well written, analytical, evidence and results-focused, especially with respect to: (a) a comprehensive results framework and with most sections were supported by generally adequate evidence, albeit some limitations on the rigor of the project's attribution issues which were resolved through discussions between IEG and the Bank Task team); (b) inclusion of strategic lessons which have application for similar projects in Burundi and other countries in Africa; (c) candid in recognizing explicitly: (i) the most important shortfalls of the project, especially regarding the implementation delays and sustainability challenges of the agro-processing investments provided by the AF phase; and (ii) the various risks to development outcomes, including the delays in approving and operationalizing the legislation of the WUAs (cited above).

One shortfall of the ICR was that, contrary to OPCS guidelines for ICRs which call for an efficiency section to provide a concise and solid review of the ex-ante economic and financial analysis, this was not included in the ICR.

a. Quality of ICR Rating

Substantial