Department of Agri-business and
Marketing (ABM),
Federal Ministry of Agriculture and
Rural Development

Federal Republic of Nigeria

Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States (RIPMAPP)

Project Completion Report

April 2016

Japan International Cooperation Agency
(JICA)

IC Net Limited

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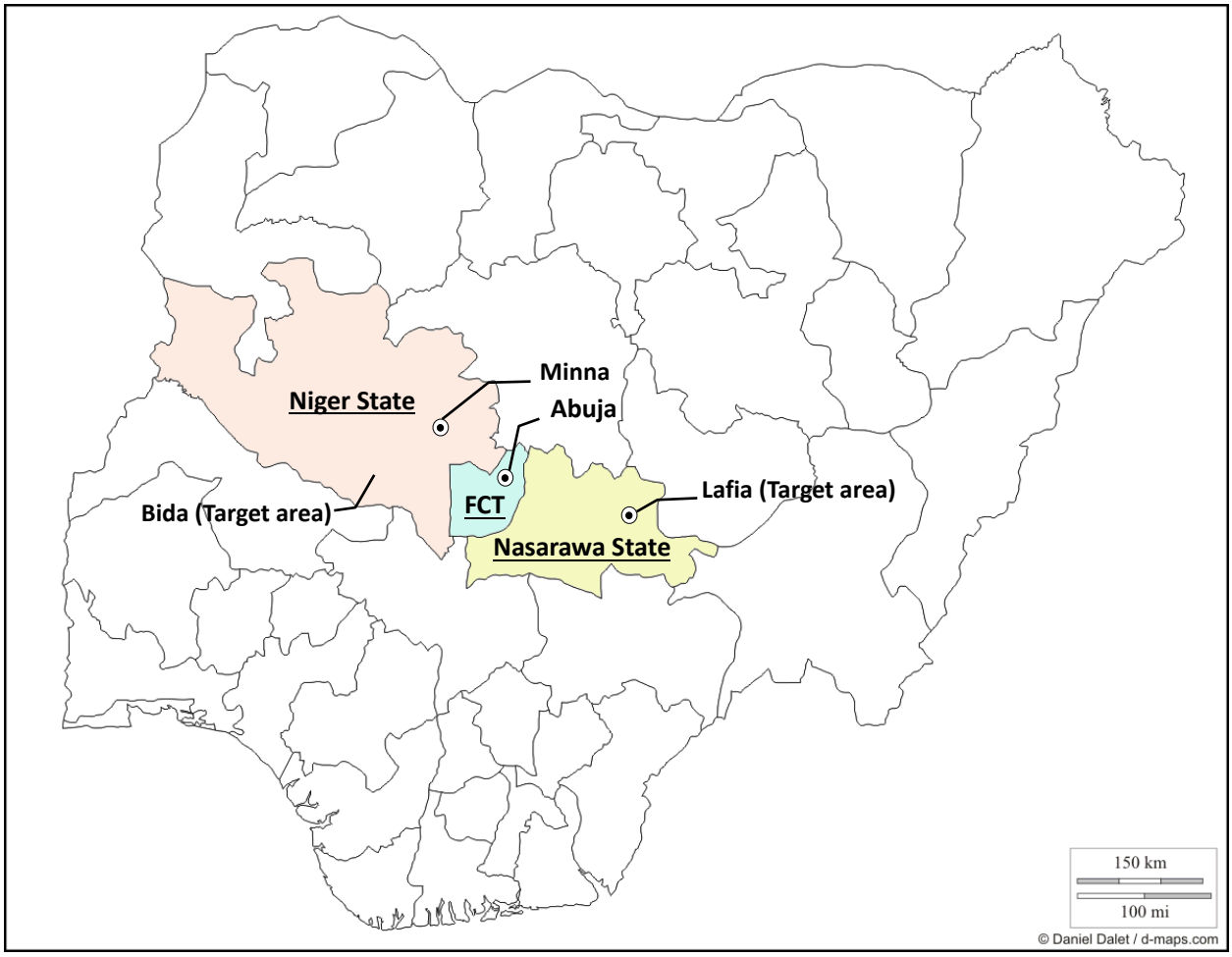
Table of Contents

Attachments

Abbreviations

Abbreviation	Name
ADP	Agricultural Development Program
AMDA	Agricultural and Mechanization Development Authority
APM	Department of Agricultural Processing and Marketing
ABM	Department of Agri-business and Marketing
CARD	Coalition for African Rice Development
C/P(s)	Counterpart(s)
FMARD	Federal Ministry of Agriculture and Rural Development
JCC	Joint Coordinating Committee
LGA	Local Government Area
M/M	Minutes of Meeting
MOU	Memorandum of Understanding
NFRA	National Food Reserve Agency
OJT	On-the-Job Training
PDM	Project Design Matrix
PO	Plan of Operation
RIPMAPP	Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States
R/D	Record of Discussions
SON	Standards Organization of Nigeria
TICAD IV	Fourth Tokyo International Conference on African Development

MAP


Niger State
Minna
Abuja
FCT
Lafia (Target area)
Bida (Target area)
Nasarawa State
150 km
100 mi
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1. Overview of the Project

1.1 Background

In Nigeria, about 65% of the population earns a living through agriculture-related jobs. Agriculture accounts for about 40% of GDP of Nigeria. In recent years, the Nigerian economy has continued to develop with an annual growth rate of approximately 7%. However, more than 90 million people, i.e., nearly two-thirds of the population, still live under the poverty line; many of them live in the rural areas of the country. Thus efforts in agriculture in rural areas are critical for alleviating poverty in the country.

Demand for rice is increasing in Nigeria because of the recent population increase and change in people's diet as a result of urbanization. However, while the annual consumption of rice is 5 million tons, the domestic production of rice is around 3 million tons. Thus it is necessary to import 1.5 to 2 million tons of rice annually to augment domestic production. Accordingly, the Nigerian government decided to increase the self-sufficiency ratio of rice, especially in view of the recent experience of surging grain prices around the world and of ensuring food security.

Although Nigeria is one of the biggest rice producers in Africa, neither farmers nor processors in the country have adequate knowledge and techniques on post-harvest processing. As a result, the overall quality of rice is low with a high percentage of broken grains due to inappropriate drying and milling and the inability to remove stones in the milling process that are mixed during harvest and drying. Moreover, the price of domestic rice is low, which discourages farmers from expanding rice production. The post-harvest loss rate of rice is 15 to 20%, preventing the improvement of income of the farmers and other people in rural areas who are involved in rice production and processing. Raising the competitiveness of domestic rice against imported one through the improvement of quality and processing ability by enhancing rice milling technology, commercializing rice products that suit the consumers' taste, and creating domestic rice brands will contribute to the expansion of domestic production of rice and to the reduction of poverty while improving the self-sufficiency ratio, food security, and income of rice-growing farmers.

Based on the understanding that the biggest bottleneck in domestic rice production expansion is post-harvest processing, the Nigerian government has officially requested the Japanese government to implement the 'Rice Post-Harvest and Marketing Pilot Project in Nasarawa and Niger States' (hereinafter the 'Project' or 'RIPMAPP') for human resource development focusing on post-harvest processing and marketing toward the officials of the National Food Reserve Agency (NFRA) and the State Agricultural Development Program (ADP). The Project is to be done through various training programs for relevant people of the ADP, rice producers, and processors.

The Nigerian government has launched the 'Vision 20: 2020' initiative to make Nigeria one of the top 20 economies in the world by 2020, and sets agriculture as the main driving force for economic growth and poverty reduction. In agriculture, the government focuses on modernization and reduction of post-harvest loss.

Japan has made it a goal to double the production of rice in Sub-Saharan Africa in the next ten years for addressing food issues in the mid-to-long term, as well as rural development and poverty reduction, in the framework of the Coalition for African Rice Development (CARD) launched at the Fourth Tokyo International Conference on African Development (TICAD IV) in May 2008. Nigeria, the largest producer as well as importer of rice in Africa, was included in the First Group of the target countries. Japan is committed to the initiative of the CARD, and RIPMAPP is Japan's core project in Nigeria.

On the basis of the background above, JICA implemented the Detailed Planning Study in August and October 2010, and decided officially to implement the Project after the exchange of the Record of Discussions (R/D) with the Federal Ministry of Agriculture and Rural Development of Nigeria

(FMARD) and the National Food Reserve Agency (NFRA)[1], and Minutes of Meetings (M/M) with the NFRA in March 2011.

1.2 Outline of the Project

Project Objectives and Activities

The Project aims to improve the quality of domestic rice in the target states while achieving the Project Purpose and Outputs. The Project has been monitored and evaluated based on the Project Design Matrix (PDM) that includes evaluation indexes, indicators, and means of verification. The PDM has been reviewed and revised at the time of Project monitoring and evaluation. The PDM ver. 3, which is the current one attached in Attachment 1, was approved at the fifth Joint Coordinating Committee (JCC) in June 2014. The following are the Overall Goal, Project Purpose, Outputs, and Activities of the Project in the present PDM.

Overall Goal

The quality of domestic rice is improved in the target states.

Project Purpose

The quality of domestic rice is improved in the target areas.

Objectively Verifiable Indicators
1. At least 2.5% of rice traders of the target groups in the target areas[2] handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project.
2. At least 2.5% of total quantity of rice handled by rice traders of the target groups in the target areas is Grade A level of Rice Grade Standard developed by the Project.

Outputs and Activities of the Project

(1) Measures to promote distribution of high-quality domestic rice are identified.

Activities
1-1 Study distribution channels, quantity, and price trends of rice.
1-2 Examine market demands, including potentials for high-quality domestic rice.
1-3 Identify challenges of small-scale rice millers, parboilers, and rice farmers.
1-4 Design collection, processing, and marketing measures to distribute high-quality domestic rice and reduce post-harvest loss.
1-5 Collect information on financial institutions and services.

(2) Rice grading standards for domestic rice are developed and improved.

Activities
2-1 Study grading standards used by large-scale rice millers.
2-2 Study rice consumers' taste and the quality standards of rice retailers.
2-3 Develop and test grading standards for parboiled milled rice suitable for small-scale rice milling.

[1] In March 2012, the National Food Reserve Agency (NFRA) was transformed into the APM of the FMARD. In December 2014, the APM was transformed into the ABM of the FMARD.
[2] To determine the objectively verifiable indicator of the Project Purpose, the Project employed the theory of "diffusion of innovations" developed by Everett Rogers, a professor of rural sociology. He popularized the theory in his 1962 book titled *Diffusion of Innovations*. According to the theory, when the adoption rate of technology reaches 2.5%, the technology is disseminated from innovators to early adopters. Considering that the Project is a pilot one and its period is limited, the Project targeted the point where technology is disseminated from innovators to early adopters.

(3) Capacity of ABM and ADP staff regarding training implementation on marketing, post-harvest processing, and business management is enhanced.

Activities
3-1 Develop training plan for ADP staff.
3-2 Prepare the curriculums and materials for ADP staff.
3-3 Set up an incubation plant with machinery and equipment in Nasarawa State
3-4 Conduct training on post-harvest technology, rice value chain, marketing, and institutional development for ADP staff of Nasarawa State.
3-5 Identify the outcome of training for ADP staff of Nasarawa State and modify training plan for the subsequent training.
3-6 Set up an incubation plant with machinery and equipment in Niger State.
3-7 Conduct training on post-harvest technology, rice value chain, marketing, and institutional development for ADP staff of Niger State.
3-8 Identify the outcome of training for ADP staff of Niger State and modify training plan for the subsequent training.

(4) Capacity of small-scale rice millers, parboilers, rice farmers and traders in post-harvest processing, marketing and business management is enhanced.

Activities
4-1 Develop training plan for small-scale rice millers, parboilers, rice farmers and traders.
4-2 Prepare the curriculums and materials for the training programs.
4-3 Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Lafia.
4-4 Support innovators in terms of technology, information on financial service and business management in Lafia.
4-5 Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Bida.
4-6 Support innovators in terms of technology, information on financial service and business management in Bida

1.3. Project Framework

Figure 1 shows the conceptual framework of the Project. The Project aims to achieve the Outputs (1) and (2) through various surveys and verifying activities. It also aims to achieve the Outputs (3) and (4) through various training programs and innovator support. During the Project period, surveys, verification on the improvement of the quality of domestic rice in the target areas, and training programs will be conducted repeatedly. The results of the previous surveys, verifications, and training programs will be applied to improve the subsequent training programs. Among the training participants, the Project will select ‘innovators’, i.e. those who are most likely to accept improved technology, support them on technical improvement and business management, and strive to achieve the Project Purpose. The target innovators are traders or processors (parboilers or millers) cum traders, those who are willing to invest in technologies introduced by the Project, and those who will have a major impact in improving the quality of rice.

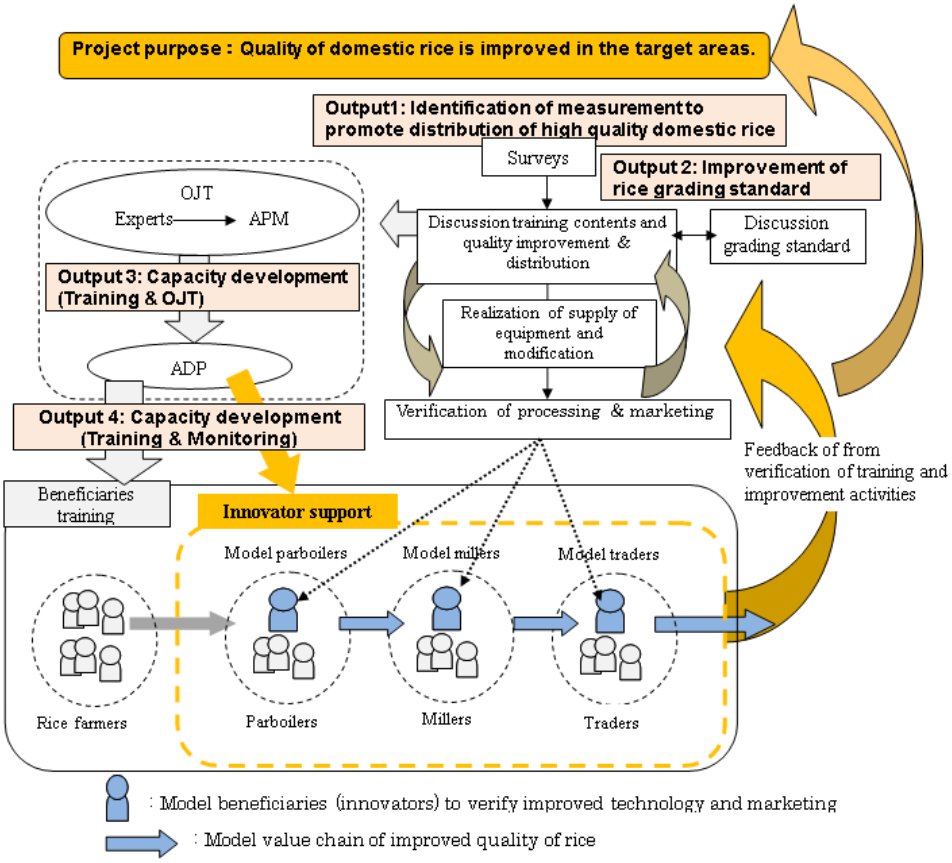


Figure 1: Conceptual Framework of the Project

Project Implementation Structure

The FMARD is responsible for the Project. The Department of Agri-business and Marketing (ABM) of the FMARD is in charge of implementing the Project. A Project Director, a Project Manager, State Coordinators, technical staff, and administrative personnel are assigned to implement the Project. In addition, Japanese experts are dispatched[3].

