

## Summary of Terminal Evaluation

<b>I. Outline of the Project</b>	
<b>Country :</b> Republic of Zambia	<b>Project title :</b> The Rice Dissemination Project
<b>Issue/Sector :</b> Agriculture/ Forestry/ Fisheries	<b>Cooperation scheme :</b> Technical Cooperation Projects
<b>Division in charge :</b> Rural Development Department	<b>Total cost :</b> 450million yen
<b>Period of Cooperation</b>	From December 23, 2015 to September 30, 2019 (about 3 years and 9 months)
	<b>Partner Country's Implementing Organization:</b> Department of Agriculture (DoA) and Zambian Agriculture Research Institute (ZARI)
	<b>Supporting Organization in Japan: ---</b>
<b>Other institutions cooperated: ---</b>	
<b>1. Background of the Project</b>	
<p>In Zambia, 60.5% of its population is living below the National Poverty Line, of which 77.9% reside in rural areas. The Government's Revised Sixth National Development Plan (2013-2016) identifies agriculture as the priority sector in achieving sustainable economic growth and reducing poverty. In 2013, the Ministry of Agriculture and Livestock launched the National Agriculture Investment Plan (NAIP) under the Comprehensive Africa Agricultural Development Programme (CAADP) for 2014-2018. One of the key components of the NAIP is to increase sustainable crop production and value addition for crops other than maize. To this end, rice is considered as a promising crop since it has been traditionally consumed and has a high demand that exceeds the local supply. In line with the aforementioned plans and programmes, the new Second National Rice Development Strategy (2016-2020) identifies challenges such as deterioration of the genetic purity of varieties and poor farming practices, and sets plans for strategic interventions including enhancing the farmer's access to high quality seeds and varieties, introduction and development of sustainable crop management practices, and strengthening technology dissemination.</p> <p>As the demands for rice production increased, the Government of the Republic of Zambia (GRZ) implemented Food Crop Diversification Support Project Focusing on Rice Production (FoDiS-R) with Japan International Cooperation Agency (JICA) from 2012 to 2015. FoDiS-R established new potentials for expanding rice cultivation and identified some challenges as well as possible solutions for improving the quality and production of rice. Following the success of FoDiS-R, GRZ requested the Government of Japan to implement new technical cooperation project to increase its rice production through enhancing its research capacity and further strengthening its agriculture extension system. The new project proposal was approved by the Government of Japan and this project (the Rice Dissemination Project, herein after referred to as "the Project") was started since December 2015.</p>	
<b>2. Project Overview</b>	
<b>(1) Overall Goal</b>	
Rice cultivation is promoted in the target provinces using the Extension System introduced by the project.	
<b>(2) Project Purpose</b>	
Extension system for rice cultivation is established in target areas.	
<b>(3) Outputs</b>	

- 1) A basic system for developing rice varieties is prepared.
- 2) Usefulness of locally available varieties is verified as breeding materials.
- 3) Breeding lines carrying useful Quantitative Trait Locus (hereinafter referred to as “QTL”) for developing rice varieties are produced.
- 4) A system for verifying improved cultivation technologies at farmer’s fields based on existing technologies is developed.

#### (4) Inputs

**Japanese side :** JICA Expert: 6 long-term experts and 3 short-term experts in total, Trainees received: 1 person for master program and 13 persons for short-term training in Japan (1 more person will participate in), and 44 persons in Uganda or Philippines (2 more persons will participate in), Provision of equipment: US\$187,207, Local cost expenditure: approx. US\$955,000.

**Zambian side :** Counterpart 48 persons (at the terminal evaluation), Local Cost: around US\$18,657, Provision of experimental fields, working rooms and project offices.

