Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Mozambique Office: March, 2025

Country Name	**Project for Improvement of techniques for increasing rice cultivation productivity in Nante, Maganja da Costa District, Zambezia Province**
Republic of Mozambique	

I. Project Outline

Background	Blessed with favorable topographical and climatic conditions, Zambezia is the largest rice-growing region in Mozambique, producing about half of the country's rice. However, due to the aging of the existing irrigation facilities, the immaturity of the maintenance and management system of the facilities as well as of the rice cultivation technology, the potential of the region were not necessarily fully exploited. Note: This project was implemented through the cooperation between Mozambique, Japan, and Vietnam, and support for rice cultivation technology was provided mainly through the Vietnamese experts.
Objectives of the Project	Through (i) developing a package of improved techniques for irrigated rice cultivation, (ii) improving the capacity of Water User Association (WUA) in operation & maintenance of irrigation facilities and farming, and (iii) disseminating the improved irrigated rice cultivation techniques in the Intabo irrigation scheme, the project aims at increasing the productivity and production of irrigated rice cultivation in the Intabo irrigation scheme and thereby contributing to improving the productivity and production of irrigated rice production in Nante. 1. Overall Goal: Productivity and production of irrigated rice cultivation is increased in Nante, Maganja da Costa district, Zambezia Province. 2. Project Purpose: Productivity and production of irrigated rice cultivation in the Intabo irrigation scheme is increased through introducing improved techniques. Note: Main techniques of the improved irrigated rice cultivation techniques are 1)land leveling, 2) transplanting method, 3) preparation of seeds (seed soaking and pre-germination) and amount of seeds, 4) appropriate nursery and seeding method, 5) appropriate timing for transplanting, 6) planting density (17cm x 17cm), 7) shallow transplanting, 8) appropriate water management, 9) fertilization,10) harvest and drying method, and 11)use of quality seed, etc.
Activities of the project	1. Project site: Intabo irrigation scheme in Nante, Maganja da Costa District, Zambezia Province 2. Main activities: (i) developing a package of improved techniques for irrigated rice cultivation, (ii) improving the capacity of WUA in operation & maintenance of irrigation facilities and farming, and (iii) disseminating the improved irrigated rice cultivation techniques in the Intabo irrigation scheme 3. Inputs (to carry out above activities) **Japanese Side** 1) Experts: 3 persons 2) Trainees received: 1 person 3) Equipment: vehicles, copy machines, computers, printers, hand tractors, irrigation pump, pedal threshers, and winnowers etc. 4) Local cost: the expenses for procurement of equipment and other general expenditures for project activities. 5) Replacement and rehabilitation of irrigation facilities **Mozambican Side** 1) Staff allocated: 11 persons 2) Land and facilities: project office and lodgings for experts 3) Local cost: expenses for electricity, water supply, communication, operational expenses for vehicles and motorcycles. **Vietnamese side:** 1) Expert: 8 persons 2) Trainees received in Vietnam: 7 persons
Project Period	(ex-ante) October 2010 – September 2014 [48 months] (actual) January 2011 – January 2015 [49 months]
Project Cost (Japanese side only)	(ex-ante) 428 million yen, (actual) 262 million yen
Implementing Agency	(1) Responsible organization: National Directorate of Agrarian Services, Ministry of Agriculture (2) Coordinating organization: Provincial Directorate of Agriculture (DPA), Zambezia Province (3) Implementing organization: District Services of Economic Activities (SDAE), Maganja da Costa district
Cooperation Agency in Vietnam	Department of Agriculture and Rural Development, Hanoi (Hanoi-DARD)
Cooperation Agency in Japan	-

II. Result of the Evaluation

<Special Perspectives Considered in the Ex-Post Evaluation>

- Continuation status of Indicator 1 and 2 of the Project Purpose is verified under Overall Goal as they constitute part of the indicators of the Overall Goal.