For effective and successful implementation of technical cooperation through the Project, the Joint Coordinating Committee (JCC) was established, and had met at least once a year and whenever needed[4].

Target Areas

The target areas of the Project are Lafia in Nasarawa State and Bida in Niger State.

Target Groups of the Project

The target groups for Project intervention are farmers, parboilers, millers and traders in Lafia in Nasarawa State and Bida in Niger State.

[3] The R/D shows the composition of the Project personnel.
[4] The R/D shows the functions and composition of the JCC.

Period of the Project

The Project started in September 2011 and ended in March 2016. The duration of the Project consists of the following three periods.

Period 1	Sept. 2011–April 2013
Period 2	May 2013–April 2014
Period 3	May 2014–May 2016

2. Project Activities

Attachment 3 shows the planned and actual implementation of the Project activities. The following are the results of the activities.

2.1 Output 1: Measures to promote distribution of high-quality domestic rice are identified

Activity 1-1 Study distribution channels, quantity, and price trends of rice.

1. Patterns of rice distribution and the roles of stakeholders

The Rice Distribution System Survey[5] in six states in Nigeria clarified the following relationships of stakeholders in the rice value chain in Nasarawa and Niger States.

Target		Relationship patterns of rice value chain	Share (%)
Nasarawa	1	Millers and parboilers provide processing services to rice traders	30
	2	Parboilers provide processing services to rice traders cum millers	60
	3	Millers provide processing services to rice traders cum parboilers	10
Niger	1	Millers and parboilers provide processing services to rice traders	30
	2	Parboilers provide processing services to rice traders cum millers	40
	3	Millers provide processing services to rice traders cum parboilers	10
	4	Millers provide processing services to rice traders cum parboilers (who are spouses of rice farmers)	10

Source: Rice Distribution System Survey by RIPMAPP, 2011

Relationships among stakeholders in the rice value chain vary. However, an analysis of the relationships reveals the lead actors in improving the quality of rice and what motivates them.

Table 2-1-2: Possible lead actors to improve rice quality

Relationship patterns		Possible lead actors to improve rice quality and their incentives			
		Paddy	Parboiling	Milled rice	Marketing
1	Millers and parboilers provide processing services to rice traders	T→F Farm-gate price	T→P Parboiling fee	T→M Milling fee	T→Market Retailing price
2	Parboilers provide processing services to rice traders cum millers	T→F Farm-gate price	T→P Parboiling fee	T＝M Investment	T→Market Retailing price
3	Millers provide processing services to rice traders cum parboilers	T→F Farm-gate price	T＝P Investment	T→M Milling fee	T→Market Retailing price

Note: F: rice farmer; P: parboiler; M: miller; T: trader. The shaded text indicates the party who takes the lead in improving the rice quality in a hands-on manner. The lower row (e.g. 'Farm-gate price' and 'Parboiling fee') shows incentives.

The following parties take the lead in improving the quality of respective items: farmers on paddy; parboilers on parboiled paddy; and millers on milled rice. However, the ones who are truly motivated to improve the quality of rice are milled rice traders who know market demands. They offer incentives to farmers, parboilers, and millers. For instance, milled rice traders in the pattern 1 offer a higher parboiling fee to parboilers and a higher milling fee to millers to improve the quality of milled rice. Milled rice traders cum millers in the pattern 2 offer a higher parboiling fee to parboilers while trying to enhance the milling quality by themselves. It goes without saying that the source of

[5] The results of the survey were incorporated in the following report: Rice Distribution System in Kano, Kaduna, Niger, Nasarawa, Benue and Ebonyi States in Nigeria, Rice Post Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States, September 2012.

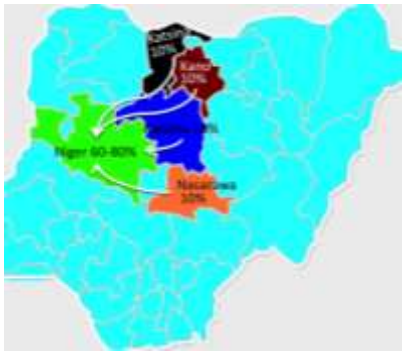


Figure 2-1-1 Paddy sources for Nasarawa (above) and Niger

Figure 2-1-2 Milled rice market from Nasarawa (above) and Niger

Box1: History of Lafia Millers and Traders Association

The association is in the western part of the central area in Lafia, Nasarawa State. The area has not only rice traders, parboilers and millers but also many other stakeholders such as firewood breakers and parboiling tank fabricators.

Rice milling in Lafia began with several milling machines, but it grew significantly during the Babangida Administration from 1985 to 1992. The number of milling machines increased to 100, and 30 trucks came to collect milled rice every day. The size of the parboiling tank increased from a 200 kg drum cut in half to a larger size to process more than 700 kg of paddy at once.

However, the import of foreign rice to Nigeria began in 1992, and the business environment for the association changed drastically. The Nigerian market welcomed stone-free foreign rice with lighter and unified colour although it was more expensive than domestic one. The demand for domestic rice decreased. The number of milling machines in the association decreased to 60, and that of trucks coming to pick up milled rice became 5 or 6 per day. However, the rice processors in Lafia kept the same size of the parboiling tank. Around 2010, a few integrated large-scale rice mills started operating and providing high-quality domestic rice in the Nigerian market and the demand for conventional domestic milled rice decreased even further. As of 2015, the number of trucks per day is 2.

RIPMAPP started in 2011 and is overlapping with the declining period of the Lafia Association.

Source: Interview with the Lafia Association in March 2015
Note: The Lafia Association and the ADP have no statistics on rice production and processing.

incentives is the additional sales induced by the higher quality. Milled rice traders know that milled rice with higher quality can be sold at a higher price in the market.

2. Distribution channels, quantity and price

The Rice Distribution System Survey between October and December 2011 clarified the distribution channels, quantity and prices of milled rice in the states of Nasarawa and Niger. The states have two types of millers: those scattered in rural areas and others who are concentrated in urban areas. The millers concentrated in urban areas process more paddy per day than those scattered in rural areas[6]. The concentrated millers in Nasarawa State process on average 14.4 tons of paddy per day in the peak period and 2.7 tons in the off-peak period; the scattered millers process on average 2.7

[6] The concentrated type refers to the status in which many millers, sometimes more than 100, stay in a certain area of a city to proceed with their work. While each miller runs his or her own business, many millers belong to an association and exchange information among themselves. The scattered type is the status in which millers are separated from one another in rural areas and work independently.

tons per day in the peak period and 1.4 tons per day in the off-peak one. In Niger State, the average amounts of paddy milled per day by the concentrated millers are 7.5 tons and 4.5 tons while those of the scattered millers are 2.3 tons and 1.4 tons.

When comparing Nasarawa with Niger, there is a substantial difference in the concentrated millers. The average amount of paddy milled in the peak period in Nasarawa State is 14.4 tons, which is approximately double the amount in Niger State. However, in the off-peak period, the average processed amounts are 2.7 tons in Nasarawa State and 4.5 tons in Niger State.

Table 2-1-3: Average amount of paddy processed by millers/day (t)

			Operated Days/ Month	Concentrated Type	Scattered type
Nasarawa	Peak	Min.	5	5.4	1.8
		Max.	6	27	5.4
		Avg.	6	14.4	2.7
	Off-Peak	Min.	4	2.7	0.9
		Max.	6	13.5	2.7
		Avg.	6	2.7	1.6
Niger	Peak	Min.	5	3.75	1.5
		Max.	6	22.5	4.5
		Avg.	6	7.5	2.3
	Off-Peak	Min.	4	2.25	0.8
		Max.	6	13.5	2.3
		Avg.	6	4.5	1.4

Source: RIPMAPP 2011. Rice Distribution System Survey

The Lafia Rice Miller and Trader Association in Nasarawa State has been one of the largest milling complexes in Nigeria and collects a large amount of paddy primarily in the peak period. By contrast, in the off-peak period, Niger State has irrigated paddy fields that can provide paddy after April when Nasarawa starts the off-peak period. However, the Lafia Association is losing its business momentum as described in the Box1.

The paddy sources of Nasarawa State are as follows: Nasarawa (60–80%); Benue and Niger (about 15% respectively). Niger State procures paddy from Niger (60–80%), Katsina, Kano, Kaduna and Nasarawa. By contrast, the markets of rice milled in Nasarawa are Nasarawa (30–50%), Benue, Niger and Kano. The other markets for Nasarawa are Sokoto, Kaduna, Abuja, Enugu, and Anambra. The markets of rice milled in Nigeria State are Niger (40–60%), Kebi, Katsina, Kano, Kaduna, Abuja, and Nasarawa.

Table 2-1-4 shows the purchased prices of paddy in NGN per 75-kg bag equivalent. The prices in the off-peak period are 12–20% higher than those in the peak period. The prices of paddy produced in Nasarawa are higher than those of Niger in both the peak and off-peak periods. As shown in Table 2-1-5, the paddy production amount in Nasarawa is less than 20% of the one in Niger. This may pertain to the differences in the paddy prices in the two states.

Table 2-1-6 shows milled rice prices in NGN per 50-kg bag equivalent. In both the peak and off-peak periods, the prices of milled rice processed in Niger are higher than those in Nasarawa. This suggests that Nasarawa faces more issues in the quality of milled rice than Niger.

Table 2-1-4: Paddy price for the two states targeted by RIPMAPP

	Paddy source	Variety	Share	Peak			Off-peak		
			%	Min.	Max.	Avg.	Min.	Max.	Avg.
Nasarawa	Nasarawa	SIPI, RS	60-80	4,800	5,200	5,000	5,500	6,200	6,000
	Niger	SIPI	20	4,200	4,800	4,700	4,800	5,200	5,000
	Benue	Jankara	20	3,700	4,200	4,000	4,200	4,800	4,500
Niger	Niger	SIPI	60-80	4,200	4,800	4,400	4,800	5,000	4,900
	Kaduna	SIPI, Jamila	10	4,200	4,800	4,689	4,900	5,200	5,000
	Kano	SIPI, Jamila	10	4,800	5,000	4,900	5,000	5,500	5,200
	Nasarawa	SIPI	10	4,800	4,900	4,700	4,900	5,200	5,000
	Katsina	SIPI	10	4,800	5,000	4,900	5,000	5,500	5,200

Source: RIPMAPP 2011. Rice Distribution System Survey

Table 2-1-5: Paddy production by state (2010/2011)

State	Planted area (Ha)	Production (Ton)	Yield (Ton/ha)
Kaduna	344,890	732,420	2.12
Niger	330,670	636,670	1.93
Kano	219,060	422,050	1.93
Taraba	375,670	401,990	1.07
Benue	178,820	341,480	1.91
Ebonyi	126,080	334,850	2.66
Borno	148,270	293,420	1.98
Adamawa	77,100	187,860	2.44
Nasarawa	64,330	112,790	1.75
Gombe	56,710	105,080	1.85

Source: National Bureau of Statistics, National Agricultural Sample Survey 2010/2011

Table 2-1-6: Milled rice price in the two states targeted by RIPMAPP (Unit: NGN per 50-kg bag equivalent)

	Market	Variety	Share	Peak		Off-peak			
			%	Min.	Max.	Min.	Max.	Min.	Max.
Nasarawa	Nasarawa	SIPI, RS, Jankara	30-50	6,800	7,200	7,000	7,200	7,500	7,300
	Niger	SIPI, RS	20	7,000	7,200	7,100	7,200	7,500	7,400
	Benue	SIPI, RS, Jankara	30	7,000	7,200	7,100	7,200	7,500	7,400
	Kano	SIPI	20	7,400	7,800	7,600	7,800	8,000	7,850
Niger	Niger	SIPI	40-60	7,000	7,400	7,200	7,400	8,000	7,500
	Nasarawa	SIPI	10	7,200	7,600	7,500	7,600	7,800	7,700
	Kaduna	SIPI, Jamila	10	7,400	7,800	7,600	7,800	8,000	7,850
	Kano	Jamila	10	7,400	7,800	7,600	7,800	8,000	7,850
	Katsina	SIPI	10	7,400	7,800	7,600	7,800	8,000	7,850
	Kebi	SIPI	10	7,400	7,800	7,600	7,800	8,000	7,850
	Abuja	SIPI	10	7,400	7,800	7,600	7,800	8,000	7,850

Source: Rice Distribution System Survey by RIPMAPP, 2011

Table2-1-7: Comparison of Nasarawa and Niger States on rice post harvest processing

	Nasarawa	Niger
Paddy production in the State (2010/11, tonne)	112,790	636,670
Location of parboilers	• Parboilers are concentrated in the Lafia rice mill complex in the central part of Lafia, the state capital. • Rural areas have many female parboilers.	• There are many parboilers in rural areas, most of whom are spouses of rice farmers.
Parboiling tools	• Parboilers in the Lafia rice mill complex use a large 700-kg drum for paddy processing. • Female parboilers in rural areas use a 200-kg drum.	• Parboilers in rural areas use a traditional cooking pot that can process approximately 40 kg of paddy at a time.
Location of millers	• Many millers in Lafia are concentrated in the Lafia rice mill complex. • Millers in rural area are scattered.	• Millers are concentrated in urban areas such as Bida. • Millers in rural areas are scattered.
Location of rice traders	• Rice traders are concentrated in the Lafia rice mill complex. Some of them parboil paddy and/or mill it.	• Millers are concentrated in urban areas such as Bida. • Spouses of rice farmers are rice traders cum parboiler.

Activity 1-2 Examine market demands, including potentials for high-quality domestic rice.

According to the Report on Creating Rice Grading Standards in Nigeria[7], the table below summarizes what Nigerian consumers care about when they buy milled rice. It shows the aggregate results of sampled consumers' responses to the question to select multiple options out of 11 choices such as 'Taste', 'Aroma' and 'Colour unification'. Three points for the most important factor, two for the second most important factor, and one for the third most important one were allocated respectively, and the total score was calculated.

The results show that, whether milled rice is imported or domestic, consumers think that the most important factor in the quality of milled rice is taste. The second most important factor is being stone-free in imported rice and aroma in domestic rice. This suggests that one of the major reasons for consumers to buy imported rice instead of domestic one is stone contamination. It also implies that consumers who prefer domestic rice do so because of its taste and aroma. In domestic rice, the third most important factor is low price; in imported rice, it is short cooking time. Short cooking time means the following: it is necessary to remove stones from domestic rice by hand and rinse it many times to remove strong smell, but such preparation before cooking is unnecessary with regard to imported rice. Following these factors in importance are lighter colour and the head-rice ratio.

It is impossible to use in Nigeria's small-scale rice milling operation such objective measurements as Taste Score used in Japan because measuring machines are too costly for millers in Nigeria. In addition, most Nigerian consumers buy an intended brand of milled rice not because they make judgement through information in its label without having tasted the rice but because they have purchased and tasted the rice and remember its taste and aroma. Moreover, RIPMAPP counterparts (C/Ps) pointed out that the appearance of Nigerian domestic rice is far less appealing than imported one and hinders its marketability before taste and aroma are even taken into account.

In conclusion, to make Nigeria's domestically milled rice more attractive, it is necessary to make it stone-free and improve its appearance through such factors as colour and broken-grain ratio.

[7] RIPMAPP, 2012. Report on Creating Rice Grading Standards in Nigeria; Consumer and Retailer Survey in the Selected States and Attitude Survey of Actors of Rice Value Chain towards Rice Quality in Nasarawa and Niger States.