## II. Evaluation Team

<b>Members of Evaluation Team</b>	<p>[Japanese side]</p> <ol style="list-style-type: none"> <li>1) Leader: Mr. Shinichi Noguchi, Director, Team 5, Agricultural and Rural Development Group 2, Rural Development Department, JICA</li> <li>2) Cooperation Planning: Mr. Yuji Inada, Programme Officer, Team 5, Agricultural and Rural Development Group 2, Rural Development Department, JICA</li> <li>3) Cooperation Planning: Ms. Yuri Fukumoto, Programme Officer, Team 5, Agricultural and Rural Development Group 2, Rural Development Department, JICA</li> <li>4) Rice Promotion: Mr. Takamasa Ando, Chief Engineer, VSOC Co., Ltd.</li> <li>5) Evaluation &amp; Analysis: Mr. Isao Dojun, Consultant, Chuo Kaihatsu Corporation</li> </ol> <p>[Zambian side]</p> <ol style="list-style-type: none"> <li>1) Member: Mr. Andrew Songiso, Principal Irrigation Officer, Technical Service Branch, Department of Agriculture (DoA), Ministry of Agriculture (MoA)</li> <li>2) Member: Mr. Alex Kabwe, Principal Irrigation Officer, Technical Service Branch, DoA, MoA</li> </ol>
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<b>Period of Evaluation</b>	From April 8 to May 18, 2019	<b>Type of Evaluation:</b> Terminal
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## III. Results of Evaluation

### 1. Project Performance

**Output 1:** Capacity to conduct research on rice is strengthened.

**Achievement:** Research facilities have been improved at the Mansa and Mt. Makulu research stations of ZARI. Characteristics of 31 rice varieties will be described and a catalogue on their characteristics will be made by the end of the Project. Location-specific conditions (NERICA 4 cultivation in Dambo condition and SUPA-MG cultivation in water-logged condition and possible maximum altitude) are going to be identified in general. Rice cultivation related knowledge and skills of 14 research staff of Zari have been strengthened through training abroad and 2 more research staff will be trained abroad within the remaining project period. More than 20 kinds of rice researches have been conducted at the research stations and farmers’ field (on-farm experiments). Rice production potential paper will be revised by the end of July 2019 considering results of rice researches and extension activities. Considering the situation of achievement of the indicators of the Output 1, ZARI’s capacity to conduct

rice researches is enhanced steadily (although, there are further needs for capacity building on rice research). It can be said that objective of the Output 1 will be achieved well within the project period.

**Output 2:** Capacity to conduct extension activities is strengthened.

**Achievement:** In total, 577 officers (camp extension officers, officers in block offices, and officers of district agricultural offices) have been trained during the project period (cumulative number of officers) in 6 provinces (Eastern, Luapula, Muchinga, Northern, Northwestern, Western provinces). 91.3% of extension officers submitted reports about extension activities to farmers. In total, 4,788 farmers in 6 provinces mentioned above have participated in the field trainings in 3 cropping seasons (accumulative value). In total, training to lead farmers and follower farmers have been carried out at 334 field training sites (demo sites). 91.5% of lead farmers satisfied with advices of extension officers. In total, 38 master trainers received training on rice cultivation and they provided trainings to extension officers. Considering these achievements, capacity to conduct extension activities by extension officers has been strengthened. Therefore, it can be said that objective of Output 2 has been achieved.

**Output 3:** Appropriate extension package for rice production is developed.

**Achievement:** Curriculum for training for extension officers and various training materials including rice production manuals etc. have been produced (draft versions). Final version of the rice extension package which includes training programme and training materials will be produced by the end of July 2019. District Agricultural Profiles of all 103 districts in Zambia were made in 2016. Basic capacity of land husbandry officers of 9 provinces to selecting appropriate rice cultivation locations in Dambo areas using remote sensing/GIS techniques has been enhanced. Considering these achievements, appropriate extension package for rice production will be developed within the project period. Therefore, it can be said that objective of Output 3 will be achieved.

**Output 4:** Collaboration among rice stakeholders is strengthened through coordination of NRDS.

**Achievement:** The rice stakeholders meeting was held twice by the time of the terminal evaluation and one more meeting will be held in August 2019 (3 times in total). In total, 768 other stakeholders such as JOCV and PVC members, their counterparts' extension officers and farmers have participated in the training on rice cultivation.

Considering these achievements, it is concluded that collaboration among rice stakeholders has been strengthened satisfactorily. Therefore, the objective of Output 4 has been achieved.

**Project Purpose:** Extension system for rice cultivation is established in target areas.

**Achievement:** Rice extension package was drafted in 2018 and revision of the package is underway by the master trainers. Final version of the rice extension package will be made by the end of July 2019, and its printed documents will be distributed to participants to the final seminar of the Project and JCC meeting of the Project (in August 2019). The contents of the rice extension package will be appropriate and useful as tools for carrying out rice research and extension activities. Therefore, objective of the Project Purpose will be achieved satisfactorily by the end of the Project.

## **2. Summary of Evaluation Results**

**(1) Relevance: High based on the facts described below.**

- 1) Conformity with needs of target society and target group for increasing rice production (area and yield) in Zambia,
- 2) Relevance to the national policies of Zambia
- 3) Conformity to the assistance policy of Japan for Zambia
- 4) Appropriateness of the approaches taken by the Project
- 5) Comparative advantage of technical cooperation by Japan

**(2) Effectiveness: Moderately High**

Final version of the rice extension package will be made by the end of July 2019, and its printed documents will be distributed to participants to the final seminar of the Project and JCC meeting of the Project (in August 2019). Objective of the Project Purpose will be achieved satisfactorily by the end of the Project. In addition, capacity enhancement of rice related research officers, extension officers, and other officers concerned has been progressed well in general. Effects of extension of rice cultivation techniques to farmers have not been obtained well due to insufficient information on increase of rice yield and rice cultivation area at follower farmers who received trainings by camp extension officers. Therefore, the overall effectiveness of the Project is considered to be moderately high.

**(3) Efficiency: Moderate**

The efficiency of the Project is considered to be moderately high based on the facts described below.

- 1) Project period , 2) Inputs by the Japanese side, 3) Inputs by Zambian side, and 4) Project management

**(4) Impact: Moderate**

- 1) Prospect of achieving the Overall Goal “Rice cultivation is promoted in the target provinces using the Extension System introduced by the project.”

Due to the limited data on rice yield increase and rice planting area of the farmers participated in the Project and necessity of disseminate rice cultivation techniques to large number farmers (new and existing rice farmers), it is difficult to prospect whether the Overall Goal is achieved within 3 years after the completion of the Project

2) Other Impacts Observed

[A] Positive impact

- (1) Recognition of advantage of NERICA 4 variety

[B] Issues for obtaining bigger impact

- (1) Expansion of rice cultivation area
- (2) Improvement of access to rice market
- (3) Impact of trainings provided to JOCV members and PCV members

**(5) Sustainability: Likely to be moderate**

- 1) Policy aspect

Increase agricultural production and productivity, and strengthening agricultural extension service delivery are objectives of the National Agricultural Policy 2013 and rice yield increase and expansion

of rice cultivation area are major objectives of the Second National Rice Development Strategy. Therefore, policy sustainability of the Project will be secured.

#### 2) Organizational Aspects

Number of rice related staff was increased comparing the situation at the start of the Project, and their research capacity has been strengthened. Therefore, organizational setup for continuing rice research at ZARI is improving.

As for the Department of Agriculture, officers of the Agricultural Advisory Services Branch and the Crops Production Branch have mainly involved in the Project. Officers of the provincial agricultural coordinating offices, district agricultural coordinating offices, and officers of block and camp levels have also involved. It seems that there is necessary organizational set up for disseminating rice cultivation techniques in term of human resources. In general, organizational sustainability of the Project likely to be secured.

#### 3) Financial Aspect

MoA did not disburse budget for project activities in first and second year of the project. MoA disbursed budget in third year of the project (in 2018). In order to continue extension activities on rice cultivation techniques, rice research activities, production and procurement of rice seeds which are used in extension activities for farmers, disbursement of stable and necessary amount of budget is required. Therefore, it is difficult to say that financial sustainability of the Project likely to be secured.