1 Relevance/Coherence

[Relevance]

<Consistency with the Development Policy of Mozambique at the Time of Ex-Ante Evaluation >

The project was consistent with the development policy of Mozambique at the time of ex-ante evaluation. The "Agricultural Sector Public Expenditure Program (PROAGRI)" (Phase 1: 1999-2004, Phase 2: 2007-2011) which was developed based on the "Action Plan for the Reduction of Absolute Poverty for 2006-09 (PARPA II)" aimed to (1) reduce poverty, (2) ensure food security, (3) create employment, and (4) improve trade balance. In order to achieve these goals, strengthening the irrigation sector and supporting small farmers in rural areas were regarded as priorities. In June 2008, the Government of Mozambique developed and approved the "Food Production Action Plan (PAPA)", a comprehensive plan to increase food production, including rice production, on a sustainable basis and to increase food self-sufficiency, in response to the rising international food prices. The PAPA rice production program planned to provide a technology package including guaranteed seeds, fertilizers, and irrigation systems in 19 priority rice promotion districts throughout the country, including Maganja da Costa District in Zambezia.

<Consistency with the Development Needs of Mozambique at the Time of Ex-Ante Evaluation >

The project was consistent with the development needs of Mozambique at the time of ex-ante evaluation. As mentioned above ("Background"), Zambezia faced problems with both in irrigation facilities and rice cultivation technology.

<Appropriateness of Project Design/Approach>

The project design/approach was appropriate. The project approaches were adequate to provide equitable benefits to vulnerable group, as the most of the irrigated rice farmers in the target areas were small-scale farmers and were poor. And overall, no problem attributed to the project design/approach was confirmed.

<Evaluation Result>

In light of the above, the relevance of the project is ③[1].

[Coherence]

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with the Japan's ODA policy to Mozambique at the time of ex-post evaluation. The government of Japan intended to support the priority areas of assistance agreed upon at the third policy dialogue in March 2007. The priority area of "rural development and economic development" focused on rural development with the aim of improving the livelihoods and living conditions of small-scale farmers[2].

<Collaboration/Coordination with JICA's other interventions>

Although the collaboration/coordination between other JICA project was planned at the time of ex-ante evaluation (or during the project period) and was implemented, any effects were not confirmed at the time of ex-post evaluation. The collaboration were planned with a technical cooperation project, "Project for Improvement of Rice Production in Zambezia Province" (2016-2021), which provided additional rice milling machines, on the rice production technology, experience and training of personnel, and also with the Grass-root Grant Aid project by the Embassy of Japan in Mozambique – "Project for the development of infrastructure for rice production and distribution, measures for inundation in Nante-Intabo Irrigation area" (2014-2020) to improve the irrigation of Intabo. However, concrete effects were not confirmed at the time of ex-post evaluation.

<Cooperation with other institutions/ Coordination with international framework>

The cooperation/coordination with the World Bank and other institutions was planned and implemented during the project implementation, and the positive effect(s) was/were confirmed at the time of ex-post evaluation. The expansion of the Munda Munda irrigation scheme (the other irrigation scheme in Nante) took place within the framework of the Sustainable Irrigation Development Project (PROIRRI project) (2011-2017) financed by the World Bank. Also, the SDAE and DPA technicians traveled to Tanzania, Vietnam and Gurue, a city of Mozambique, as part of capacity building and coordination with other institutions.

<Evaluation Result>

In light of the above, the coherence of the project is ③.

[Evaluation Result of Relevance/Coherence]

In the light above, the relevance/coherence of the project is ③.

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the Time of Project Completion>

At the time of project completion, the Project Purpose was partially achieved. The average yield of rice cultivated area in the Intabo irrigation scheme increased and achieved the target (Indicator 1). However, rice cultivated area in the Intabo irrigation scheme did not increase as planned (Indicator 2). In farmers' fields in the Intabo irrigation scheme, the rice seed production exceeded the target (Indicator 3).

<Continuation Status of Project Effects at the Time of Ex-Post Evaluation>

The effects of the project have not continued, mainly due to the flood damages to the irrigation facilities. Details are described under the Overall Goal below.

<Status of Achievement of the Overall Goal at the Time of Ex-Post Evaluation>

At the time of ex-post evaluation, the Overall Goal has not been achieved. The average yield in Nante (Intabo irrigation scheme and Munda Munda irrigation scheme) had been somewhat achieved until 2021 (Indicator 1), as the irrigation worked dryland; however, in 2021 due to considerable availability of water with heavy rain the farmers manage to have a good productivity. There were some flood damages to the irrigation facilities during the season 2021/2022, and in addition, at the time of ex-post evaluation the irrigation facilities had not been working, as the last cyclone in 2023 seriously damaged the irrigation schemes. The average yield in the Intab irrigation scheme (Indicator 2) did not achieve the target, and the cultivated area did not achieve the target either. At the time of ex-post evaluation, the Government of Mozambique was looking to rehabilitate both irrigation schemes, but yet to be implemented. Through a project called IRRIGA - Smallholder Irrigated Agriculture and Market Access Project which aims to improve smallholder agriculture productivity and