Table 2-1-8: Factors that Nigerian consumers care about when they purchase parboiled milled rice

		Imported						Domestic					
	Point	North States	South States	National	Weighted Score	Total	Rank	North States	South States	National	Weighted Score	Total	Rank
Taste	3	35	210	245	735	1032	1	162	22	184	552	724	1
	2	16	95	111	222			72	1	73	146		
	1	7	68	75	75			25	1	26	26		
Aroma	3	12	9	21	63	238	4	21	5	26	78	407	2
	2	5	53	58	116			93	11	104	208		
	1	7	52	59	59			121	0	121	121		
Colour unification	3	8	0	8	24	47		1	0	1	3	14	
	2	6	1	7	14			3	0	3	6		
	1	9	0	9	9			1	4	5	5		
Lightness in colour	3	14	2	16	48	152	5	4	0	4	12	37	
	2	34	5	39	78			9	0	9	18		
	1	18	8	26	26			6	1	7	7		
Low price	3	0	8	8	24	152	5	49	0	49	147	333	3
	2	0	35	35	70			51	0	51	102		
	1	1	57	58	58			84	0	84	84		
Head-rice ratio[8]	3	4	5	9	27	63		5	0	5	15	51	5
	2	9	8	17	34			10	0	10	20		
	1	7	17	2	2			16	0	16	16		
Broken rice ratio	3	0	1	1	3	5		1	0	1	3	32	
	2	0	0	0	0			13	0	13	26		
	1	1	1	2	2			3	0	3	3		
Low impurity	3	7	0	7	21	55		0	0	0	0	12	
	2	10	1	11	22			3	0	3	6		
	1	10	2	12	12			6	0	6	6		
Being stone-free	3	56	128	184	552	1016	2	4	0	4	12	26	
	2	16	157	173	346			3	0	3	6		
	1	31	87	118	118			8	0	8	8		
Short cooking time	3	9	19	28	84	252	3	1	0	1	3	24	
	2	8	26	34	68			4	0	4	8		
	1	14	86	100	100			13	0	13	13		
Trust in country of origin	3	3	6	9	27	61		9	0	9	27	91	4
	2	4	7	11	22			3	11	14	28		
	1	2	10	12	12			34	2	36	36		

Source: Report on Creating Rice Grading Standards in Nigeria by RIPMAPP, 2012

[8] Head rice is a rice grain that is longer than 3/4 of the total length of a whole grain. The head-rice ratio is the proportion of the head rice weight to the weight of milled rice as a percentage (%).

Activity 1-3 Identify challenges of small-scale rice millers, parboilers, and rice farmers.

Table 2-1-9 shows possible causes of issues on the quality of parboiled milled rice processed by small-scale processors. Parboiling technology has a major impact on not only the colour of the final product but also the milling performance.

Table 2-1-9: Issues on the quality of rice and their causes

Stakeholder	Product	Issue	Cause
Farmer	Paddy	1) Crack in a paddy grain 2) Different varieties and red rice mixed in paddy 3) Unripe and damaged grain 4) Foreign matter, stones, and chaff in paddy	1) Delay in harvesting and excessive drying 2) Different varieties mixed in seeds 3) Uneven growth and insects 4) Manual work
Parboiler	Parboiled paddy	1) Dark colour 2) Uneven colour 3) Black-spotted rice 4) Stones and foreign matter in parboiled paddy	1) Overcooking 2) Overcooking and undercooking 3) Attack by insects in the fields 4) Imperfect management in sun drying
Miller	Milled rice	1) Stones mixed in milled rice 2) Broken grain 3) Uneven colour 4) Foreign matter mixed in milled rice	1) Derived from fields and parboiling 2) Body crack and undercooking in parboiling 3) Derived from fields and parboiling 4) Derived from fields and parboiling

Activity 1-4 Design collection, processing, and marketing measures to distribute high-quality domestic rice and reduce post-harvest loss.

Based on the results in the Activities 1-1 through 1-3, Table 2-1-10 tabulates concrete and feasible solutions on post-harvest technology and marketing. The Japanese experts and their ADP C/Ps tried to raise stakeholders' awareness on rice quality improvement by exchanging views with the stakeholders on the problems, causes, and solutions (Table 2-1-9 and Table 2-1-10) at their worksites. It is usually rare to provide beneficiaries with the results of interviews and direct observation because such process is time-consuming. However, from the beginning of the Project, the Project created awareness of the beneficiaries and ADP C/Ps on its objectives through such process.

Table 2-1-10: Solutions to problems

Problems	Goal	Solution
Stones	Complete removal	Use of de-stoner by millers
Red grains	Removal as much as possible	Procurement of high-quality paddy
Discoloured grains	Light colour	Improvement of parboiling method by use of lid and false bottom
Broken grains	Fewer broken grains	Improvement of parboiling method by use of lid and false bottom
Black-coloured and -spotted grain	Complete removal	Removal by hand

To achieve the goals shown in Table 2-1-10, especially producing light-coloured grains, it was necessary to conduct experiments on parboiling. Through the experiments and the improvement of the equipment on a trial-and-error basis, the Project confirmed that light-coloured grains can be produced.

Moreover, the Project confirmed that the broken-grain ratio of parboiled rice can be less than 15% if the parboiling process is practiced properly. As for the removal of stones, it is only achieved by using de-stoner; hence, the Project looked for and found a few suppliers of de-stoners available in Nigeria[9].

[9] Post-harvest technologies at the rice farmer level do not contribute to improving the quality of parboiled rice as much as rice parboiling technology does. Meanwhile, RIPMAPP procured a Japanese pedal-type thresher, a Japanese manual winnower, and an Indonesian throw-in type power thresher to introduce during the beneficiary training in Nasarawa State in order to show farmers how to conduct post-harvest processing efficiently. In addition, through a fabricator in Bida, Niger

From the activities above, a technology package to improve the quality of parboiled rice was confirmed. The technology was introduced during the technical training by the Project. Later on, through innovator support, it was observed that tasks associated with parboiling and milling such as washing paddy thoroughly with water and proper sun drying help improve the quality of parboiled rice. The Project also developed an attractively designed and printed plastic bag for 25 kg of milled rice to differentiate the rice packaged in the bag from other types of rice, and recommended innovators to sell the packaged rice.

Table 2-1-11 summarizes technologies starting from rice parboiling to selling rice that the Project, i.e. RIPMAPP, recommends. The Guideline for RIPMAPP Technology Dissemination[10] describes the technologies.

Table 2-1-11: Recommended sequence of rice processing technologies

Rice parboiling	Milling	Package and shipment
• Washing paddy thoroughly with water before soaking it • Starting soaking paddy in hot water at 65–70 degrees Celsius and finishing in 8 hours • Using lid and false bottom during steaming • Spreading steamed paddy at the maximum thickness of 2 cm on concrete floor and turning it over often during sun drying	• Passing paddy twice through the milling chamber and putting milled material into the polishing part of the Engelberg huller after the second milling • Using de-stoner after milling	• Removing black-coloured and -spotted grains manually • Packaging rice evaluated as Grade A of the Rice Grading Standard developed by RIPMAPP, and selling it

(1) Rice parboiling

Rice parboiling consists of the three steps of soaking, steaming, and drying. The following are descriptions on the recommended methods and equipment.

<u>Soaking</u>

Raw paddy should be washed thoroughly with clean water before soaking. Parboilers of the Lafia Millers and Dealers Association were instructed to wash paddy twice because they were accustomed to washing it only once. As a result, the whiteness of milled parboiled rice improved.

Washing the paddy removes most of immature grains, sand, stones, and foreign matters in it. After the washing, the paddy is to be poured into a container such as a traditional cooking pot or drum, which is usually used for both soaking and steaming, and water should be added until the paddy is immersed in it. After pouring water, the container should be heated by fire set on firewood until bubbles appear. The temperature of paddy and water in the container at that time would be in the range of 65–70 degrees Celsius. Then, the fire should be

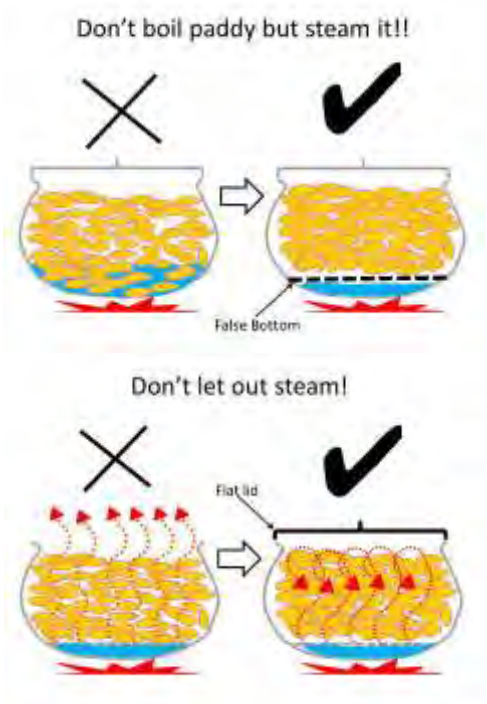


Figure 2-1-3: Use of a lid and a false bottom

State, RIPMAPP developed its own trial-made machines that are of the same types as the three above. The trial-made pedal-type thresher and winnower were used during the beneficiary training in Niger State as well.

[10] The Guideline for RIPMAPP Technology Dissemination, Federal Republic of Nigeria, Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States (RIPMAPP), March 2016, Abuja. The Agribusiness and Marketing Department (ABM), Federal Ministry of Agriculture and Rural Development, and Japan International Cooperation Agency.

put out and the soaking is to start and continue for 8 hours. After the soaking, the moisture content of paddy will be between 30% and 35%.

Steaming

As shown in Figure 2-1-3, a lid and a false bottom are used with a steaming container such as a traditional cooking pot and a drum. A false bottom separates the water and the wet paddy in the container. The water under the false bottom is boiled and changes into steam while the container is heated. The steam passes through the holes of the false bottom and the paddy above it. The boiling water is not in direct contact with the paddy and does not deform the grains in the lower portion of the container. In addition, by placing a lid at the mouth of the container, the steam can be equally distributed inside the container without leaking. Therefore, equal heat treatment to each grain is assured and heat energy is efficiently used. As a result, lighter-coloured grains with uniform colour can be produced.

The steaming time is an important factor in minimising discolouration and the broken-grain ratio. Long application of steam on the paddy results in darker-coloured grains and a lower broken-grain ratio; short application of steam on the paddy, lighter-coloured grains and a higher broken-grain ratio.

RIPMAPP recommends putting out the fire under the steaming container to stop steaming 7 to 9 minutes after observing the first steam coming from the top portion of the paddy layer. Moreover, the husk of several grains splitting at the surface layer of the paddy is a sign to stop steaming (Figure 2-1-4). The surface of the top portion must be checked when steaming time reaches 5 to 6 minutes.

Here is a description on the false bottom developed for the beneficiaries of Nasarawa and Niger states. As for a steaming container used by parboilers of the Lafia Millers and Dealers Association, the association cuts the side wall of a fuel drum, and a fabricator forms large, medium and small drums with the material. This drum with the capacity of about 600 kg of paddy is used for both soaking and steaming (Figure 2-1-5). In Niger State, female parboilers tend to use a traditional cooking pot for soaking and steaming (Figure 2-1-6). The capacity of the pot is about 75 kg of paddy.

Figure 2-1-4: Comparison of steaming time

Figure 2-1-5: Large drum for soaking and steaming used by the Lafia Millers and Dealers Association in Nasarawa State

Figure 2-1-6: Traditional cooking pot in Niger State

The Project developed a false bottom that can be set in the large drum and the traditional cooking pot. Here are the five concepts for developing the equipment: (1) low cost for development; (2) no drastic technological change is required; (3) it can be produced locally; (4) durability; and (5) being easy to use.

The Project developed two types of false bottom for the states through a series of activities such as trial production, experiments, and introduction of the equipment during training and innovator support on the Output 4. Figures 2-1-7, 2-1-8, and 2-1-9 show the false bottom introduced in Niger State. Figures 2-1-10 and 2-1-11 show the false bottom introduced in Nasarawa State.

The false bottom for Niger State is made to match the traditional pot of No. 50, with the diameter of 560 mm, thickness of 10 mm, and holes with the diameter of 3 mm. It is made of sand-casting aluminium and is equipped with a handle for easy insertion into and removal from the pot. In 2015, the false bottom made by a fabricator in Bida of Niger State cost 4,500 NGN.

As for the false bottom for Nasarawa State, it is a separated type that is easy to insert into a drum. The diameter is about 1,400 mm with the thickness of about 3 mm. The material is steel and a round bar is welded onto the peripheral edge of the false bottom for strengthening the structure. The diameter of each hole for steam is about 3 mm. The support for the false bottom is made of steel as well. The height of the support is 150 mm. The edge is bent for about 30 mm for strength. In 2015, the false bottom made by a fabricator in Lafia of Nasarawa State cost 18,000 NGN.

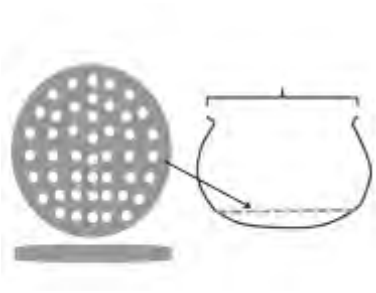


Figure 2-1-7: Illustration of false bottom for traditional pot

Figure 2-1-8: Inserting false bottom

Figure 2-1-9: False bottom in the traditional cooking pot

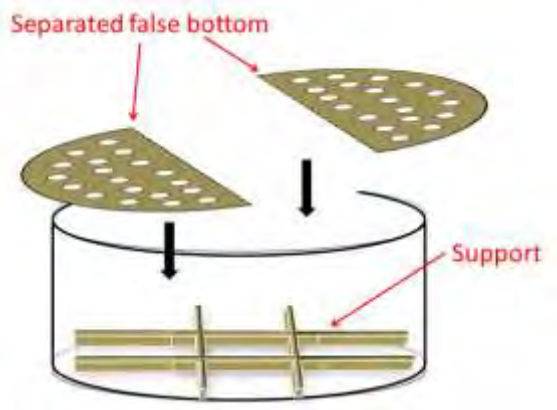


Figure 2-1-10: Separated-type false bottom and its support

Figure 2-1-11: Trial model of separated-type false bottom

The false bottom for Niger State was gradually disseminated because of its cost, ease in use, and durability.

Meanwhile, for developing the false bottom targeting the Lafia Millers and Dealers Association in Nasarawa State, trial production, parboiling experiments, and measurement of rice quality after the processing were repeated. The first prototype false bottom, which is not a separated type, was introduced during the lending scheme in the Output 4, and it was disseminated gradually.

However, the prototype was changed into a separated type because users found it hard to insert the prototype into a drum. At the same time, the Project considered using different materials such as aluminium and wood to make a false bottom because a steel false bottom rusts easily. However, such ideas were not implemented because of the high cost of aluminium and the lack of durability of wood. Because the separated-type false bottom was expensive and tended to rust easily, it was not widely disseminated although it had a few users at a time.

By contrast, parboilers of the Lafia Millers and Dealers Association, who understood the effectiveness of the false bottom, started putting immature grains and chaff with the thickness of 15–20 cm at the bottom of a drum as a de facto false bottom as shown in Figure 2-1-12. It is called the 'chaff table'. Water is poured up to the surface of the chaff table and it is then covered with jute bags. On the jute bags, paddy is poured and other jute bags are used to cover paddy.Then, steaming is practiced.