#### 4) Technical aspect

In term of rice research capacity of rice related staff of ZARI, as mentioned, their knowledge and skills have been enhanced in general. Further capacity strengthening is necessary in order to develop appropriate rice cultivation techniques suitable for different rice cultivation environments. In term of rice extension capacity, capacity of master trainers and camp extension officers has been enhanced. It is necessary to keep and improve further their knowledge and skills on rice by continuing training activities on rice cultivation techniques. In order to disseminate rice cultivation techniques to wider areas where rice can be grown, it is also necessary to carry out trainings for extension officers and farmers who were not trained under the Project. It is also necessary to improve monitoring system on rice extension activities with farmers.

In general, further capacity enhancement of persons in research and extension is necessary, therefore, it can't say that technical sustainability of the project likely to be secured well.

### **3. Factors that promoted realization of effects**

#### (1) Factors concerning to the implementation process

None

#### (2) Factors concerning to the implementation process

Although the project target area is significantly large geographically, because of high coordination ability of the responsible person in the department of agriculture (DoA), a large number of counterparts from headquarters of DoA, ZARI, provincial and district offices, project activities have been carried out efficiently in general.

#### **4. Factors that impeded realization of effects**

##### **(1) Factors concerning to planning**

It was assumed that the timing of start of the Project will be before the start of rice cropping season. However, due to delay of internal procedure of JICA, dispatch of first JICA expert was delayed and rice cropping season was started already. Therefore, it became necessary to wait several months for starting rice extension activities. (It was necessary to extend the project period in order to cover necessary number of cropping season.)

##### **(2) Factors concerning to the implementation process**

Monitoring system on rice extension activities has been improved under the Project. Rice cultivation information from lead farmers has been collected, however, monitoring of rice cultivation practices by other farmers who received the trainings of the Project has not been conducted.

#### **5. Conclusion**

The Joint Terminal Evaluation Team has confirmed that the Project produced good outputs as follows.

- 1) Capacity of rice related Zambian research officers has been enhanced, and facilities and equipment for rice research have been improved at the Mansa and the Mt. Makulu research stations of ZARI,
- 2) Capacity to conduct training on rice cultivation techniques and its extension activities has been enhanced well. In total, 38 master trainers and camp extension officers in 93 camps (in 35 districts in 6 provinces) have acquired knowledge and skills for providing training on rice cultivation techniques,
- 3) An extension package for rice production will be produced with various kinds of manuals which are useful for rice research and extension activities,
- 4) Collaboration among rice stakeholders is strengthened through implementation of rice stakeholder meeting and provision of trainings to JOCV members, PVC members, their counterparts' extension officers and farmers.

It can be said that basis for promoting rice researches and extension has been strengthened satisfactorily. Therefore, the objective of the Project has been satisfactorily achieved.

#### **6. Recommendations**

6-1. Recommended Actions to be taken by the Project Team (Zambian counterparts and JICA experts) in the Remaining Cooperation Period (up to September 30, 2019)

- (1) To complete remaining project activities and finalization of the rice extension package and various manuals
- (2) Necessary activities for verifying effectiveness of the rice extension package and monitoring system of the Project
- (3) Points to be considered for finalization of manuals
- (4) Publicizing effects and impacts of the Project

#### 6-2. Recommendations to the Ministry of Agriculture

- (1) Involvement of Zambian personnel into project activities
- (2) Capacity strengthening of rice research related personnel and assignment
- (3) Disbursement of budget to rice research and extension activities
- (4) Further strengthening of cooperation between research and extension
- (5) Effective use and roles of Mt. Makulu research station of ZARI
- (6) Rice research themes in future

#### 6-3. Recommendations to JICA

- (1) Considering project start timing for rice cropping seasonal cycle
- (2) Communication Strengthen with ZCARD
- (3) Information sharing and cooperation with other partner organizations
- (4) Utilization and information sharing with the rice research and training center in Uganda

#### **7. Lessons Learned**

- (1) Necessity on improvement of monitoring activities
- (2) Effectiveness of collaboration with JOCV (Japan Overseas Cooperation Volunteer) members
- (3) Timing of start of a project considering the rice cropping season