[1] ④ : very high, ③ : high, ② : moderately low, ① : low

[2] Source: ODA Country Data Collection (2010)

market access within the irrigated areas, the World Bank has been providing a support to National Institute of Irrigation (INIR) to start the rehabilitation of the irrigation schemes, but no effective action has been taken. No investment was made to increase the cultivated area (Indicator 3).

<Other Impacts at the Time of Ex-Post Evaluation>

According to SDAE, the project produced positive impacts on the life of small-scale farmers by promoting rice production and productivity which ends up with their improving on their living conditions, and empowerment of women and better social inclusion. The empowerment of women by promoting the involvement on the project activities, particularly trainings on field and activities of WUA. The farmers manage to produce seeds with good quality and sell to other districts, which generates an alternative revenue source for the farmers.

No negative impacts on the environmental and social aspects have been observed.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is ②.

Achievement of Project Purpose and Overall Goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th><th>Source</th></tr>
<tr><td rowspan="3">(Project Purpose)
Productivity and production of irrigated rice cultivation in the Intabo irrigation scheme is increased through introducing improved techniques.</td><td>Indicator 1
The average yield of rice cultivated area in the Intabo irrigation scheme is increased at least by 50% (Targeting 3.75 ~4.5 tons/ha compared to 2.5~3.0 tons/ha obtained in the base line survey).</td><td>Status of the Achievement (Status of the Continuation): mostly achieved as planned. (Not continued)
(Project Completion)
The average yield of irrigated rice in the demonstration farms recorded 4.10 tons/ha in 2013/14 cropping season. Because most part of the Intabo irrigation scheme did not suffer from flood, rice growth was favorable in 2013/14 cropping season and significant increase in rice production volume in the scheme was expected comparing to production of normal year.
(Ex-Post Evaluation)
See the Overall Goal below.</td><td>JICA documents</td></tr>
<tr><td>Indicator 2
Rice cultivated area in the Intabo irrigation scheme is increased by 30% (Targeting 390 ha compared to 300 ha obtained in the base line survey).</td><td>Status of the Achievement (Status of the Continuation): not achieved (Not achieved)
(Project Completion)
Area of irrigated rice fields was not increased more than by 30% due to the flood damage of January 2013.
(Ex-Post Evaluation)
See the Overall Goal below.</td><td>JICA documents</td></tr>
<tr><td>Indicator 3
At least 9 tons of rice seeds are produced in farmers' field in the Intabo irrigation scheme.</td><td>Status of the Achievement (Status of the Continuation): mostly achieved as planned (not continued)
(Project Completion)
15 tons of rice seed production was achieved.
(Ex-Post Evaluation)
The seed production was not possible due to the natural accidents that cyclically hit the district of Maganja da Costa, destroying much of the irrigation facilities</td><td>JICA documents, SDAE</td></tr>
<tr><td rowspan="3">(Overall Goal)
Productivity and production of irrigated rice cultivation is increased in Nante, Maganja da Costa district, Zambezia Province.</td><td>Indicator 1
The average yield is increased at least by 60 % in the irrigation schemes in Nante (Targeting 4.0 tons/ha).</td><td>Status of the Achievement: partially achieved
(Ex-Post Evaluation)
<table><tr><td>Scheme</td><td>2016</td><td>2017</td><td>2018</td><td>2019</td><td>2020</td><td>2021</td><td>2022</td></tr><tr><td>Intabo</td><td>5</td><td>4</td><td>5</td><td>5</td><td>4</td><td>4.5</td><td>2,5</td></tr><tr><td>Munda Munda</td><td>3</td><td>3</td><td>3.5</td><td>3</td><td>3.5</td><td>4.5</td><td>0</td></tr></table></td><td>SDAE</td></tr>
<tr><td>Indicator 2
The average yield is increased at least by 100 % in the irrigation schemes in the Intabo irrigation scheme (Targeting 5 tons/ha).</td><td>Status of the Achievement: not achieved
See the indicator 1 above.</td><td>SDAE</td></tr>
<tr><td>Indicator 3
30% of rice cultivated area is increased in the irrigation schemes in Nante (Targeting 1,872 ha in Nante).</td><td>Status of the Achievement: not achieved
(Ex-Post Evaluation)
<table><tr><td>Scheme</td><td>2016</td><td>2017</td><td>2018</td><td>2019</td><td>2020</td><td>2021</td><td>2022</td></tr><tr><td>Intabo</td><td>390</td><td>390</td><td>390</td><td>390</td><td>390</td><td>390</td><td>390</td></tr><tr><td>Munda Munda</td><td>450</td><td>450</td><td>450</td><td>450</td><td>450</td><td>450</td><td>450</td></tr></table></td><td>SDAE</td></tr>
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3 Efficiency

The project cost was within the plan/as planned (the ratio against the plan: 61%) and the project period slightly exceeded the plan (the ratio against the plan: 102%). The project period slightly exceeded the plan due to the combined factors.

	Project Cost (Japanese side only, yen)	Project Period (months)
Plan (ex-ante)	428 million	48
Actual	262 million	49

Ratio (%)	61%	102%

Outputs were produced as planned.
In the light above, the efficiency of the project is ③.

4 Sustainability

<Policy Aspect>

The "National Rice Program" (up to Year 2030) that is aligned with the" Strategic Plan of the Agrarian sector of Mozambique", which in a way will ensure the sustainability of the effects of the project. There is also a national program called "SUSTENTA program" (2020 – 2024) for the integration of family farming in productive value chains, which aims to improve the quality of life of rural households through the promotion of sustainable agriculture.

<Institutional/Organizational Aspect>

The official extension system consists of a central agricultural extension office (under the umbrella of the department of agricultural services), Provincial Directorate of Agriculture (DPA) at the province level, an agricultural extension section of the District Services of Economic Activities (SDAE) at the district level, and extension technicians working at the regional level. DPA has had the responsibility for monitoring, and SDAE in Maganja da Costa District has had responsibility for extension in the target areas.

There were 12 extension officers in Maganja da Costa SDAE at the time of ex-post evaluation, increasing from seven at time of project completion. Among them, two extension officers were permanently involved at the time of ex-post evaluation. The necessary human resources are assured, with the inclusion of more technicians in the scope of the SUSTENTA program as well as the creation of INIR, a Ministry-supervised institution that oversees the area of agriculture, that also has technicians linked to the management and maintenance of irrigation.

Networks have been established with other potentially rice-producing districts through experience exchange visits. And this link was also maintained with this project, and at the time of ex-post evaluation, Agrarian Research Institute of Mozambique (IIAM) has promoted field days to demonstrate techniques and new varieties of rice to be released.

<Technical Aspect>

According to SDAE, the SDAE staff has had knowledge and skills due to the training and exchanges of experience promoted during the implementation of the project.

The technicians was trained during the project, and therefore replicated the knowledge and skills to the producers.

<Financial Aspect>

Product monitoring activities and budget for activities came from the government of Mozambique. However, it has not been sufficient to conduct activities.

<Environmental and Social Aspect>

No issue on environmental and social aspect has been observed, and it has not been necessary to take any countermeasures.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the financial aspect of the implementing agency. Therefore, the sustainability of the project effects is ③.

5 Summary of the Evaluation

The project partially achieved the Project Purpose, i.e. increase in the productivity and production of irrigated rice cultivation in the Intabo irrigation scheme, however, the project did not achieve the Overall Goal, the increase in the Nante as a whole, partly due to repeated natural disaster. The project produced positive impacts on the life of small-scale farmers which ends up with their improving on their living conditions, and empowerment of women and better social inclusion. As for the sustainability, slight problems have been observed in terms of the financial aspect; however, no problems have been observed in the policy, institutional/organizational and technical aspects.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

The Governments of Mozambique and JICA are recommended to rehabilitate Intabo irrigation scheme, which was destroyed by the floods, so that producers can start producing based on the project's teachings.

Lessons Learned for JICA:

Considering the risk of future floods, rehabilitation of irrigation schemes alone may not be sufficient. It is important to identify the damage and frequency of past floods and to consider more resilient agricultural systems tailored to the flood risk of each land.

Irrigation Pump not working after the natural disaster (Edson Marina)

Protective Dike destroyed during the natural Disaster. (Edson Marina)