Figure 2-1-12: Chaff table that most parboilers adopted

According to the Nasarawa ADP, almost all parboilers of the Lafia Millers and Dealers Association of Nasarawa State use the chaff table for parboiling because they understood the technological concept of 'separating water and paddy during steaming'. The ADP C/Ps informed the experts that the use of the chaff table helped produce parboiled rice with better quality than one made with the conventional parboiling method.

Drying

Drying is the last step in rice parboiling. The Project also recommends sun drying because mechanical drying is costly for small-scale parboilers. Here are the optimum climatic conditions for sun drying: (1) there is no cloud to block sunshine; and (2) a gentle wind blows.

As shown in Figure 2-1-13, steamed paddy is spread on a clean concrete yard and the accumulated thickness of paddy should not be more than 2 cm. A rake-like tool is used to turn over the paddy often during sun drying. The initial moisture content of paddy right after

Figure 2-1-13: Sun drying

steaming is high; thus, it is necessary to remove water in husks quickly. Therefore, drying paddy on a concrete yard is recommended.

A tarpaulin is occasionally recommended to avoid contaminating paddy with foreign matters and stones when sun drying raw paddy right after harvesting it. Instead, RIPMAPP recommends using a clean concrete yard for sun drying paddy that has just been steamed. The moisture content of steamed paddy is about 30–35% w.b.,[11] and the husk contains much water. If a concrete yard is used for sun drying, the moisture in the husk can be quickly absorbed by the surface of the yard because of the characteristics of concrete. A tarpaulin does not absorb water and does not help to dry steamed paddy by itself. In sun drying raw paddy with the low moisture content of 19–25% w.b., water moves slowly from the grain part of brown rice through the husk, then into the air; thus, whether to use a tarpaulin or a concrete yard makes little difference in the drying speed of raw paddy.

If the area of a concrete yard is wide, a layer of accumulated paddy thinner than 2 cm is recommendable. It is necessary to ensure that no passing animal, pedestrian or motorbike goes over the paddy during drying. When the drying is complete and a moisture metre is not available, the extent of dryness can be judged by a crisp or crunchy sound made when biting into a grain[12]. After the completion of sun drying, the paddy should be kept in a mounded shape or in bags with their mouth left open for at least for a night in a roofed storage to lower the grain temperature and equalize the internal moisture of the grain.

(2) Milling

The following aspects of the quality of milled rice are affected by the milling process: (1) milling recovery; (2) head-rice ratio; and (3) glossiness of the surface of milled rice. Milling machines shown in Figure 2-1-14 are available in Nigeria. However, there is little difference in (1) and (2) among the machines if the raw material is properly parboiled before milling. Meanwhile, as for (3), a small-scale friction type milling machine produced in South Korea and a one-pass milling machine from Indonesia have a comparative advantage. However, small-scale millers cannot afford them because they are imported and expensive. Thus, to improve the quality of parboiled rice during the milling process, the Project used the Engelberg huller that is used by most small-scale millers in Nigeria because of its low cost and the availability of spare parts.

Figure 2-1-14: Stand-alone type small-scale milling machines available in Nigeria. From left, Engelberg steel huller (Made in India or China), friction-type milling machine (South Korea), and one-pass milling machine (Indonesia)

[11] '% w.b.' is an unit of moisture contents expressed in wet base percentage; proportion of water mass to total mass of substance.

[12] The target moisture content is between 12.5% and 13.0% for milling and storage purposes.

As shown in Figure 2-1-15 of the operation of the Engelberg huller, paddy must be fed to the machine at least twice during milling. During the first feeding, the husk and part of the pericarp are scratched and removed between the rotating cylinder and a perforated sheet. During the second feeding, more parts of the pericarp are removed. After the second grinding, milled rice is fed into the polishing compartment of the machine to generate glossiness of the milled rice.

Figure 2-1-15: Passing twice in the milling chamber and once in the polishing compartment

It was observed at the Lafia Millers and Dealers Association in Nasarawa State that cow skin is attached onto a rotating drum in the polishing compartment instead of the original material as polishing material and that cow skin does not work well for generating glossiness of the rice surface. Nevertheless, unless paddy is passed through the polishing compartment, bran powder and husk powder cannot be removed; thus, milled rice should be fed into the polishing compartment eventually.

The Engelberg huller is structured with a simple mechanism. However, it seems that operators need to spend some time until they become proficient in operating it. The operator must adjust by hand the inflow of paddy at the feeding inlet and the outflow of milled rice at the discharge. The machine has no dials or indicators to adjust and show the milling pressure in the milling chamber. The success of this kind of mechanical operation rests solely on craftsmanship.

The next description is on de-stoning. A de-stoner must be used after milling to remove stones completely from rice.

From the harvesting by farmers to the shipment of milled rice by millers, there are at least three times when paddy may be contaminated with stones. First, paddy would be directly left and placed on a paddy field after harvesting by farmers. During manual threshing, sun drying, and bagging, stones would mix with paddy. Contamination with small stones cannot be avoided although farmers use a tarpaulin during threshing and sun drying.

Secondly, a few stones can be removed during the washing of paddy before parboiling; however, small stones would mix with parboiled paddy during sun drying and bagging.

Finally, during the milling operation, milled rice is first left on the milling floor before the second milling. Moreover, milled rice, which is leaked from the milling machine and left on the milling floor, is returned to the machine. Thus, rice would be contaminated again with small stones or debris.

Figure 2-1-16: Small de-stoner made in South Korea, available in Nigeria

Therefore, the Project decided to recommend using mechanical means to remove stones completely. A reliable de-stoner available in Nigeria is found in Abuja. The machine made in Korea, shown in Figure 2-1-16, has a capacity to process about 300 kg of milled rice per hour. According to a supplier, its price as of 2011 is USD 3,000. The Guideline for RIPMAPP

Technology Dissemination[13]spells out the machine's operational procedures.

(3) Packaging and shipment
After milling, it is important to remove black-coloured or black-spotted grains. In a large milling plant, those grains are segregated and rejected by a colour sorter. Small-scale millers cannot afford such machine because of its high cost. Moreover, such machine must be imported. Therefore, they need to remove black-coloured or black-spotted grains manually as shown in Figure 2-1-17.

Figure 2-1-17: Removing black-coloured and black-spotted grains by hand

Packaging of milled parboiled rice provides a strategic advantage in marketing by printing the brand name and origin of the product on the package, differentiating the product from others, and attracting customers' attention. However, before introducing packaging, it is necessary to find out and calculate the cost of making the package and know what buyers would want in the package. In addition, specifications of the package such as the weight of the product, and the materials and design of the package, must be considered and decided. Selling milled parboiled rice without a package is also an option. Figure 2-1-18 shows the package of 25 kg of milled parboiled rice produced by a women's group in Niger State during the innovator support as an activity of the Output 4 of the Project.

Figure 2-1-18: Packaged rice shipped to Abuja, the national capital

Activity 1-5 Collect information on financial institutions and services.

In the target states of Nasarawa and Niger, the Project studied the possibility of financial arrangements to fulfil the needs of beneficiaries by 1) gathering information on available financial services for procuring equipment through interviews with financial institutions and domestic and international development partners and 2) surveying the financial needs and current usage of credit and saving services by participatory workshops targeting beneficiaries groups.

[13] The Guideline for RIPMAPP Technology Dissemination, Federal Republic of Nigeria, Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States (RIPMAPP), March 2016, Abuja, the Agribusiness and Marketing Department (ABM), Federal Ministry of Agriculture and Rural Development and Japan International Cooperation Agency.

The interviews with financial institutions and development partners targeted five government financial institutions, two international donor agencies, four NGOs, three commercial banks with five branch offices, seven microfinance institutions, and two agriculture machinery dealers. The interviews revealed that there was no credit service with a lending period of more than one year and a low interest rate that the beneficiaries wanted. Another finding was that commercial banks, especially microfinance institutions, were not interested in lending funds to the agricultural sector because of high risks associated with natural conditions and the slowing fund turnover in a long credit period.

The workshop for beneficiary groups was held four times in total in both states to survey the usage of financial services. The usage situation varied among the four groups of Lafia, Assakio, Bida and Doko: a group was taking a loan from the Agriculture Bank while another used no lending services of any financial institution.

The Project conducted the interviews and workshops with the ABM C/Ps and each state. It was part of the on-the-job training (OJT) for the C/Ps by having them help with the interviews and workshops. They learned basic questions to financial institutions and methods to obtain information on access to services. The C/Ps took responsibility for the main parts of the interviews in the second half of the survey and facilitating the workshop. This was a result of the technical transfer.

The results of the survey were incorporated in the "Work Completion Report on Rural Finance", an output the first-year activities.

2.2 Output 2: Rice grading standards for domestic rice are developed and improved

Activity 2-1 Study grading standards used by large-scale rice millers.

An ABM C/P visited Kano State where a few large rice mills are located, and interviewed three of them. The following is a summary of the interviews results.

IRS Rice Mill with the capacity to process 500 tons of paddy a day has a grading standard consisting of A1, A2 and B. A1 means milled rice that is very white, less swelling when cooked, and less sticky than one of the other grades. To make milled rice A1, it is necessary to remove rice bran in the milling process. A2 is of darker colour than A1 and more swelling when cooked. B is unfit for commercial purposes and primarily used for animal feed. Stalion, which has the capacity to mill 420 tons of paddy per day, has three grades of A, B and Substandard. A is mostly head rice whose colour range includes milky white, cream white, and chocolate. The company feels that consumer preference on base colour varies depending on the area. B is broken rice, and Substandard is for animal feed. Umuza does not have a grading standard because it procures different varieties and it is difficult to measure their quality by a uniform standard. The company introduced a colour sorter to remove dark-coloured grains. The company also keeps the broken-grain ratio of its products to less than 5% by mechanically sorting them.

In short, although there is a wide range of variation among the companies, they regard 1) whiter colour and 2) less broken rice as significant factors of high-quality milled rice. The interview results confirmed that the draft grading standard by RIPMAPP suits the market demands for milled rice in Nigeria.

Activity 2-2 Study rice consumers' taste and the quality standards of rice retailers

The Activity 1-2 describes the preferences of rice consumers. Nigeria has no quality standards on rice retailers. Retailers determine milled rice prices based not on any standards but their experiences in the prospects for selling.

Activity 2-3 Develop and test grading standards for parboiled milled rice suitable for small-scale rice milling

Activity 2-3-1 Prepare of draft grading standards for domestic rice.

To enhance the marketability of parboiled milled rice by small-scale processors, it is necessary to improve its appearance that is inferior to imported rice. A grading standard should be created to make proper judgement on the appearance.

The interviews with milled rice traders in the target areas revealed that consumers care 1) whether colour is light and 2) whether the broken-grain ratio is low. Based on the information, RIPMAPP designed the first version of the grading standard as shown in Figure 2-2-1. In the first version, the broken-grain ratio was divided into five grades from 0% to 50% with a difference of 10% each. However, it turned out to be difficult to differentiate 20% from 30%, but it was possible to differentiate 10% from 30%. By contrast, the broken-grain ratio of parboiled milled rice rarely exceeds 50%. As a result, it seemed appropriate to show photos of 10% and 30%, and determine a given sample of parboiled milled rice resembles which photo more closely. With regard to colour, RIPMAPP made on a trial basis a colour chart with eight colours, and compared it with a sample of parboiled milled rice. The chart turned out to be functional.

Figure 2-2-1: The first version of the Grading Standard by RIPMAPP

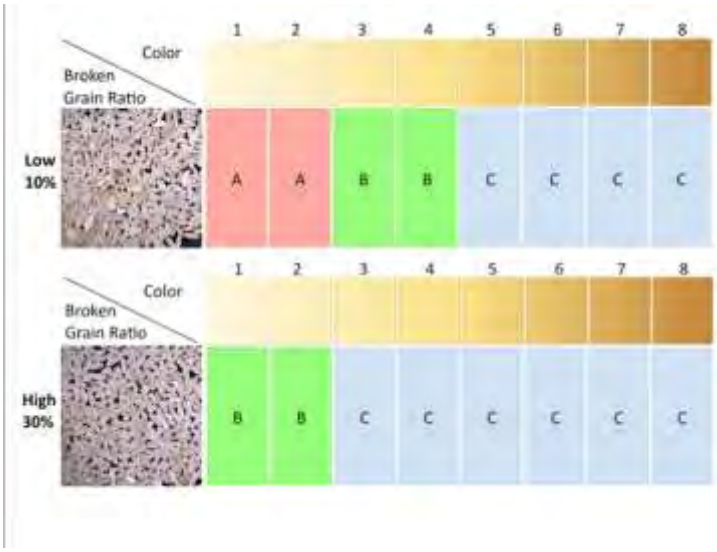


Figure 2-2-2: Version 2 approved in JCC

With regard to stones, all stakeholders believed unanimously that any stones should be removed and, if stones are mixed, the rice should be graded as Substandard. It was suggested that a government agency certify rice mills that introduced a de-stoner and check whether the de-stoner is operating. Figure 2-2-2 is the second version of the grading standard that was approved in the third JCC in July 2013.

Activity 2-3-2 Review the grading standards for domestic rice.

Using the second version, the grading standard was examined on the ground level. Then it became necessary to revise the colours of the RIPMAPP colour chart in the grading standard because the colour chart requires a very high standard on white and the colour of some imported rice from Thailand was not graded as Grade A. RIPMAPP changed the colour chart so that slightly darker colours would be acceptable. In addition, RIPMAPP reduced the eight colour levels to six and added 16-digit colour codes[14].

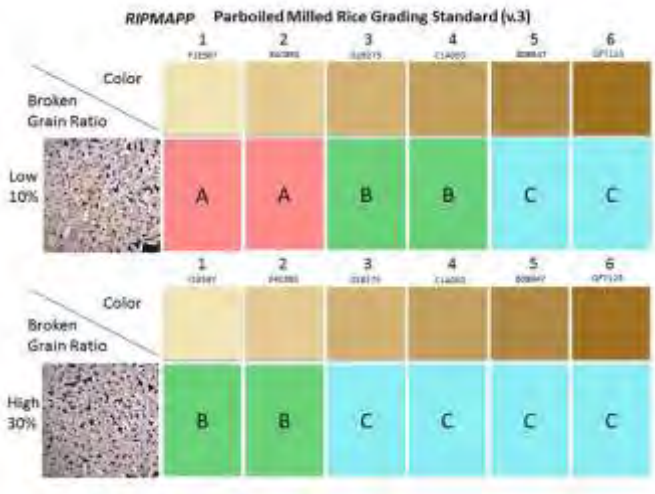


Figure 2-2-3: Version 3 with the 16-digit colour codes

Even if someone prints the colour chart under the same colour code, the actual colours would vary because they depend heavily on the printer and the computer. Staff members in charge of the colour chart should print it while referring to the master chart. The Project instructed ABM officers to maintain the colours of the master chart by printing a new one every two or three years. The revised chart is the version 3 shown in Figure 2-2-3.

Activity 2-3-3 Review the grading standards for domestic rice.

Another issue on the grading standard is who makes judgement on the grade using the standard. From a neutrality point of view, it is best for a government or public organization to perform the task. However, no government or public organization has the capacity to examine hundreds of tons of milled rice produced every day nationwide. Thus small-scale rice processors themselves must grade the quality of rice by themselves.

RIPMAPP devised a mechanism in which innovators who introduced the de-stoner discussed in the Output 4 grade their own products and use the printed package shown in Figure 2-2-4 if the product is regarded as Grade A. In the beginning stage of the grading, a principal agricultural engineer/quality control officer was required to confirm the quality of rice to prevent moral hazard when the standard was used.

From the start of the innovator support in the latter half of 2014, monitors in the Nasarawa Agricultural Development Program (NADP) and the Niger Agricultural Development Program (NAMDA) checked the quality of rice using the grading standard. According the monitors, the standard was working well. The monitors handed the standard to innovators and taught them how to use it.

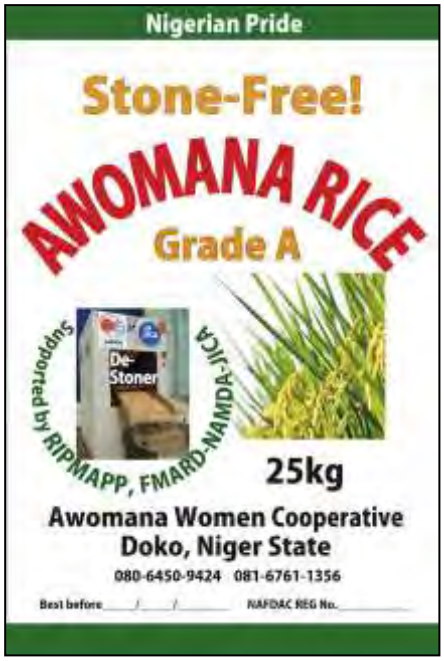


Figure 2-2-4: Package design printed as Grade A

[14] Even if someone prints the colour chart under the same colour code, the actual colours would vary because they depend heavily on the printer and the computer. Thus the master chart should be kept in the ABM, for instance, to avoid discolouration, and should be re-printed once every few years while referring to the previous master colour chart.

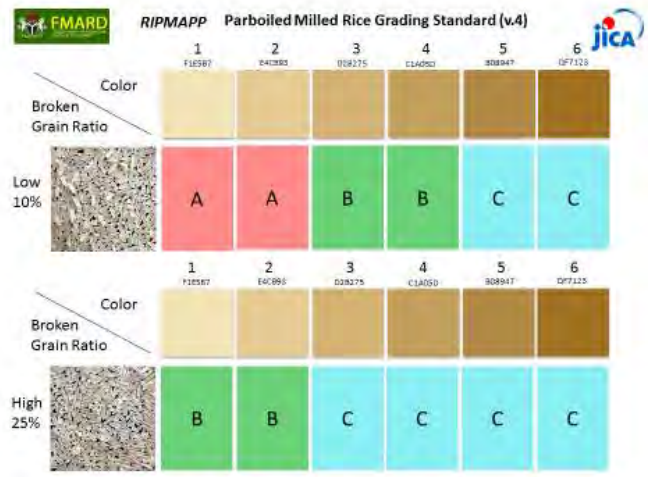


Figure 2-2-5 The Final Version

When RIPMAPP started disseminating the grading standard in both States, the JICA Nigeria Office explained to the RIPMAPP experts in February 2015 that the Standards Organization of Nigeria (SON) was talking about establishing a national grading standard. Moreover, the terminal evaluation study of JICA in May 2015 reported that, although the SON's grading standard was still being drafted ('SON is currently developing rice grading standard'), it is recommended that RIPMAPP's standard be consistent with the draft standard of the SON.

In November 2015, the JICA Nigeria Office instructed the RIPMAPP experts to change the upper limit of the broken-grain ratio, an element of the standard, to 25% that is set in the SON standard; otherwise, one may get the impression that JICA allows 'off-grade rice' to be traded in the country. Thus, the Office recommended the experts to change the broken-grain ratio to 25% from 30%. Therefore, the upper limit of the broken-grain ratio was changed to 25% as shown in Figure 2-2-5.

2.3 Output 3: Capacity of Department of Agri-business and Marketing (ABM) of FMARD and Agricultural Development Program (ADP) staff regarding training implementation on marketing, post-harvest processing, and business management is enhanced

Activity 3-1 Develop training plan for ADP staff.

In the planning and preparation stage of training, C/Ps of the ABM received a briefing on training cycle management through the manual elaborated by the Japanese experts. The briefing covered the methods and tools of training planning, preparation of materials and equipment, management, monitoring of training activities, and evaluation. The next step was to select target trainees among the Nasarawa ADP staff. The C/Ps of both the ABM and the ADP were involved in the selection. They considered possibilities to become instructors of beneficiary training in the future and departments that would cover areas similar to theirs.

Activity 3-1-2 Prepare training plan (draft) for ADP staff.

It was decided that only the ABM C/Ps would serve as instructors in training courses for the AMDA in Niger State to enhance their capabilities and the sustainability of the Project, while Japanese experts also served as instructors in training courses for the Nasarawa ADP. However, in light of the possibility of unexpected tasks at the ABM, a deputy lecturer was chosen for each topic. The following three steps were taken to determine the implementation method and required time of each topic. Then the combination of training topics to cover on one day was examined.

For concrete training planning, the ABM personnel, the main C/Ps of the Niger AMDA, and the Japanese experts deliberated the number and attributes of trainees, implementation date and period of training, timetable, and required materials and the person in charge of the preparation at the kick-off meeting. When selecting trainees, the Japanese experts explained that the purpose of the training courses was to develop and select future instructors of training courses for beneficiaries. The Japanese experts stressed the importance of selecting trainees who are qualified for a relevant topic and likely to become capable instructors. When training implementation dates and period were discussed, the following matters were taken into account: religious ceremonies; regular events of the Nasarawa ADP

or Niger AMDA; the dispatch schedule of the Japanese experts; and the work schedule of the ABM C/Ps.

Activity 3-2 Prepare the curriculums and materials for ADP staff.

Activity 3-2-1 Create training implementation manual for APM staff.

The Japanese experts elaborated the 'Training Implementation Guidelines' covering such aspects of training management as planning, preparation, and implementation. This document was improved by reflecting the comments of the C/Ps who used it in training activities.

Specifically, the Project implemented a participatory workshop to understand the needs of capacity development targeting the C/Ps, and analyse the necessary capacities for the C/Ps from the three viewpoints of knowledge, technology, and attitude. The C/Ps raised ideas actively, and analysed capacities for not only training activities but also project management. The Project reflected the results of the workshop in the training manual and the guideline by including in the documents useful management tools and the methodology of analysing the capacity development needs.

Activity 3-2-2 Prepare curriculums on post harvest technology, rice value chain, marketing and institutional development for ADP staff.

The Japanese experts prepared most of the training curriculum and materials based on the status and needs of the target areas revealed through the surveys. A few C/Ps of the ABM also took part in the preparation of the training materials.

The curriculum consists of the following training modules: post-harvest technology; marketing; business management; extension; and training management. The results of the survey revealed that, depending on the target area, stakeholders on the rice value chain and relations among them, distribution routes, and technologies and equipment adopted varied widely. The Project strived to reflect those variations in the training contents for each target state. In addition, given that the counterparts on the state level would become trainers for beneficiary training, the Project formed the curriculum in such a way that would enable the counterparts to acquire practical teaching methods through not only lectures but also practice. For example, the profit and loss calculation practice would use the local weight unit and the actual rice price. Another example was to show a comparison between the conventional parboiling method and the improved one to have the counterparts learn the differences.

Activity 3-3 Set up an incubation plant with machinery and equipment in Nasarawa State

Activity 3-3-1 Construct a building for Incubation plant in Lafia.

The premises of the incubation plant in Lafia of Nasarawa state had been planned to be completed by 10 December 2011. However, it became clear that the construction of the premises would not be completed by the date because the budgeting of the Nasarawa state government and thus the commencement of construction works by contractors were delayed significantly. The Project and the Program Manager of the ADP requested the commissioner and the secretary of the Ministry of Agriculture and Natural Resources of the state government to take quick action. Afterwards, construction works progressed. The premises were completed in August 2013 with the delay of more than one and a half year.

Activity 3-3-2 Procure machinery and equipment, and install them.

Simultaneously with the completion of the construction of the incubation plant premises, the premises were equipped with a generator, stand-alone type milling machines with accessories, and improved parboiling equipment so that they could be used for training. As for a small-scale rice mill, it was installed on 1 November 2013[15]. Plastic name plates indicating machines and equipment were placed for training purposes.

On 24 February 2014, the inauguration ceremony of the incubation plant was held by the state government of Nasarawa State. The Nigerian participants included the governor of the state, the ABM deputy director, a former ABM director, a representative of the Nasarawa State ADP, and the director of the Niger State ADP. From the Japanese side, the chief representative and staff of the JICA Nigeria Office and the Japanese experts of the Project participated in the ceremony.

Activity 3-4 Conduct training on post-harvest technology, rice value chain, marketing, and institutional development for ADP staff of Nasarawa State.

In the training session, the C/Ps of the ABM and the Japanese experts gave lectures as instructors. The modules on post-harvest technology and training management had practice sessions. The table below shows an outline of the training sessions for the Nasarawa ADP staff.

[15] Based on the results of a survey by the C/Ps of the National Food Reserve Agency (NFRA, currently ABM) and the Japanese experts, they agreed on the following specifications of a small-scale rice mill plant: having one-pass type milling machine with the theoretical milling capacity of 750 kg of paddy; a pre-cleaner before the mill; and a de-stoner after the mill. Then, the Japanese experts proposed the specifications to the Project Manager, the Director of NFRA. However, he turned down the proposal and insisted on introducing a rice mill composed of two units of a one-pass type rice mill arranged in parallel, two units of de-stoner before the mill, and another de-stoner after the mill. This arrangement made the theoretical milling capacity twice the one that the Japanese experts proposed. The situation became worst because, if RIPMAPP did not follow the specifications that the Director insisted, then the counterparts would give up their commitment to RIPMAPP, and RIPMAPP would not be able to continue. Thus, the Japanese experts consulted the JICA Nigeria Office and the JICA headquarters with regard to the situation. Eventually, JICA agreed with the specifications that the Director requested, and the JICA Nigeria Office started the procurement process for the necessary equipment items because their costs became substantial. As for the three units of de-stoner, the experts explained to the Director that one unit of de-stoner would be sufficient; however, the Director insisted on using three units. It is because of his bitter experience that a de-stoner introduced by 2KR of Japan had failed to remove stones. Therefore, it may have been possible to address the Director's concern by introducing three units of de-stoner at the time. If the Director were satisfied with three units, then it would be possible to use a de-stoner out of the three in the next fiscal year. However, because of budget constraints, such arrangement was not implemented. Accordingly, the rice mill plant in the incubation plant of Nasarawa State remains unchanged in its specifications.

Table 2-3-1: Training of Nasarawa ADP

Module	Topic	Date	No. of trainees
Marketing	Status of market needs and rice	30 May 2012	26
	Rice grading standards	30 May 2012	26
	Branding and marketing	30 May, 25 June 2012	26, 14
	Rice distribution patterns	31 May 2012	28
	Incentives for quality improvement by actor	31 May 2012	28
Business management	Profit and loss calculation	31 May 2012	28
	Investment and recovery	31 May, 1 June 2012	28, 26
Post-harvest technology	Status and issues of post-harvest technology	30 May 2012	26
	Quality of rice and skills on rice quality test	18–19 June 2012	11, 10
	Harvesting, threshing, winnowing, drying and storage	26 June 2012	12
	Parboiling technology	26 June 2012	12
	Milling technology	27–28 June 2012	15
	Incubation Plant (for ADP)[16]	26 Oct.– 1 Nov. 2012	2
	Incubation Plant (for ABM)[17]	20 Feb. 2014	5
Extension	Diffusion of innovation	4 Oct. 2012	29
	Method of RIPMAPP's technical transfer and intervention	4 Oct. 2012	29
	Farmers' organization	4 Oct. 2012	29
Training management	Training cycle management	4 Oct. 2012	29
	Role of ADP in RIPMAPP	10–11 Oct. 2012	22
	Needed capacity for training instructor	10–11 Oct. 2012	22
	Teaching method	10–11 Oct. 2012	22

Activity 3-5 Identify the outcome of the training for ADP staff of Nasarawa State and modify the plan for the subsequent training.

The outcome of the training for the ADP staff specifically implies the improvement of their capacity. The Project evaluated on a scale of 1 to 5 the capacity of the ADP on training management and innovator support. The capacity of training management was evaluated three times to check the progress. October 2012 was immediately after ToT and before the beneficiary training, the final phase of beneficiary training was in February 2013, and April 2015 was the period of innovator support. The capacity of innovator support was evaluated once in April 2015. This evaluation was not for individual C/Ps but to see if the ADP as an entire organisation acquired the requisite capacity. The result of the training capacity was 4.0–4.5, which was a higher score than 3.0, the target of an indicator of the Output 3 of the PDM. The capacity was enhanced by improving practical training management by repeated preparation, implementation, monitoring, and evaluation of beneficiary training by the training team, which comprised coordinators, trainers, and assistants. Regarding the innovator support capacity, because there is no definite structure of the support but a high ability is demanded to solve each issue of the individual innovators, some evaluation scores were 2.0–2.5, which was a level that needed assistance by Japanese experts.

The training plan was not re-modified during the Project period. However, 'A Guideline for RIPMAPP Technology Dissemination', which was elaborated in the final phase of the Project comprising the contents and methodology of the training for ADP, reflected the lessons learned and the experiences of RIPMAPP.

[16] The training covered the installation, operation, and maintenance of a rice mill plant as OJT. The C/Ps of the ADP took part in the segments on installation as well as trial operation, milling and adjustment of machinery, and maintenance.
[17] This training is meant to teach the ABM C/Ps how to operate a rice mill plant. The instructors were C/Ps of the ADP.

Table 2-3-2: Development of the capacity of Nasarawa ADP on training (scale of one to five)

Capacity Category	Sub category	October 2012	February 2013	April 2015
Training Management	Prepare training	2.5	4.5	4.5
	Conduct training	3.0	4.5	4.5
	Evaluate and improve training	3.5	4.5	4.5
	Maintain facilities and equipment properly	1.0	1.0	4.5
Post-Harvest Technology	Teach issues of post-harvest technology	3.5	4.5	4.5
	Teach milling technology	3.0	3.5	4.5
	Teach parboiling technology	3.0	3.5	4.5
	Teach post-harvest technology of farmers	3.5	4.5	4.5
Marketing and Business Management	Teach quality and weight-based trading	3.0	4.5	4.5
	Teach appealing package	3.0	3.5	4.0
	Teach grading standard	2.5	4.0	4.0
	Teach calculation on investment recovery	3.0	4.0	4.0
	Teach available financial schemes	3.0	4.0	4.0
Teaching Method	Make presentations	3.5	5.0	5.0
	Produce visual aid materials	3.0	4.0	4.0
	Facilitate discussions or interact with participants	3.0	4.0	4.0

Table 2-3-3: Development of the capacity of Nasarawa ADP on innovator support
(Scale of one to five)

	Category Capacities	Sub category	2015
Marketing	1. Market research support	Investigate the structure of the targeted value chain and its stakeholders	3
		Investigate the market demand including quality, price, and quantity of each value chain	3
		Let the beneficiary understand market demands through market tour and media	3
	2. Logistics and packaging information support	Investigate logistics issues including transportation, and suggest solutions	2.5
		Investigate packaging issues including design and printing, and suggest solutions	2
	3. Problem solving support for initiating marketing	Let the beneficiary determine the gap between demand and supply capacity	2.5
		Facilitate the beneficiary to determine solutions for addressing the gaps identified	2
		Support the beneficiary to finalize the marketing plan	NA
	4. Matching and sale promotion support	Link beneficiary to buyer via direct introduction and matching events	3
		Support promotion and advertisement of commodities	NA
	5. Constant improvement support	Support constant improvement in quality, quantity, and price	2
Post Harvest Technology	1. Plan extension methods as technology dissemination regarding rice quality improvement	Identify targets as potential users who may adopt the recommended technology by considering their capacity	3.5
		Plan extension methods and schedules targeting the potential users and instruct ADP staff	3
	2. Supervise and monitor extension to assess the degree of technology dissemination	Monitor the extension in the States to gauge the progress	4
		Observe and determine the actual technical issues of the target technology and equipment to be disseminated	2.5
	3. Teach appropriate technology	Propose an appropriate improved technology again based on the analysis mentioned in '2.' above	2.5
		Explain and instruct the technology at sites	NA
	4. Monitor and structure quality control for production management	Monitor the technology proposed in the above three, and confirm the effect of the technology in terms of quality improvement	NA
		Propose an efficient production procedure by using the recommended technology without hindering quality improvement	NA

NA: Not applicable because no related activity was conducted.

Activity 3-6 Set up an incubation plant with machinery and equipment in Niger State.

Activity 3-6-1 Construct a building for an incubation plant in Bida.

During the third JCC on 18 July 2013, the Niger state government agreed to establish a building for an incubation plant at Bida. The construction of the building should have been completed by the end of March 2013 because beneficiaries' training by using the incubation plant was to commence in the beginning of May 2014, considering the period of installation of a small-scale mill plant in it. Therefore, the Japanese experts requested the state government to commence the construction work by the end of October 2013; however, the work did not start as requested. In addition, the state government officially informed on 17 November 2013 that it was unable to disburse the budget.

Thus, it was agreed at the fourth JCC that the capacity of the incubation plant would be downsized and the Project would construct the building instead. On 17 January 2014, the Project released a

tender for appointing some reliable contractors, and eventually made a contract with a building construction company on 14 February 2014. The construction work commenced on 17 February and finished by the end of March 2014.

Activity 3-6-2 Procure and install machinery and equipment.

Stand-alone type small-scale milling machines, de-stoners, improved parboiling pots, and others were placed and arranged in the building. A stand-by generator was installed in May 2014, and a small-scale mill plant with the milling capacity of 500–600 kg of paddy per hour was set up in October 2014.

Activity 3-7 Conduct training on post-harvest technology, rice value chain, marketing, and institutional development for ADP Staff of Niger State.

Training

Training courses were conducted for Niger AMDA, combined with lectures and practice sessions by ABM C/Ps. The table below shows an outline of the training sessions for the Niger AMDA staff.

Table 2-3-4: Training of Niger AMDA

Module	Topic	Date	No. of trainees
Marketing and business management	Introduction of RIPMAPP Status of market needs and rice Stakeholder analysis Presumed steps for improving the quality of rice by beneficiaries Quality and weight-based paddy trading Rice grading standards Appealing packaging methods Calculation of investment recovery through higher profits Available financial schemes	13–15 Aug. 2013	59
Post-Harvest Technology	Status and issues of post-harvest technology Harvesting, threshing, winnowing, drying and storage Parboiling technology*	30 July 2013	23
	Harvesting, threshing, winnowing, drying and storage (practice)	26 Nov. 2013	15
	Quality of rice and skills on rice quality test	31 July 2013	7
	Milling technology*	19 Sep. 2013	7
	Incubation Plant[18]	7–9 Oct. 2014	4
Extension	Diffusion of innovation Technology transfer and intervention method of RIPMAPP Farmers' organization	20–22 Aug. 2013	61
Training management	Training cycle management Skills of instructor	28 Oct. 2013	33

*Practice training of parboiling technology and milling technology were for selecting the trainers at the same time.

The capacity of the ABM C/Ps had been developed through the training for the Nasarawa ADP and the Niger AMDA, jointly with the Japanese experts. Tables 2-3-5 and 2-3-6 show the results of the capacity evaluation of the ABM.

[18] OJT on rice mill plant operation and maintenance including installation work was conducted.

Table 2-3-5: Development of the capacity of ABM on training (scale of one to five)

Category of the Capacities	Sub category of the Capacities	February 2012	April 2015
Training Management	Prepare training	2.0	2.5
	Conduct training	2.5	3.5
	Evaluate and improve training	2.5	3.0
	Maintain facilities and equipment properly	1.5	3.0
Post-Harvest Technology	Teach issues of Post-Harvest technology	3.0	3.5
	Teach milling technology	4.0	4.5
	Teach parboiling technology	3.0	3.5
	Teach post-harvest technology of farmers	3.0	4.0
Marketing and Business Management	Teach quality and weight-based trading	NA	3.5
	Teach appealing-package	3.0	4.0
	Teach grading standard	3.0	4.0
	Teach calculation on investment recovery	2.5	3.5
	Teach available financial schemes	3.0	4.0
Teaching Method	Make presentation	3.0	4.0
	Produce visual aid materials	2.0	2.5
	Facilitate discussion or to interact with participants	3.0	3.5

NA: Not applicable because no related activity was conducted.

Table 2-3-6: Development of the capacity of ABM on innovator support
(scale of one to five)

	Capacity Category	Sub category	2015
Marketing	1. Market research support	Investigate the structure of the targeted value chain and its stakeholders	3.0
		Investigate the market demand including quality, price, and quantity of each value chain	3.0
		Let the beneficiary understand market demands through market tour and media	3.0
	2. Logistics and packaging information support	Investigate logistics issues including transportation, and suggest solutions	2.0
		Investigate packaging issues including design and printing, and suggest solutions	2.5
	3. Problem solving support for initiating marketing	Let the beneficiary determine the gap between demand and supply capacity	2.5
		Facilitate the beneficiary to determine solutions for addressing the gaps identified	2
		Support the beneficiary to finalize the marketing plan	NA
	4. Matching and sale promotion support	Link beneficiary to buyer via direct introduction and matching events	3
		Support promotion and advertisement of commodities	NA
	5. Constant improvement support	Support constant improvement in quality, quantity, and price	1.5
Post Harvest Technology	1. Plan extension methods as technology dissemination regarding rice quality improvement	Identify targets as potential users who may adopt the recommended technology by considering their capacity	3
		Plan extension methods and schedules, targeting the potential users and instruct ADP staff	2.5
	2. Supervise and monitor extension to assess the degree of technology dissemination	Monitor extension in the States to gauge the progress	3
		Observe and determine the actual technical issues of target technology and equipment to be disseminated	2.5
	3. Teach appropriate technology	Propose an appropriate improved technology again based on the analysis mentioned in the above two.	2
		Explain and instruct the technology at sites	3
	4. Monitor and structure quality control for production management	Monitor the technology proposed in the above three and confirm the effect of the technology in terms of quality improvement	3
		Propose an efficient production procedure by using the recommended technology without hindering quality improvement	2

NA: Not applicable because no related activity was conducted.

Training at the incubation plant

Four C/Ps in the post-harvest technology of NAMDA joined the installation work of the small-scale rice mill as on-the-job training. After the installation, milling operation and maintenance training was conducted for the C/Ps. Regarding the milling operation, some bags of parboiled paddy were prepared to be milled by the plant. The C/Ps understood and acquired the adjustment of rubber rolls for de-husking, pressure inside the milling chamber, and control of the inflow of paddy. They were also instructed on such tasks as how to change the rubber rolls and milling roll and install the bucket elevators. These training courses enabled the C/Ps to provide instructions on the operation and maintenance of the small-scale rice mill in the incubation plant at Bida.

Activity 3-8 Identify the outcome of training for ADP staff of Niger State and modify the plan for the subsequent training.

The Project evaluated the capacity of the ADP of training management and innovator support on a scale of 1 to 5, similar to Activity 3-5 for the Nasarawa ADP. The result of the training capacity was almost the same as the one of the Nasarawa ADP, which had a higher score than the targeted 3.0 in the indicator of the Output 3 of the PDM. Some evaluation scores on innovator support capacity were 2.0–2.5, a level that needs assistance by Japanese experts.

The training plan was not re-modified during the Project period, but 'A Guideline for RIPMAPP Technology Dissemination', was elaborated in the final phase of the Project, comprising the lessons learned and the experiences of RIPMAPP.

Table 2-3-7: Development of the capacity of Niger AMDA on training (scale of one to five)

Capacity Category	Sub category	October 2013	April 2015
Training Management	Prepare training	3.0	5.0
	Conduct training	3.0	4.5
	Evaluate and improve training	2.0	4.5
	Maintain facilities and equipment properly	1.0	4.0
Post-Harvest Technology	Teach issues of post-harvest technology	2.5	4.0
	Teach milling technology	2.0	4.5
	Teach parboiling technology	3.5	4.0
	Teach post-harvest technology of farmers	3.5	4.5
Marketing and Business Management	Teach quality and weight-based trading	NA	NA
	Teach appealing package	3.0	4.0
	Teach grading standard	3.0	4.0
	Teach calculation on investment recovery	2.0	3.0
	Teach available financial schemes	NA	NA
Teaching Method	Make presentation	2.5	4.0
	Produce visual aid materials	3.0	4.0
	Facilitate discussion or to interact with participants	3.0	3.5

NA: Not applicable because no related activity was conducted.

Table 2-3-8: Development of the capacity of Niger AMDA on innovator support
(scale of one to five)

	Capacity Category	Sub category	April 2015
Marketing	1. Market research support	Investigate the structure of the targeted value chain and its stakeholders	3
		Investigate the market demand including quality, price, and quantity of each value chain	3
		Let the beneficiary understand the market demands through market tour and media	3
	2. Logistics and packaging information support	Investigate logistics issues including transportation, and suggest solutions	2.5
		Investigate packaging issues including design and printing, and suggest solutions	2
	3. Problem solving support for initiating marketing	Let the beneficiary determine the gap between demand and supply capacity	2.5
		Facilitate the beneficiary to determine solutions for addressing the gaps identified	2
		Support the beneficiary to finalize the marketing plan	NA
	4. Matching and sale promotion support	Link beneficiary to buyer via direct introduction and matching events	3
		Support the promotion and advertisement of commodities	NA
	5. Constant improvement support	Support the constant improvement in quality, quantity, and price	2
Post Harvest Technology	1. Plan extension methods as technology dissemination regarding rice quality improvement	Identify targets as potential users who may adopt the recommended technology by considering their capacity	3.5
		Plan extension methods and schedules, targeting the potential users and instruct ADP staff	3
	2. Supervise and monitor extension to assess the degree of technology dissemination	Monitor extension in the States to gauge the progress	4
		Observe and determine the actual technical issues of the target technology and equipment to be disseminated	2.5
	3. Teach appropriate technology	Propose an appropriate improved technology again based on the analysis mentioned in the above two.	2.5
		Explain and instruct the technology at sites	3.5
	4. Monitor and structure quality control for production management	Monitor the technology proposed in the above three and confirm the effect of the technology in terms of quality improvement	3
		Propose an efficient production procedure by using the recommended technology without hindering quality improvement	1.5

NA: Not applicable because no related activity was conducted.

2.4 Output 4: Capacity of small-scale rice millers, parboilers, rice farmers, and traders in post-harvest processing, marketing, and business management is enhanced

Activity 4-1 Develop training plan for small-scale rice millers, parboilers, rice farmers, and traders.

Activity 4-1-1 Discussion of the framework of training for direct beneficiaries.

【Nasarawa State】

Selection of trainees

The number of participants for each training batch was set according to the training contents and total target number of trainees agreed on the work plan of the Project. The number of trainees for modules that include practice to operate machinery such as the post-harvest technology training was 10 while

the number trainees per module in the marketing and business management training, which was a series of lectures, was 30.

Upon discussions with the C/Ps of the ADP, the Project set the following criteria for selecting participants for training. The same criteria were used in Niger State as well.

The suitable trainee meets the following criteria: 1) Understands the objective and concept of the RIPMAPP; 2) Is interested in improving post-harvest technology; 3) Is recommended by the organization or community that s/he belongs to; 4) Understands that the RIPMAPP provides training and technical support but not equipment or machinery; 5) Is ready and able to share information with other members of the same organization or neighbours in the same community 6) Has no objection to doing business with other actors (farmers, parboilers, millers, traders) who receive the RIPMAPP training; 7) Is interested in investing in his or her own equipment

In addition, the Project and the C/Ps agreed to 1) select farmers, parboilers, millers and traders in the same rice value chain, and 2) invite people to the demonstration of the incubation plant not only from Lafia or Nasarawa State but also anyone interested in rice milling or investing in a rice milling plant.

Concretely, the Project met with the representatives of three beneficiary organizations in the target areas to explain the objective of the RIPMAPP training and the selection criteria of trainees, and asked them to select trainees from their organizations. The Rice Millers & Trader Association – Lafia recommended millers, parboilers, rice farmers and traders; the Assakio Millers Association nominated millers and female parboilers and traders; and the Nasarawa branch of the Rice Farmers Association Nigeria (RIFAN) chose rice farmers for the training[19]. Then, 50 millers, 60 parboilers for 1,400-litre drum, 20 parboilers for 200-litre drum, 105 farmers, and 180 traders were listed as trainees to be invited.

【Niger State】

1）Survey of value chain and rice market

One of the lessons learned of the beneficiary training in Nasarawa State was that the selection of trainees is a key to accelerate the adoption of improved technology. Stakeholders who can invest in new technology or motivate others to adopt it need to be selected as trainees. In Niger State, to prepare for beneficiary training, the following survey steps were taken: 1) understanding the rice value chain of the target area; 2) identifying traders with an investment capacity who directly contact rice buyers from other states and populated cities; 3) identifying parboilers who have a major influence on improving the quality of rice; and 4) identifying millers and rice farmers on the value chain.

Concretely, the staff members and extension agents of the Niger AMDA office interviewed the leaders and members of relevant organizations and visited major markets in the target area.

The rice value chain of the target area in Niger State is very different from the one in Nasarawa State. Lafia in Nasarawa is where most rice processors and traders conduct business. In Niger State, post-harvest rice processors are not concentrated in one place but dispersed in rural areas. The results of the rice market survey showed that the total annual volume of rice sold by Taimako Makwala rice traders and the miller association in Bida town was approximately 150,000 bags.

[19] The intervention in the Assakio association was terminated in response to the ethnic conflict that occurred in September 2013 in the Assakio region .

In contrast, the total volume of rice sold in the major markets in the target area was nearly 140,000 bags. This means that half the rice of the target area was traded in rural areas.

2）Identification of beneficiaries

Traders in Bida town and those in rural areas conduct business differently. According to the leaders of the Taimako Makwala Rice Trader and Miller Association and C/Ps of the Niger AMDA Bida zonal office, 80% of the rice traders in Bida belong to the association[20]. Bida, Lavun, Kacha and Gbako Local Government Areas (LGAs), i.e., the target areas of the Project, have several markets for rice trade for other states and urban areas. In those markets, female traders purchase raw paddy from rice farmers, parboil it by themselves, ask for custom milling, and sell milled rice. The traders in Bida town were identified by the association; those in rural areas were found by visiting the villages that provide rice to the markets.

Most parboilers are located in rural areas. They use a traditional pot for processing and their individual business volume is less than the one in Lafia. They were identified by introduction of the traders of the Taimako Makwala association.

Most millers were the members of the Taimako Makwala association in Bida; those in rural areas were introduced by traders and parboilers.

Rice farmers were found in the same villages as those of traders and parboilers who purchase paddy from them

3）Training method

As discussed above, among the beneficiaries of the Project, half the traders, most of the parboilers, some millers, and all the farmers are in rural areas. Furthermore, the target LGAs cover a large area and access to some villages is difficult. For example, Kacha village has a huge rice market, but some parts of the access road are unpaved, and it takes two hours from Bida by car to reach the village. Given those aspects, major challenges were expected in means of transportation and time schedule when inviting all the trainees to Bida. Therefore, the Project team, together with C/Ps of the Niger AMDA, decided to apply the caravan method of training in which the training team visits villages for training with materials and equipment. In addition, the beneficiaries in Bida town and those in rural areas differed significantly in business methodology and technologies; this would affect the contents of training. Thus it was decided that the beneficiaries in the town would receive training in the facility of the Niger AMDA and the incubation plant of Bida.

4）Selection of trainees

The number of participants per training session was set based on the training contents and the total target number of trainees specified in the work plan of the Project. To facilitate transportation of the training team and equipment for caravan-type training, the training for traders and parboilers and the demonstration of machinery for rice farmers were planned for the same day in the same village. Nineteen (19) core villages were selected for venues of caravan-type training, and some beneficiaries were invited from 57 surrounding villages by C/Ps of the Niger AMDA Bida zonal office.

NAMDA extension agents visited the target villages to brief the village leaders and relevant organizations about the selection of trainees. The agents also asked the villages for support to set up training venue. The C/Ps of the Niger AMDA Bida zonal office took initiative in meeting with the extension agents about those tasks. Then, 90 millers in rural areas, 100 millers in Bida town, 80 traders of Bida town, and 380 parboilers-cum-traders were listed as trainees to be invited.

[20] In October 2014, many members of the Taimako Mokwara association left, and set up a new one named the Haske association.

Activity 4-1-2 Prepare training plan (draft) for millers, parboilers, and rice farmers.

【Nasarawa State】

Selection of trainers

Instructors and assistants for beneficiary training activities under the Output 4 were selected among the ADP staff who had participated in the training mentioned above. Candidates for trainers were evaluated in the following three aspects: knowledge, technical skills, and attitude. To measure the knowledge level, the post-test results of the ADP training were analysed. In the post-harvest technology training module, the suitable candidate was required the correct answer rate of at least 80%. In the marketing and business management training module, the requirement was to have answered correctly the two questions on basic knowledge and calculation. Regarding technical skills, experiences in ADP departments of similar areas such as technical service or extension were given priority. In addition, post-harvest technology skill was judged by observing performance in the practice session of machinery operation. In judging attitude, the candidate's interest and willingness to become a trainer was a precondition, and the evaluation by directors of departments was taken into consideration. Another factor was to appoint female trainers for parboilers who were women[21]. Table 2-4-1 shows the numbers of the selected trainers.

Table 2-4-1: Instructors for beneficiary training in Nasarawa State

Area in charge	No. of trainers	No. of assistants
Post harvest technology		
Technology for rice farmer	2	6
Parboiling technology of 200-liter drum type	2	3
Parboiling technology of 1,300-liter drum type	1	2
Milling technology	2	2
Marketing and business management	4	1

【Niger State】

Selection of trainers

Instructors for beneficiary training under the Output 4 were selected from the Niger AMDA staff who had participated in the training mentioned in the Output 3. Candidates for instructors were evaluated in the following three aspects: knowledge, technical skills, and attitude. To measure the knowledge level, the post-test results of the Niger AMDA training were analysed. Regarding technical skills, experiences in Niger AMDA departments of similar areas such as engineering, technical service or extension were given priority. In judging attitude, the candidate's interest and willingness to become a trainer was a precondition, and the evaluation by the directors of departments was taken into consideration. Another factor was to appoint female trainers for female parboilers[22]. Apart from instructors, two C/Ps of the Bida zonal office were assigned as training coordinators. A training team consisting of the coordinators, the trainers and the extension agents for caravan-type training took charge of the preparation, implementation, monitoring and evaluation of training activities. Considering the burden on the training team in conducting training sessions in rural areas twice a week, the team members were to take turns in their duties. Table 2-4-2 shows the numbers and responsible areas of the selected instructors.

Table 2-4-2: Instructors for beneficiary training in Niger State

Area in charge	No. of trainers
Post harvest technology	
Technology for rice farmer	2
Parboiling technology	5
Milling technology	3
Marketing and business management	6
Training coordination	2
Extension	19

[21] Three out of the 13 trainers were women.

[22] Five out of the 16 trainers were women.

The members of the training team were selected from the personnel of the Bida zonal office except a few for post-harvest technology from the Niger AMDA headquarters in Minna.

Preparation of budget and equipment

The RIPMAPP team, the Niger AMDA headquarters and the Bida office performed other preparation tasks of training such as allocation of budget and procurement of materials and equipment. The cost borne by the Niger AMDA was calculated in detail on the basis of the R/D of the Project. The Niger AMDA covered the allowance and transportation cost for instructors, trainees and extension agents in charge of preparation.

Activity 4-2 Prepare the curricula and materials for the training programs.

Activity 4-2-1 Create training implementation manual for ADP staff.

A training manual was elaborated during the period 1. An equipment and material list in the manual was modified for each training topic and used for preparation and transportation.

Activity 4-2-2 Prepare curricula for small-scale rice millers, parboilers, rice farmers, and traders.

Training materials for the beneficiary training were mainly visual aids such as posters and hand-drawn pictures with simple words in the local language. The post-tests were given orally and the choices of answers were shown in posters because some female parboilers and farmers among the trainees were illiterate.

Activity 4-3 Conduct training for small-scale rice millers, parboilers, rice farmers, and traders of Lafia.

Activity 4-3-1 Conduct training for small-scale millers, parboilers, rice farmers, and traders of Lafia.

Training

The table below shows an outline of the training for beneficiaries from October 2012 to March 2013.

Table 2-4-3: Training for beneficiaries in Nasarawa State

Module	Topic	No. of batch	No. of participants
Marketing and business management		7	176
Post harvest technology	Technology for rice farmer	7	92
	Parboiling technology of 200-liter drum type	3	19
	Parboiling technology of 1,300-liter drum type	3	60
	Milling technology	5	49
	Incubation Plant[23]	1	31

Training at the incubation plant

Training at the incubation plant was conducted in June 2014. This training was a demonstration of a small-scale rice mill plant targeting potential investors and rice mill plant owners. There were 17 participants from major rice-producing states including Nasarawa and Niger: seven from Kano, two from Kogi, two from Benue, three from Niger, and three from Nasarawa. Five students of Nasarawa State Agriculture College joined as observers[24].

The training comprised observation of the incubation plant, lecture on quality issues for parboiled rice and related countermeasures, explanation of the small-scale rice mill plant and its structure, and demonstration of milling by the mill plant. The training was conducted by the C/Ps of the ABM and

[23] Demonstration training of the incubation plant was conducted in October 2014 targeting the Lafia Association.
[24] TV crew of Nasarawa state recorded the training and their news was broadcast.

the ADP. According to the results of the questionnaire survey after the training shown in Table 2-4-4, the participants appropriately understood the structure and capacity of the plant.

Activity 4-3-2 Evaluate the training of Lafia.

To measure the learning level of the training participants, a post-test was conducted at the end of each training session. The qualifying scores for each training topic were determined based on the contents of the training and tests by the Japanese experts and C/Ps. The results of these post-tests are indicated in Table 2-4-4. Only the average score of parboiling technology of a 1,300-litre drum type for the Lafia Association was below than the target score. This training was conducted while the Japanese experts could not visit Nasarawa because of security restrictions. Therefore, these results seemed to have been affected by the absence of support from the Japanese experts.

Table 2-4-4: Results of post-test of beneficiary training in Nasarawa State

Training topic	Qualifying score of post-test	Average score of post-test
Milling technology	60.0	73.6
Parboiling technology of 200-liter drum type	60.0	70.0
Parboiling technology of 1,300-liter drum type	70.0	60.4
Technology for rice farmer	80.0	91.3
Marketing and business management	60.0	73.7

Evaluation of the training at the incubation plant

Results of the questionnaire survey after the training (demonstration) targeting potential investors and rice mill plant owners are tabulated in Table 2-4-5.

Table 2-4-5: Results of the questionnaire survey after training at the incubation plant

No.	Questions	Number of responses	Proportion of response (%)
1	Are you satisfied with the training program?		
	Yes	16	100
	No	0	0
2	Are you satisfied with the performance of the instructors?		
	Yes	17	100
	No	0	0
3	Did the training meet your expectation?		
	Yes	14	93
	No	1	7
4	Any general comments on the training?		Good training (2), fun (1)
5	Would you like to send your operators to participate in the operation and maintenance training? (Note: The cost of the training will be borne by the participants)		
	Yes	16	94
	No	1	6
6	Does this mill plant meet your milling business?		
	Yes	16	94
	No	1	6
7	Does the capacity of this mill (1.5 tons/h) meet your milling business?		
	Yes	14	93
	No	1	7
8	Will you invest in this type of mill plant if you need to renew or replace your mill?		
	Yes	13	76
	No	4	24
	If No, how much can you invest?	NGN 25,000,000; NGN 100,000; NGN 500,000	
9	Will you be willing to rent this rice mill to conduct your rice processing business?		
	Yes	9	60
	No	6	40
	If Yes, how much will you be able to pay as rental fee for every 100 kg of milled rice?	NGN 70,000; NGN 300; NGN 40; I cannot say at this time.	
10	What is your opinion about the arrangement of the plant?	Good (7)/Very neat/Well-arranged Capacity should be larger than this. Stand-alone type machinery seems easy to handle. Structure of small-scale rice mill plant is good. Information on the small-scale rice mill plant is well indicated. Need finance. Need air ventilation in the lecture room. Properly structured.	
11	Do you have any suggestions or comments regarding the plant?	Supplier should be introduced to participants. Japanese government has to support. 1 unit of de-stoner is enough, instead of 2. Lecture room should be equipped with air ventilation system. Capacity of the rice mill plant meets the needs of the participants.	

According to the results in Table 2-4-5, the participants showed a positive understanding of the rice mill plant with satisfaction towards the training. The training was generally well-conducted and conveyed the relevant information of the plant to the participants.

The training contents and teaching skills of the lecturers were highly evaluated. To the question 'Would you like to send your operators to participate in the operation and maintenance training?', most participants appeared interested in doing so. The capacity of the mill plant meets their rice business. In addition, it is observed that the participants confirmed the well-arranged machinery to structure the rice mill. Regarding the question 'Will you be willing to rent this rice mill to conduct your rice processing business?', 60% of the participants answered in the affirmative. Among these participants, three respondents mentioned about the amount of fee (NGN) per 100 kg of milled rice for renting the mill plant.

Activity 4-3-3 Identify the outcome of training for millers, parboilers, and rice farmers; and modify the training plan for the following period of Lafia.

As described later in the Activity 4-4, the fact that a false bottom or its alternative tools and materials for parboiling were disseminated among the parboilers of the Lafia Association, was the effect of the RIPMAPP training and innovator support activities.

Regarding the planning of beneficiary training in Nasarawa State, ADP C/Ps elaborated the dissemination plan including training activities with the advice of the Japanese experts, and presented this at the workshop and JCC meeting at the end of the Project period.

Activity 4-4 Support innovators in terms of technology, information on financial service, and business management in Lafia.

A. Improved parboiling technology

Based on the result of the questionnaire after the training, 104 people who indicated their interest in the new technology that RIPMAPP introduced, were selected as innovator candidates and the RIPMAPP C/P conducted individual interviews with them. In total, 49 candidates were selected finally, primarily based on their business scale. In June 2013, individual consultation was implemented. Consequently, most of the innovator candidates knew the market demand to have parboiled milled rice with higher quality but did not know the possible amount of increased profit through enhancing the quality of rice.

RIPMAPP allowed the candidates to use an improved parboiling tank for four weeks as a trial. To increase public awareness, RIPMAPP placed two signboards within the Lafia rice mill campus. Until November, since the trial's commencement in September, nine people ordered an improved parboiling tank to fabricators in the campus; however, no more orders were received thereafter. The death of the leading innovator as well as a core staff member of the Lafia Association seemed to influence negatively the spreading of the new RIPMAPP technology. However, the durability of the improved parboiling tank seemed to be a major bottleneck for disseminating the tank because it rusted quickly, making it difficult to use for more than three months continuously.

After February 2014, paddy became difficult to purchase because the peak period was almost over. As of May 2014, 16 out of the 55 parboiling tank owners ordered improved tanks by their own investment. However, this was the maximum number, and no more tank owners placed orders again.

Another challenge is the difficulty in handling a false bottom whose diameter is almost the same as that of the tank. The Japanese experts proposed a split-type false bottom for easy setting in and taking out of the tank. At the same time, the quality of other materials such as wood and aluminium was reviewed to improve the durability of the tank, but their cost and availability were a problem.

During the off-peak period in 2015, the so-called 'chaff base' was proposed in the discussions of the Lafia Association, and this technology was supported by the Association members. The chaff base is made of chaff that floats during washing before parboiling. This chaff was placed at the bottom of a 15-cm-deep parboiling tank, water was poured 60–70% of the tank depth, and the chaff was covered by used jute sacks. The soaked paddy was placed on the top of the chaff base. This method was consistent with the RIPMAPP concept on 'Separating water and paddy perfectly', and solved the durability and handling issues. As of March 2016, most parboilers adopted this technology.

B. De-stoner

RIPMAPP started the trial use of a de-stoner in March 2014. The borrowers' reactions were positive and some started their custom de-stoning business at NGN 30–50 per bushel. However, none tried to invest by themselves because of its high cost of NGN 600,000.

The Project asked buyers from Onitsa, Anambra State, about the possible price for showing whiter and de-stoned parboiled milled rice and calculated the expected profit assuming that a processor parboils and mills 7.5 tons per week[25]. Based on the calculation, RIPMAPP drafted a repayment schedule and proposed it to innovator candidates in August 2014[26]. These candidates, along with the Lafia Association replied negatively, explaining that the possible amount of paddy per week is less than 5 tons, or even 2.5 tons. According to the innovator candidates, the unit price of milled rice assumed is unrealistic according to their claims. If the unit price and the processed amount are lower than those expected, the repayment schedule cannot be realised. RIPMAPP stopped the innovator selection process and restarted it later.

In October 2014, RIPMAPP requested the Lafia Association to nominate processors that could handle larger amounts. Accordingly, the Association listed 13 processors. RIPMAPP C/Ps interviewed them individually and confirmed that all were processing more than 5 tons per week. Regarding the selling price, the Project verified the milled rice price in Abuja as NGN 3,500 per 25 kg-bag. Although this was lower than Onitsa buyers' answers, the difference was not large. Based on a slightly lower processing paddy amount and price of milled rice, the Project calculated again for revising the repayment schedule, but it appeared difficult for innovators to pay back without a subsidy.

In November 2014, the Project narrowed its candidates from 13 to seven through intensive interviews and asked the remaining seven to submit their improved milled rice using RIPMAPP technologies including parboiling and de-stoning. After examining the quality of the submitted samples as well as discussing with C/Ps on the candidates' willingness and business scale, the Project selected the final four members. The Project decided on a subsidy at the rate of 60%, which was common for Nigerian government projects.

C. Marketing and quality improvement

In December 2014, the Project forwarded a sample to Onitsa again and collected their answers at NGN 3,500 per 25 bags. However, the price was not attractive for the selected innovators because most of them were quality-sensitive processors and have enjoyed better prices than the average ones of the milled rice in Lafia. Nevertheless, according to the prevalent market prices, the innovators were required to improve their quality further to obtain a better price than NGN 3,500 per 25 bags.

An innovator resigned in January 2015 and three remained[27]. As Japanese experts were prohibited to visit Nasarawa and Niger, the Project started to work primarily in the Abuja market. The Project negotiated with five buyers in Abuja, including wholesalers and a retailers' cooperative. The average market price was NGN 3,500 per 25 kg at buyers' buying point.

[25] The Lafia Millers and Dealers Association has a regulation that prohibits a miller from purchasing more than 2.5 tons of paddy at once. Because parboiling takes two days from soaking to drying, it can be done three times per week at most. Thus a miller can process 7.5 tons of paddy per week at most. Because an innovator should have a certain size of operation as a stable repayment source, the Project put together a repayment scheme based on the capacity to process 7.5 tons of paddy per week.

[26] The Project expected that, out of the 49 people who were targeted in the consultation in June 2013, some would invest in an improved parboiling tank to use it as their own. However, hardly anyone among the targeted people responded. Accordingly, the Project let interested people to use the tank on a trial basis at no cost. The experiment continued until May 2014 and 70 people in total used the tank. Out of the 70, five or six people who expressed an interest in investing in the tank became innovator candidates. The word 'innovator candidate' is a general term that means someone who may be an innovator in the future.

[27] The innovator did not say exactly why he resigned, but he may have judged that the risks were too high for him to bear.

Innovators in Lafia claimed NGN 3,900 per 25 kg without considering the market situations, and negotiations with some buyers introduced by RIPMAPP had collapsed. To let the innovators understand that better prices than the market showed could be realised only when they improve the quality of their products, the Project invited them to Abuja. The innovators visited wholesalers and retailers in Abuja and interacted with them to learn the prices of various competing products. In the workshop after visiting the markets in Abuja, the Project helped the innovators learn the history of the Lafia Association. In the association's peak period in the 1980s, 30 trucks arrived to buy milled rice every day. However, after the import of milled rice from abroad began in the 1990s, and the start of integrated large-scale rice mills in Nigeria in the 2010s, shipment of Lafia rice, which was quantity-oriented, decreased to just two trucks per day. A Japanese expert referred to the Lafia-type large-size parboiling tank as the largest technical bottleneck for enhancing the quality of Lafia milled rice, and suggested taking action to procure better paddy by working with NADP.

In April 2015, the C/Ps conducted several experiments including washing paddy twice before parboiling. The Project invited the innovators to Abuja to analyse the results and it turned out that the twice-washing step could improve the final quality of the milled rice substantially. Because production of parboiled milled rice with RIPMAPP technology was suspended in the off-peak period, it was difficult for the innovators to pay back according to the initial agreement. The Project revised the agreement so that the innovators were now supposed to pay back based on the custom de-stoning fee.

In October 2015, the innovators went to Kaduna to purchase five 60-kg bags of paddy of the early ripening variety, washed the paddy twice, and processed it using the RIPMAPP technology including a false bottom and de-stoner. Neat milled rice with high whiteness was produced and the innovators packed it into a printed package for the rice wholesalers and retailers in Lafia with the RIPMAPP C/Ps. The quality was appreciated by most of them and a buyer purchased two bags and ordered 20 more. The prices were from NGN 3,600 to NGN 4,000. Because it was still the off-peak period and the paddy price was still high, they waited to commence full-scale production until the paddy price decreased.

At the same time among the members of the Lafia Association, the chaff base was spreading instead of a false bottom made of an iron plate, which was prone to rusting.

D. High paddy price and discontinuing the repayment scheme

Even in December 2015, the paddy price did not decrease because of an increase in the tariff on the importation of milled rice and crop failure in paddy production. The innovators could not commence full-scale production and this situation continued in January 2016. This situation is prevalent not only in Lafia but is a national trend. The Project understood that it was not easy for small-scale processors without sufficient financial capacity to solve the problem. The JICA Nigeria Office also suggested that the repayment scheme should be completed within a year from the completion of the Project. The Project discussed the issue with the three innovators and the Lafia Association, and decided to discontinue the repayment scheme and collected three de-stoners[28].

Apart from the support scheme by RIPMAPP, the Embassy of Japan in Nigeria offered a Grassroots Grant Program (GGP) to the Lafia Association. Under the GGP, the Association is supposed to be granted de-stoners, and is expected to use them based on the improved technology as instructed by RIPMAPP[29].

[28] Collected de-stoners are to be stored at and managed by the ABM that will use them in RIPMAPP expansion activities in other states.

[29] According to the Nasarawa ADP, the implementing organization of the Project, the donated 27 de-stoners are going to be used in the following manner. De-stoners shall be leased out to each member of the Lafia association for one month per year. By the end of a year, 324 members are expected to benefit from the de-stoners. In turn, the benefited members are expected to pay the levy charge of NGN 2,000 per member. In this way, the Nasarawa ADP plans to procure three additional de-stoners in five years. However, the number of de-stoners may change depending on the exchange rate.

Box2: What is an innovator?

Q1. What is the definition of an innovator?
A1. An innovator in RIPMAPP is defined as a rice trader that purchases paddy and produces whiter, less broken and stone-free 'Grade A' parboiled milled rice by himself or herself or via custom processing based on the recommended technology of (i) improved parboiling with a false bottom and a lid and (ii) de-stoning with a de-stoner. The trader sells the improved parboiled milled rice and recovers the investment for the technology for improving the quality of parboiled milled rice.

Q2. Can a parboiler or miller be an innovator?
A2. When a parboiler or miller plays the role defined in A1 above, he or she can be an innovator. Thus, if a parboiler or miller purchases paddy and processes it using the technology RIPMAPP recommended and sells the products, he or she is an innovator. This is because the goal of RIPMAPP is to increase Grade A high-quality parboiled and milled rice. If a parboiler improves only the parboiling quality, RIPMAPP does not call the parboiler an innovator because the goal cannot be achieved only through an improvement in parboiling.

Q3. What are the types of innovator?
A3. There are two types. The first is that a pure rice trader with neither parboiling equipment nor milling machines can be an innovator. He or she asks a parboiler to adopt the false bottom and lid technology and a miller to adopt a de-stoner and pays a higher custom processing fee or invests in the recommended technology by himself or herself. The second is a parboiler cum rice trader or a miller cum rice trader.

Q4. What types are the innovators in the two target states?
A4. Out of the three innovators in Nasarawa State, two are rice traders cum parboiler, and the remaining one is a pure trader without a milling machine or a parboiling tank. The two innovators in Niger State are traders cum miller and parboiler. One is a small-scale company and the other is a cooperative.

Q5. What is the difference between 'innovator' and 'innovator candidate'?
A5. After introducing the new technology through training, the Project tried to target those who would like to improve parboiling technology and then invited those who intended to introduce a de-stoner. Considering their business scale and willingness, the Project eventually selected 'innovators'. The Project called all stakeholders who were involved in a part or all of the selection process 'innovator candidates'.

Table 2-4-6 History of innovator support in Niger state

Year	Month	Season	False bottom	De-stoner	Marketing and improvement	Activities and the results	Restriction of Japanese expert to go to the project sites
2013	3	Off-peak				⑦The Project selected 104 persons as innovator candidates out of training participants based on their strong interest expressed in the answers to the questionnaire after training	Prohibited to go to the sites
	4						
	5					⑦NADP counterparts interviewed to the candidates using the information sheet (card) and narrowed to 85 persons	Prohibited to go to the sites
	6					①Out of 85 innovator candidates, 50 were milled rice traders. Because many of them handled more or less 100 ton of paddy per year, eighty two tons was set as minimum amount of paddy per year. Based on this criteria, 49 persons were selected as the targets of the first consultation by RIPMAPP. ②The consultation was implemented on 25th and 26th in June. Most of them knew market demand for high quality milled rice but no one calculate how much they could get as their profit if they improve the quality of milled rice. The Project explained the necessity of technology improvement. Seven persons ordered an improved tank to fabricators as of June.	Lifted ban to go to the sites
	7		Trial use of an improved parboiling tank expecting spreading of self investment			①Japanese experts planned with the counterparts the trail use of improved parboiling tanks. ②The Project recommended Lafia Association to increase custom parboiling fee when they adopt improved technology proposed by RIPMAPP.	
	8					①Mr. Sharif, Secretary of Lafia Association, ordered improved parboiling tank and started to use it. ②Fabrication of improved parboiling tanks for trial use started. ③Overall progress is very slow because of off-peak period.	
	9					①Signboards were set within the campus of Lafia Association. ②Improved parboiling tanks were completed at the end of September and they were used by the candidate innovators for 4 weeks per person.	
	10					①Most trial users of improved parboiling tanks appreciated the technology, Because the whiteness went up, price of milled rice increased from NGN 2300 per bushel to NGN 2500, according to a report. ②Some trial users pointed out that the durability of an improved tank was approximately 3 months and became broken because of rapid rusting.	
	11					①Trial use continued. Nine persons including 4 participants of training ordered improved tanks by themselves. ②Japanese experts calculated that it was possible to accumulate profit up to US$ 9,000 against US$ 3,500-4,000 as the cost of a de-stoner.	
	12					①Trial use continued	
2014	1	Peak				①Trial use continued ②Milled rice traders that invested for an improved tank were rare although it was already in peak-period. ③The Project set a opportunity for discussions with Lafia Association on 29th January. About 10 participants from the Association answered in many ways but both Japanese experts and Nigerian counterparts could not understand real reasons. ④Lafia Association discussed to make a decision in the near future to obligate members to use improved tank with false bottom and lid.	
	2					①Trial use continued but invested person did not increase, Mr, Sharif, who took strong initiative to improve the quality of milled rice, died of disease, ②A marketing counterpart of ADP went to Onitsa, Anambra State, and met 4 milled rice buyers to ask possible price of improved milled rice, All of buyers expressed higher prices if the milled rice whiter and stone-free. Some of them claimed insufficient drying after parboiling in Lafia milled rice.	
	3			Trial use of de-stoner		①Lafia Association made a resolution on 5th March to obligate members to use improved parboiling technology. ②Trial use of de-stoners started. ③ADP started monitoring on insufficient drying problem using moisture meter RIPMAPP introduced.	
	4					①Despite of the resolution, improved parboiling tank was not spreading among members. Lafia Association explained that innovators did not go out to purchase paddy for avoiding being involved into conflicts among ethnic groups in Nasarawa State. ②Trial use of de-stoner continued. Price of de-stoned milled rice allegedly increased from NGN 200 per mudu to NGN 220.	
	5					①Trial use of improved parboiling tank finished. Total 70 persons used it. ②Out of 55 tank owners in Lafia Association, 16 owners, 30%, had invested to a false bottom and a lid for improved parboiling. ③Remaining tank owners seemed to be reluctant to invest because they have very low cash flow in off-peak period. ④Trial use of de-stoner continued. Custom de-stoning business with NGN 30-50 per bushel was going on.	
	6		Self investment on improved parboiling tank and false bottom reached 30% of members of Lafia Association once but declined after the peak			①Trial use of de-stoner continued. Most of the trial users were interested in de-stoners but once they knew the price, they gave up to invest.	
	7	Off-peak		First draft of de-stoner repayment scheme		①False bottom did not spread in Lafia Association at all. Even members once invested did not repaired when the false bottom broken. ②The Project recommended to use "Adashi," or traditional group saving scheme. ③Trial use of de-stoner continued. Thirty used until the end of July. Custom de-stoning fee was NGN50 per bushel. ④Buyers in Onitsa indicated NGN 2800 to 3000 per bushel towards improved parboiled and stone-free milled rice sample.	
	8					①It was agreed that starting Adashi should be waited until peak period begins. ②Trial use of de-stoner continued. Thirty eight used until the end of August. ③According to Onitsa buyers' price, NGN 2800-3000 per bushel in off-peak period, increment from unimproved milled rice price was NGN 500 per 25 kg bag. After subtracting package cost and de-stoning cost, net increment was NGN 300 per 25 kg. When an innovator processes 75 bags of 100kg paddy per week, if milling recovery is 50%, the innovator can produce 3.75 tons of milled rice per week. The innovator can make NGN 90,000 per week as net increment. Because the cost of a de-stoner is NGN 660,000, the innovator can pay back at 7.4 weeks. ④The Project determined the size of a package as 25kg based on the opinion among buyers in Onitsa. The Project designed the package as a draft and discussed with ADP, APM and Lafia Association to finalize it.	
	9					①Based on the calculation in August, the Project offered the draft agreement to potential innovators but they worried about the amount of repayment per week and the period of repayment	
	10			Worrying on the first draft of the scheme by innovator candidates and starting again the selection process		①The reason of worrying by the innovator candidates was the possible amount of handling paddy. According to their claim, 7,5 tons is estimated too much and the reality is less than 5 tons, or even 2,5 tons. This figure contradicted to the data acquired until then. According to cards of innovator candidates, average handling amount of paddy was 100 tons per year, for example, and if weekly amount is just 2.5 tons, it is impossible to reach 100 tons because peak period is at most 16 weeks. ②Second reason of worrying by the innovator candidates was price expected is too much and increment could be just NGN 100. This figure also contradicted to the figure Onitsa buyer indicated. ③The Project canceled the innovator candidates and started again the selection process. The Project asked Lafia Association to introduce 13 milled rice traders that process larger amount of paddy. The Project interviewed them and confirmed all of them processed more than 5 tons per week. On the other hand, price was searched in Abuja and it was NGN 3500 per 25 kg when Lafia rice was improved. ④Seven out of 13 candidates were finally selected. ⑤Assumption of 7,5 tons per week was too optimistic and initial expecting net increment was revised downward. As a result, re-payment became difficult to be completed and the Project started discussions on subsidy.	
	11					①Through the final interview and examining business scale as well as the quality of sampled milled rice by 7 finalists, the Project narrowed into 4. ②Through the interview, declining trend of Lafia Association was clarified. Competition with integrated large-scale rice mill had become tough. Insufficient drying problem had put negative impact on their marketing, ③The Project made a decision on the subsidy of 60% and possible repayment period was calculated as 19 weeks under the subsidy.	Prohibited to go to the sites
	12				Tough reaction by Abuja market and proposed further quality improvement methods	①The Project drafted agreement in which a innovator was supposed to repay within 28 weeks, 9 more weeks were added as a concessional condition. Four innovator candidates agreed to the draft on 18th December, ②Onitsa buyer answered to the Project at NGN 2500 per 25 kg bag, But because 4 innovators had produced relatively better quality milled rice in the past and enjoyed better price than others, expected increment for them might become slightly lower than calculated. ③Higher price than indicated by Onitsa buyers requires higher quality.	Prohibited to go to the sites
2015	1	Peak		De-stoner use by the innovators on a re-payment scheme		①A innovator resigned and 3 remained. Resigned innovator was an agent of Onitsa buyers and marketing channel to Onitsa could become difficult to utilized because of the dropping of the innovator. The Project started to develop Abuja market instead. ②Abuja buyers pointed out that Lafia rice had darker base color when compared with milled rice produced in Niger State and is mixed with bran and chaff.	Prohibited to go to the sites
	2					①The Project negotiated with an retailers' cooperative, a rice wholesaler in Garki market, general store in Garki, the largest rice wholesaler in Abuja, a wholesaler/retailer in Utako market. Indicated price was NGN 3500 when the products were transported to the buyers' place.	Prohibited to go to the sites
	3					①Inviting the innovators to Abuja, the Project had an opportunity to visit a couple of milled rice markets in Abuja and had a workshop.In terms of paddy procurement, ADP staff in charge of paddy production introduced high quality paddy producers. ②Japanese experts facilitated to look back the history of Lafia Association. According to the information, Lafia Association had a peak when Babangida Administration era during 1985-1992 and the number of milling machine were 100 and of truck coming to buy milled rice per day was 30. The numbers decreased to 60 milling machines and 5-6 trucks because of foreign rice importation. