



1. Project Data

Project ID

P147514

Project Name

Emergency Food Security & Social Prot.

Country

Madagascar

Practice Area(Lead)

Agriculture

L/C/TF Number(s)

IDA-53740

Closing Date (Original)

28-Feb-2018

Total Project Cost (USD)

59,074,064.17

Bank Approval Date

27-Feb-2014

Closing Date (Actual)

30-Jun-2018

IBRD/IDA (USD)

Grants (USD)

Original Commitment

65,000,000.00

0.00

Revised Commitment

65,000,000.00

0.00

Actual

59,107,607.07

0.00

Prepared by

Hassan Wally

Reviewed by

John R. Eriksson

ICR Review Coordinator

Christopher David Nelson

Group

IEGSD (Unit 4)

2. Project Objectives and Components

a. Objectives

The Project Development Objective (PDO) stated in the Project Appraisal Document (PAD, p. 8) was identical to the stated one in the Financing Agreement (FA, p. 5) and aimed to:

"strengthen the Recipient's immediate capacity to respond effectively to the food security and locust crises, by: (i) increasing agricultural production capacity in Project Areas, while enabling extremely poor households, in the Project Areas, to access cash transfers and cash for work activities; and (ii)



improving the Recipient's capacity to respond promptly and efficiently to an Eligible Crisis or Emergency."

The PDO as stated includes two objectives:

PDO1: to "*strengthen the Recipient's immediate capacity to respond effectively to the food security crises.*"

PDO2: to "*strengthen the Recipient's immediate capacity to respond effectively to the locust crises.*"

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

No

c. Will a split evaluation be undertaken?

No

d. Components

The PDO was supported by four components:

1. Restoring and maintaining essential agricultural productive capacity (appraisal cost: US\$39 million, actual cost: US\$35.63 million). It included the following two sub-components:

1.1. Rapid delivery of agricultural services and rehabilitation of essential irrigation and market access infrastructure (US\$ 29 million). This aimed to improve food productivity and production and preserve rural incomes in the short term, both in areas affected by locusts and in the highly productive breadbasket zones. It would finance three major activities. The first would be the emergency distribution of improved seed, fertilizer, tools, and associated technical assistance to enable rapid increases in food production, including the promotion of nutrition enhancing crops. The second set of activities would involve the rehabilitation and maintenance of small scale agricultural infrastructure, both micro-irrigation systems and large irrigation schemes, complemented by capacity strengthening for producer organizations and water user associations to sustainably manage irrigation infrastructure and take advantage of income-generating opportunities generated by the project (including rehabilitation of small storage infrastructure). The third set of activities would involve institutional capacity building to enable the Recipient's locust control unit (CNA) to carry out its mission more efficiently (diagnostic and implementation of CNA's reform).

1.2. Protecting infrastructure investments by improving watershed and land management and climate resilience (US\$ 10 million). This sub-component would include the following activities to support erosion control efforts in Project Area 1: (i) a cash-for-trees approach that would provide incentives for smallholders to reforest their lands in the watersheds surrounding the irrigated areas and (ii) a cash-for-work operation to support erosion control works. It would also support the independent national Land



Observatory and provide support to land offices at the municipal level, Communal Land Offices (Guichets Fonciers), to facilitate rapid and low-cost transfer of legal land rights to farming households. This sub-component would also support the expansion of national early warning systems for cyclones and floods, as well as the development of basic, climate-resilient infrastructure (including roads, irrigation infrastructure, product storage and small scale water storage) for agriculture in project zones .

2. Providing a social safety net for the poor (appraisal cost: US\$17.2 million, actual cost: US\$14.51 million). This component would provide a basic safety net to the poorest families in selected project areas through cash-for-work activities or conditional cash transfers. The cash-for-work activities, selected for their potential synergies with the productive activities under Component A, would provide selected extremely poor households with temporary employment of up to 45 days per year; households that cannot provide labor (such as female-headed households) would receive temporary cash transfers. Particularly vulnerable groups would receive bi-monthly cash transfers conditional on the use of health, nutrition, and/or other locally available services.

3. Contingency emergency fund (appraisal cost: US\$0.00 million, actual cost: US\$0.00million). This component aimed to establish a disaster recovery contingency fund that could be triggered in the event of a natural disaster through formal declaration of a national or regional state of emergency, or upon a formal request from the Government of Madagascar in the wake of a disaster. In that case, funds from the other project components could be reallocated to Component 3 to facilitate rapid financing of a positive list of goods and services related to Components 1 and 2. Eligible activities would include clearing and rehabilitating road and irrigation infrastructure, rehabilitating schools and health centers, or purchasing construction materials, agricultural inputs, or materials for schools or health centers.

4. Project management (appraisal cost: US\$8.80 million, actual cost: US\$8.96 million). The proposed project would use a simple organizational structure that relied on the institutional capacity and experience of two project implementation agencies that had performed well, namely, the National Program for Irrigation and Watershed Management (PN-BVPI) and Intervention Fund for Development (FID). PN-BVPI would be in charge of managing the proposed project, including the planning and implementation of activities under Component 1 and technical assistance for policy analysis in support of the development of well-functioning staple food markets as part of Component 4. FID would implement activities under Component 2. The agency in charge of managing Component 3 would be determined if and when an emergency response measure was defined.

Revised Components. The design and implementation arrangements did not change during the implementation period; however, adjustments were made to the scale of the activities to accommodate the reallocation of funding toward greater investment in the irrigation rehabilitation activities.

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



Project Cost. The total project cost was expected to be US\$65.00 million. The actual total cost according to the ICR Annex 3 was US\$59.11 million. The ICR (Annex 3) noted that the SDR depreciated compared to the U.S. dollar and as a result the total amount of the credit (SDR 42,300,000) was equivalent to US\$58,604,958 as of December 10, 2018.

Financing. The project was financed through an IDA Credit worth US\$65.00 million equivalent. The actual amount disbursed according to the ICR Annex 3 was US\$59.11 million.

Borrower Contribution. This was an emergency project fully funded through an IDA Credit and no contribution was expected from the borrower.

Dates. The project was approved on February 27, 2014 and became effective on September 15, 2014. The Mid-Term Review (MTR) was carried out on November 29, 2016, 25 months after effectiveness and 19 months before actual closure, the PAD did not include a specific date for the MTR. The project closed on June 30, 2018, four months later than the expected closing date on February 28, 2018. The project was restructured four times, all of which were Level 2 restructurings. The first was on June 7, 2016, when the amount disbursed was US\$18.06 million in order to introduce changes to the Results Framework and components cost; and allow for reallocation between disbursement categories. The second was on May 16, 2017, when the amount disbursed was US\$35.48 million, in order to introduce changes to the Results Framework and allow for reallocation between disbursement categories. The third was on July 12, 2017, when the amount disbursed was US\$39.33 million, in order to allow for reallocation between disbursement categories. The fourth was on February 20, 2018, when the amount disbursed was US\$59.11 million, in order to extend the loan closing date by four months from February 28, 2018 to June 30, 2018. The extension was necessary to accommodate implementation delays caused by severe weather that impacted the country in late 2017 into January 2018.

3. Relevance of Objectives

Rationale

At project appraisal, Madagascar was on the brink of an unprecedented national food security crisis. This came on the heels of a major locust infestation, repeated cyclones, floods, and droughts. The situation was compounded by five years of political instability that followed the political turmoil in 2009. These devastating, overlapping events caused extensive losses of infrastructure, agricultural production, and livelihoods in this predominantly rural country, where over 17 million people depend on agriculture for all or part of their livelihoods. The project aimed to restore agricultural production in areas severely affected by locusts and drought, and to preserve production in the country's major rice-producing areas where neglect and locusts have not yet devastated the production base.



Objectives were in line with O.P. 10.00, which under Paragraph 11 provides for the possibility of undertaking projects in “Situations of Urgent Need of Assistance or Capacity Constraints.” Objectives were also in line with the Bank's Interim Strategy Note for Madagascar (ISN, FY12) which identified nutrition, and the impact of external shocks on the poor (such as food crises and natural disasters requiring disaster rehabilitation/repairs, safety nets, and agricultural support) , among others, as key initial focus areas for FY13 Bank funded operations.

At project completion, Project Objectives remained in line with the Government's Agriculture and Social Protection priorities. Madagascar aspires to becoming a rice granary for Sub-Saharan Africa by 2020. This was outlined in the National Strategy for the Development of Rice (*Stratégie Nationale du Développement Rizicole*, SNDR), 2016–2020, adopted in early 2017. By focusing on increasing agriculture (and rice) production capacity, the project's objectives are aligned with the Government's objectives. Objectives are also in line with the current Country Partnership Framework (CPF) Objective 7, which seeks to strengthen rural productivity through increased productivity, access to improved inputs, and infrastructure improvement (among other actions). It also supports the CPF Objectives 1 and 2 to strengthen children's human development and enhance resilience of livelihoods of vulnerable households in rural and urban areas.

The statement of objectives was not clear whether the project's focus would be on food security and locusts or would involve responding to other agriculture-related crises in general, such as extreme weather events. The PDO could have been more specific in this respect because the project design supported activities related to weather crises.

On the basis of the above mentioned information, the relevance of objectives is rated substantial.

Rating

Substantial

4. Achievement of Objectives (Efficacy)

Objective 1 Objective

PDO1 was to "strengthen the Recipient's immediate capacity to respond effectively to the food security crises."

This objective was to be achieved through two main elements:

- (a) to improve productive capacity of smallholder farmers; and
- (b) to address the immediate food security concern

Rationale



Theory of Change. To improve food security, the project aimed to increase the productive capacity of smallholder farmers who are critical producers of surplus food. This was expected to be achieved mainly through promoting improved rice production practices, rehabilitating irrigation infrastructure, and sustainable watershed management. The project would also provide capacity strengthening for producer organizations and water user associations to sustainably manage irrigation infrastructure and take advantage of income-generating opportunities generated by the project (including rehabilitation of small storage infrastructure). The project would also directly address the immediate food security concern through the provision of a safety net for the extremely poor through Cash-for-Work and conditional cash transfers. These measures were expected to decrease vulnerability of the extremely poor and prevent them from falling further into poverty. These activities were a mix of an emergency response and non-emergency activities. The latter would require more time to materialize and achieve the desired results. While the causal links for most activities were evident, the causal links between the anti locust activities and the expected outcome were not clear.

Outputs

1. Increasing agricultural production capacity in Project Areas

• Rice intensification

- 1,935 sub-projects were supported by the project: 1,464 sub-projects for rice intensification and 471 subprojects for highly nutritious crops.
- 22,020 beneficiaries received agricultural services promoted by the Project, which is 20 percentage points higher than the target of 18,280.
- 4, 988 ha of land benefited from the intensification activities, including 4,245 ha of irrigated rice.

• Irrigation

- 230 irrigated perimeters were rehabilitated (including 36 irrigated perimeters larger than 200 ha) in collaboration with WUAs. 97 irrigated perimeters were in the initial project areas (Zones 1 and 2), and the remaining 123 were located in areas affected by the cyclones.
- 47,647 direct beneficiaries, including 11,758 females.
- 145 WUAs and 10 federations of WUAs received institutional, organizational, and technical support including: support for the establishment and implementation of 30 Multiyear Planning Contract for the WUAs located in Zone 2; and collection of the contributions by the WUAs located in Zone 2. Two types of contributions were collected: (1) a contribution provided before the implementation of the rehabilitation works and (2) operation and maintenance (O&M) fees of the perimeter as well as the functioning of the WUAs.



- **Watershed management and protection**

- 1,046 sub-projects of protection and management of watersheds were implemented in the initial zones of the project (Zones 1 and 2) and the cyclone affected zones.
- 14,650 beneficiaries, including 6,543 females.
- 4,604.60 ha of watersheds were reforested, including 2,431 ha of revegetation sub-projects and 2,173 ha of anti-erosion sub-projects, which is 21 percentage points higher than the revised target of 3,800 ha, the original target was 15,500 ha.
- The project introduced the terracing technique through a South-South exchange that involved Malagasy experts travelling to Rwanda to learn more about the approach.

- **Land tenure activities**

- 55,759 land parcels were issued land certificates, which is 7 percentage points higher than the revised target of 52,000, the original target was 32,500.
- Entities providing land tenure services at the centralized and decentralized level received capacity-building activities.

- **Nutrition activities**

- 471 sub-projects were financed by the project to grow highly nutritious crops in project areas, implemented by 6,445 beneficiaries (65% which were females) over an area of 742.7 ha. Most of the crops grown in terms of area are beans (61% of the area), sweet potatoes (16%), peanuts (11%) and horticulture products (4%).
- The project financed building one storage facility with a capacity of 50 tons. This benefited 118 members, including 22 women.

2. Enabling extremely poor households, in the Project Areas, to access cash transfers and cash for work activities

- **Cash for Work Program (CWP) activities.**

- 2,321 CFW subprojects were implemented.
- 57,591 beneficiaries (target: 50,000), including 27,625 females. Beneficiaries were targeted following a rigorous mechanism (PMT and community-based targeting).
- 6,892,325 person-days of employment were created by the Cash for Work Program, which is 12 percentage points higher than the revised target of 6,142,000, the original target was 4,824,000.



- **Conditional Cash Transfer (CCT) activities.**

- 21 cash transfers took place.
- 5,831 beneficiaries, 5,320 females. Cash was delivered under the condition of regular school attendance by the children of the beneficiaries.

- **Livelihood Development Cash Grant.** This program is intended to ensure the sustainability of the achievements of the CFW and the CCT activities.

- 46,372 households benefited from this program.

Outcome

(a) to improve productive capacity of smallholder farmers.

To increase agricultural production capacity, the project focused on rice, the key staple crop in Madagascar. The project adopted a comprehensive integrated approach to improve rice productivity in irrigated perimeters that featured improving the irrigation infrastructure, promoting rice intensification activities, while protecting the watersheds.

Irrigation Improvement. A total of 51,199 ha (from a baseline of 12,000 ha) benefited from improved irrigation and drainage services. This was 46 percentage points higher than the revised target of 35,050 ha. In addition, 230 irrigation perimeters, including 123 perimeters that suffered cyclonic damages, were rehabilitated. According to the ICR (p. 12, para 32) "an independent IE confirmed that water availability improved among project beneficiaries owing to the rehabilitation works" The same IE reported that 72% of the beneficiaries were satisfied with drainage and irrigation conditions in their plots compared to only 29.88% of the non-beneficiaries. Also, water conveyance improved among beneficiaries where only 1.8 days were required for the irrigation water to enter the rice plots compared to 4.8 days at the baseline. The improved water availability enabled some beneficiaries to grow rice twice a year from a baseline of once a year. The IE also reported that 81.44% of the beneficiaries were highly satisfied with water availability compared to 59.47% among non-beneficiaries.

The project also contributed to sustainable management of irrigation infrastructure through the institutional, organizational, and technical support to 145 WUAs and 10 federations of WUAs. The IE results showed that 91% of the interviewed beneficiaries were members of a WUA, compared to only 13.9% among non-beneficiaries. O&M payment rates reached 90% among the beneficiaries compared to 17.46% among the interviewed non-beneficiaries, who lacked participation in operational WUAs. Beneficiaries paid O&M fees compared to non-beneficiaries (US\$7.1 per year per member versus US\$2.62 per year per member), and beneficiaries were 5.5 times more likely to participate in rehabilitation works than nonbeneficiaries (85.3% versus 15.4%), and 3.35 times more likely to implement the maintenance activities during the right period of the growing season (82.34% versus 17.6%). The afore mentioned results indicate that the sustainability of the project achievements was highly likely.



Agriculture Intensification. The project improved the beneficiaries' access to rice inputs (improved seeds, fertilizers, tools, and associated TA) by financing 1,464 demand-driven rice intensification sub-projects in irrigated perimeters. The project distributed 193.13 tons of rice seeds, 752.04 tons of mineral fertilizers, 1,153.59 tons of organic fertilizers, 15,324 small equipment items (e.g. plows, harrows, weeders, and furrow crackers), 11,770 agricultural accessories (e.g. wheelbarrows for transportation of rice harvest, small threshing machines and winnowing machines operated only by foot), and 27,094 storage tools (e.g. quality storing bags mainly for storing rice and drying tarpaulins for drying rice seeds). The IE revealed that 93.6% of the beneficiaries intend to continue adopting the intensification activities in their plots as they believe that these techniques contribute to increased rice productivity.

As a result of improved irrigation and intensification activities, the average increase in rice yields observed in the sub-project areas was 2.57 tons per ha. The IE also reported that for the last growing season supported by the project (2017–2018) the beneficiary plots yielded on average 4.5 tons per ha while non-beneficiaries plots yielded 3.04 tons per ha. The ICR (p.13 para37) notes that the completion of rehabilitation works will reduce water loss in the irrigation canals, which should lead to improved water availability. This combined with the intensification activities are expected to result in further yield gains.

The project also supported improved land management practices in the sub-watersheds affecting the irrigated perimeters in the project areas. These Sustainable Land management (SLM) activities were expected to contribute to increased rice yields by decreasing the rate of siltation in the irrigation canals, which, in turn, would improve the flow of water available to the WUAs. These impacts are however not immediate; they are expected to materialize in the medium term.

The project also supported low-cost transfer of legal land rights to farming households. Increased land tenure security would encourage beneficiaries to invest more in their land, including soil and water conservation measures. It is plausible to assume that such investments would positively impact rice yields.

(b) to address the immediate food security concern. The project provided a safety net to the poorest households through either the CFW activities or CCT. The safety net program was complemented by a Livelihood Development Cash Grant (*Fonds de soutien*, FS) for each household, which consisted of providing a one-off cash grant to all households to develop an income-generating activity, mostly related to agricultural, livestock, and trading activities. The project achieved its PDO objective in terms of number of beneficiaries provided safety nets. By the project completion, about 63,422 beneficiaries participated in the safety net activities funded under the project (either CFW or CCTs), which was 3 percentage points higher than its revised target. According to the ICR (p. 16, para 49) "a randomized IE of the CFW activities found that at the household level, beneficiaries of the CFW activities have a higher annual per capita consumption (172,000 MGA; US\$53.75); a decreased poverty rate (35% less poor, living with less than US\$1, among the beneficiaries), and increased food security (the fraction of households who worry about their food security was 7.3% smaller among the beneficiaries)." Also, an independent Impact Evaluation (IE) of the program, using a quasi-experimental design, showed that for the CCT program "children of beneficiary households were 7.9 percentage points more likely to be enrolled in school owing to the project, and child labor was also 1.2 percentage points less prevalent among beneficiary households (ICR, p. 16, para 51)." A total of 79% of



beneficiaries of the CFW and 85% of the beneficiaries of the CCT were satisfied or very satisfied with the quality of implementation.

Based on the above information, the project succeeded in improving the productive capacity of small farmers. However, benefits from some activities need more time to materialize. The project also met its targets for addressing the immediate food security concern through the CFW and CCT programs. Therefore, the efficacy of Objective 1 is rated substantial, despite some shortcomings.

Rating

Substantial

Objective 2

Objective

PDO2 was to "strengthen the Recipient's immediate capacity to respond effectively to the locust crises."

Rationale

Theory of Change. The results chain for this objective was not explicitly discussed in the ICR. The theory of change diagram in the ICR (p. 7) includes strengthening the locust control unit as an input activity. This was expected to result in improved locust control. The causal links were absent, and it was not clear how the supported activity would lead to the desired outcome.

Outputs

- The ICR did not elaborate on how the project was to support the Government strategies in terms of preventive anti-locust efforts.
- However, the new structure (Anti-locust Invasion Center) in charge of anti-locust efforts was provided with infrastructure and equipment and benefited from some capacity building activities
- In a further communication, the project team explained that the project contributed to the following: "i) diagnostic study of the national capacity in anti-locust fighting and support to development of policy and institutional options; ii) support to development (through workshops and study tours) of an effective implementation strategy based on establishing a warning system, a decision making system and a quick intervention system coordinated by IFVM; iii) provision of equipment to IFVM for the collection, transmission and processing of locust data (servers, computers, pluviometers, solar panels, etc.); iii) provision of training to IFVM and other Ministry' key staff in managing the warning system, the decision making system and the quick intervention system."



Outcome

Assessing this outcome is difficult because the Results Framework did not include any PDO level indicators that would gauge strengthening anti-locust capacity. According to the ICR (p. 15, para 45) the project focused on strengthening the operational capacity of the Anti-locust Invasions Center to allow the collection of transmission of locust-related information. However, due to implementation delays, the Anti-locust Invasions Center was operational only in December 2016. Also, some activities that were supposed to be financed by the project were cancelled, such as food storage infrastructure, as a result of several restructurings such as food storage infrastructure. There were no indicators included to measure the impact of the project support on improving the capacity of the Anti-locust Invasions Center.

In a further communication, the project team explained that the project "provided only a relatively small amount of resources tot this aim, about US\$2.0 Million, while other development partners or Bank financed project provided much more relevant funding (as an example the Emergency Infrastructure Rehabilitation and Vulnerability Reduction Project - P132101, provided for the same scope and in the same period about US\$10.0 Million)."

The team also highlighted the achievement of the following results: i) locust remission obtained by the end of the campaign 2016-2017; ii) development of a national locust control strategy; (ii) establishment of the IFVM which, until-to date, has been successful in performing preventive locust control; and iii) activation of a reliable, sustainable and cost-effective locust warning system.

Based on the new information that was made available to IEG by the project team, the efficacy of Objective 2 is rated Substantial, despite the lack of coverage and details in the ICR.

Rating

Substantial

Rationale

The efficacy of Objective 1 is rated substantial despite some shortcomings. The evidence provided in the ICR points to the success of the project in strengthening the Recipient's immediate capacity to respond effectively to the food security crises. However, for Objective 2, while the Anti-Locust Invasions Center was finally operational 18 months before project closure, the efficacy of project activities in strengthening the Recipient's immediate capacity to respond effectively to the locust crisis and weather-related crises was not well documented, mainly due to the absence of relevant indicators. This results in a modest efficacy rating for Objective 2, and an overall efficacy rating of substantial.



Overall Efficacy Rating

Substantial

5. Efficiency

Economic and Financial Efficiency

ex ante

- The PAD (p. 19) stated that a comprehensive economic assessment for the proposed project could not be done owing to the short timeframe for preparation and the limited data available to develop a formal cost-benefit analysis.
- A preliminary assessment of the project's economic aspects was done for the sub-components that supported agricultural intensification and irrigation infrastructure, and watershed management. The analysis showed that the total net present value (NPV) of the benefits generated by the above mentioned activities was estimated at US\$6.66 million. The internal rate of return (IRR) generated by the investments was estimated to be about 16.1% percent over an assumed investment life of 25 years.

ex post

- The Economic and Financial Analysis (EFA) of the activities of component 1 (minus anti-locust and Early Warning System activities, for which no relevant data were provided) and Component 2 (minus the FS) yields an NPV of US\$58.45 million and an ERR of 21.7%. The ex post analysis used a simple cost-benefit analysis to calculate the NPV and the ERR of the project. The analysis was conducted mainly using project reports, final evaluations of the project, monitoring spreadsheets from both implementing agencies (BVPI and FID), and national databases for crop prices.
- Assumptions: incremental net benefits of typical beneficiaries were assessed by comparing benefits derived in the 'without project' (WOP) scenario to those derived in the 'with project' (WP) situation. The analysis used the annual farm gate prices of rice and other crops. Prices were converted to U.S. dollars using the national exchange rate (US\$1 = MGA 3,200). The models were conducted for a period of 20 years, at a discount rate of 10% to reflect the opportunity cost of capital in Madagascar. The evaluation criteria are the NPV of incremental net benefits over 20 years and discount rate of 10% and IRR based on discounted incremental net benefits over 20 years. The typical crop models were developed for rice. The rice model was assessed for 0.25 ha of cultivation
- A sensitivity analysis showed that the results remain robust to changes in the assumptions with the ERR varying between 15.7% and 21.9%, and the NPV varying between US\$13.32 million and US\$58.45 million.



- The analysis did not include a quantification of the benefits of increased capacity to respond to crisis including locusts and weather related crisis.
- The analysis could have benefited from the presence of a comprehensive ex-ante EFA. This would have allowed for a better comparison of the pre-project and post-project EFAs before concluding whether the project achieved its anticipated economic benefits or if the investments were justifiable and still relevant.
- In a further communication, the project team provided a logical explanation for the absence of an ex ante EFA. First, the project was as an emergency operation prepared in less than 4 months (from Identification to Approval) and with a budget of less than US\$100,000; second, the project was one of the first projects financed by the Bank in the Agricultural sector in Madagascar after a relatively long period of inactivity and this severely hampered the availability of internal quality data (no recent ASAs, field surveys, ag. expenditure reviews or other Bank studies were available at the time of preparation); and third, the project was prepared during the transition period, when OP BP 7:30 “dealing with de facto government” was triggered and that the team was not authorized to communicate officially with government officials not even in order to get data which could be in their possess. Even technical discussion were restricted due to political interference.

Administrative and Institutional Efficiency

The project became effective on September 15, 2014, rather than the original date of June 13, 2014. This four month delay was mainly caused by a delay in the Parliament’s approval process of the Financing Agreement. The project closed on June 30, 2018, four months later than the expected closing date on February 28, 2018. The lack of technical designs for irrigation works resulted in significant implementation delays with respect to activities under component 1. The transfer of legal land rights to farming households faced significant delays that eventually resulted in reduction of targets. Also, implementation delays resulted in the late launch of the Anti-Locust Invasion Center which became operational late in the implementation cycle, 18 months before the actual closing date of the project. Financial management also experienced delays in the implementation of the recommendations of external and internal auditors.

Efficiency is rated Substantial despite some weaknesses at the administrative and institutional level.

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	✓	16.10	0 <input checked="" type="checkbox"/> Not Applicable



ICR Estimate	✓	21.70	0 ☑ Not Applicable
--------------	---	-------	-----------------------

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

6. Outcome

Relevance of objectives was rated substantial. Overall efficacy was rated substantial despite some shortcomings. The evidence provided in the ICR point to the success of the project in strengthening the Recipient's immediate capacity to respond effectively to the food security crises. New information provide by the team clarified the impact of project activities on strengthening the Recipient's immediate capacity to respond effectively to the locust crises, which was not well documented in the ICR , partially due to the absence of relevant indicators. Efficiency was rated Substantial despite some weaknesses at the administrative and institutional level.

Based on a Substantial rating for each of relevance of objectives, efficacy and efficiency, outcome is rated Satisfactory.

a. Outcome Rating

Satisfactory

7. Risk to Development Outcome

The ICR (p. 78, para 94) reported the following areas of concern that could negatively impact the sustainability of project outcomes:

- **Intensification activities.** In Zone 2, the retention rate (number of beneficiaries who move from one cycle to the next) was low (attrition rate of 60% between the first and second cycle and 78% between the second and third cycles), indicating a low willingness to pay for the inputs when the subsidy decreases to less than 50% of the price of the package.
- **Irrigation activities.** The sustainability of the rehabilitated infrastructure will depend on how well the WUAs can recover the O&M fees from their members.
- **Watershed management.** Cash-constrained smallholders are unlikely to make the required investments for returns that will take place only in the long run such as planting trees, for example. Also, the 'dinas', which are social contracts that are supposed to regulate the management and preservation of investments in the watershed, are not approved at the districts and courts of first instance. Hence, it would be difficult to implement them and enforce the sanctions.



- **Anti-locust efforts.** For this activity, the project provided support for the reform of the anti-locust strategies and strengthened the capacity of the new structure in charge of these efforts (IFVM). The sustainability of these efforts will depend on if and when the Anti-locust invasions Center is endowed with operational means (Internet or transport).
- **The sustainability of the development outcome is expected to benefit from the follow-on operations:** the Madagascar Agriculture Rural Growth and Land Management Project (CASEF) (P151469) would support activities that link farmers to markets, increase land tenure security and support Early Warning Systems (through the agriculture observatory); the GEF Sustainable Landscape Management Project (PADAP) (P154698) would build the institutional capacity for watershed management at the local and national level; the Madagascar Social Safety Net Project (P149323) would scale up the innovations tested under the project; and the Multiphase Programmatic Approach (P160848), the design of which was informed by the nutrition activities of the Project, would improve nutrition outcomes.
- The following areas were identified by IEG and could potentially impact the sustainability of the development outcome:
 - Families supported by the project financed cash transfers could fall back into poverty if they do not have access to sustainable sources of income to support their households.
 - The project investments in irrigation infrastructure continue to be threatened by extreme weather conditions. This calls for supporting infrastructure that could withstand extreme weather situations.

8. Assessment of Bank Performance

a. Quality-at-Entry

- The project was designed as a multi-sectoral emergency operation in close coordination with the existing World Bank-supported programs in Agriculture, Land tenure, Infrastructure, Social Protection, Environment, and Nutrition.
- Project preparation benefitted from close consultation with the relevant ministries, and development partners operating in Madagascar including: UNICEF, International Fund for Agricultural Development, World Food Programme, United Nations Food and Agriculture Organization, Asian Development Bank, EU, and Embassy of Japan.
- Design was simple with two main components that in most cases included relevant activities to achieve the stated PDO. However, design could have benefitted from a better formulation of the PDO statement, which was confusing in terms of the crisis that the project is trying to address (locust or weather related crisis or both as the activities indicate).



- Design suffered from a number of shortcomings. First, it lacked a comprehensive EFA at appraisal to better assess efficiency at completion, second, the causal links between the anti locust activities and the expected outcome were not clear, third, the lack of technical designs for irrigation works delayed project implementation, and fourth, implementation arrangements could have benefitted from a dedicated implementation unit because the various implementing agencies had other projects to implement (ICR, p. 26, para 86).
- Seven risks were identified at the appraisal stage. Four risks were rated high and three were moderate. While mitigation measures were appropriate and effective for stakeholder risk and social and environmental risk, they were less effective for the implementing agency risk. The implementing agencies were busy supervising other projects which according to the ICR (p. 22, para 68) made "supervision work difficult." Also, a fraud case highlighted that fiduciary risk was substantial rather than moderate.
- M&E design lacked indicators to assess improvement in the capacity to combat locusts and other weather related crises.

Based on the above mentioned information, Quality at Entry is rated Moderately Satisfactory due to design weaknesses, risk mitigation shortcomings, and M&E weakness.

Quality-at-Entry Rating

Moderately Satisfactory

b. Quality of supervision

Implementation benefitted from a stable leadership as the project had only two TTLs throughout the implementation period. Two supervision missions were conducted annually except for 2016 which had only one mission when the task team leader and his team were field based. According to the ICR (p. 26, para 87) "sufficient budget and staff resources were allocated to the project's supervision." Implementation also benefitted from regular, open and transparent communications and consultations with the client to ensure implementation progress. The Bank was proactive by promptly addressing concerning issues such as the fraud detected during the Mid-term Review. The Bank also accommodated the Government's requests to restructure the project to rehabilitate the irrigation perimeters affected by the cyclones. The project could have benefitted from a dedicated M&E specialist to provide support to the PIU to address M&E issues under the first component.

Quality of Supervision is rated Satisfactory, with relatively minor shortcomings.

Quality of Supervision Rating

Satisfactory

Overall Bank Performance Rating



Moderately Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

- The PAD did not include an explicit theory of change to illustrate what data and information was required to measure success. Nonetheless the ICR included one, however, the causal links were not clear with respect to the anti-locust activities as well as for the early warning systems.
- The project's M&E would be managed under the two PIUs, the Irrigation and Watershed Management Project (BVPI) which would manage M&E for component 1 and Intervention Fund for Development (FID) which would manage M&E for component 2.
- The Results Framework included four PDO level indicators to assess the achievement of the PDO. These were all quantitative indicators. Two indicators were counting beneficiaries, and one counting the area (ha) provided with irrigation and drainage services, and the number of beneficiaries of safety net programs in project areas. These indicators did not capture the full impact of the project.
- M&E design could have benefitted from including indicators to assess the impact of the project on rice yields, household income and poverty, for example. Also, the RF lacked any indicators to assess crisis readiness whether for locusts or weather related crisis.
- The RF included seven intermediate outcome indicators that aimed to assess different activities supported by the project. Most of these were relevant and measurable. However, the RF lacked intermediate indicators to assess the level of achievement for the locust reform and the Early Warning System supported by the project.
- M&E design was simple, but lacked critical quantitative and qualitative indicators to capture the full impact of the project.

b. M&E Implementation

- While the PIU/FID (for Component 2) had a management information system (MIS) from the start, the PIU/BVPI (for Component 1) did not have an M&E system until June 2015. Data collection was manual and entered in Excel sheets. Consultants were hired on an ad hoc basis for the midterm review and the final evaluations.
- M&E for Component 1 was left to the technical assistants of the project within the PIUs, and an M&E specialist was only hired for two months, following the recommendations of the midterm review.
- M&E for Component 2 benefitted from a well-established system under FID where the project activities were monitored, and reliable and timely information was generated by the MIS. FID also had a well-



established system for monitoring of the safety net programs. According to the ICR (p. 24 para78) the M&E system under FID provided "timely and substantive project progress reports."

- **Revised indicators and targets.**

- One PDO indicator underwent a slight modification after the first restructuring. The word 'improved' was added to the PDO-level indicator 1 areas to include qualitative measurement of the indicator.
- The first two Level 2 restructurings included several revisions to the outcome targets detailed in the ICR (annex 9). Most notable were increases in the targets for the PDO indicator area provided with irrigation and drainage services (ha) and number of project beneficiaries, and for the intermediate result indicator clients who have received agricultural services provided by the project. These changes reflected the reallocation of funds toward the expansion of the irrigation activities, and a decrease in the target for the intermediate result land parcels with use or ownership rights recorded. This was the result of the project activities having been scaled down.

c. M&E Utilization

Five final evaluations, including two IEs, were conducted by the project closing date. According to the ICR (p. 24, para 79) the information and data generated by the project's M&E system helped identify implementation challenges, and the MTR provided a critical assessment of the project's progress and led to beneficial restructurings. Also, the IEs used a quasi-experimental or experimental design that provided evidence that linked achievements to the project's activities. The ICR itself relied on the M&E generated by the project to provide a comprehensive coverage of the implementation period.

Overall, M&E is rated modest due to design and implementation weaknesses as explained above. These M&E weaknesses were only partially compensated by the IEs that provided evidence on the project achievements.

M&E Quality Rating

Modest

10. Other Issues

a. Safeguards

The project was an Environmental Category B. It triggered three safeguard policies: Environmental Assessment OP/BP 4.01, Pest Management OP 4.09, and Involuntary Resettlement OP/BP 4.12. Some



project activities might have had certain site-specific adverse environmental and social impacts. An Environmental and Social Screening and Assessment Framework (ESSAF) was prepared to ensure compliance with the World Bank's safeguard policies during implementation. Two safeguard instruments were already in place for some sub-components of the project—an Environmental and Social Management Frameworks (ESMF) and Resettlement Policy Framework (RPF). Also, a Dam Safety Manual was prepared. Stakeholders were consulted about each of these documents, and they were disclosed both in-country and at the World Bank's InfoShop.

The ICR (p. 25, para 83) stated that "there were no major safeguard issues during project implementation and, overall, the project activities complied with all applicable World Bank policies, although with some delays."

b. Fiduciary Compliance

Financial Management. Financial Management suffered from a weak internal control system, including insufficient and inadequate supporting documentation for a range of expenditures, low quality of the planning and budget follow-up, and delays in implementing external and internal auditors' recommendations (ICR, p. 25 para 82). The PMU benefitted from FM capacity building efforts by the Bank, however, implementing the Bank's recommendations was slow. Financial management reports were generally of an acceptable quality after addressing the World Bank's comments, and were delivered on time.

There were fraudulent withdrawals from the project's designated accounts linked to Component 1 by a former FM specialist employed in one of the project's regional offices. The project filed a complaint with the police and investigations were conducted. The case was reported to the Integrity Vice Presidency. The client had repaid the missing US\$46,133.46 to the project account. Following this incident, the Bank's FM team conducted a full review of internal controls to determine how such incidents could be prevented and easily detected in the future. Relevant recommendations were issued to strengthen the payment procedures.

Procurement. Procurement capacity at the central and regional levels started weak, and suffered from poor planning of the activities; non-publication of unselected contracts; lack of attribution of awards followed by an amendment 10 days later, and slow evaluation. The situation improved towards the later stage of the project as a result of Bank training and implementation support, as well as remedial measures during the implementation of the project. The ICR (p. 25 para 81) stated that "at project closure, all the contracts were awarded, and an additional contract was transferred from a parallel project."

c. Unintended impacts (Positive or Negative)



d. Other

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	---
Bank Performance	Satisfactory	Moderately Satisfactory	Quality at Entry is rated Moderately Satisfactory due to design weaknesses, risk mitigation shortcomings, and M&E weakness.
Quality of M&E	Substantial	Modest	Design and implementation weaknesses.
Quality of ICR		Substantial	---

12. Lessons

The ICR included five lessons. The following two are emphasized with adaptation of language:

- **Projects attempting to promote rice intensification need to address improving irrigation infrastructure in order to achieve the desired outcomes.** The availability of adequate amounts of irrigation water stabilizes rice yields. Without rehabilitation and maintenance of the irrigation infrastructure, water losses increase, leading to a reduction in yields. Limited availability of irrigation water results in stressed plants that do not respond to intensification activities such as improved inputs and growing practices, among others, and eventually fail to produce the desired yield.
- **Emergency operations can indeed launch IEs to measure the impacts of the activities.** In general, emergency operations are not required to have evaluations, let alone IEs, to show results. This project has shown that it is indeed possible to launch evaluations on time and in a scientific way to measure the results of project outcomes.

13. Assessment Recommended?

No



14. Comments on Quality of ICR

The ICR is well written. It provides comprehensive coverage on the project's implementation experience and candidly reports on shortcomings. However, the ICR listed objectives slightly different than those reported in this Review, which used those employed by the FA and the PAD. Discussion of outcomes was logical, yet deficient when it came to anti-locust and early warning systems, due to the lack of indicators to assess these activities. This deficiency was, however, beyond the control of the ICR. Detailed information was reported in the Annexes including on the terracing pilot supported by the project and the different studies (IEs) assessing the project's impacts.

Overall, the Quality of ICR is rated Substantial.

a. Quality of ICR Rating Substantial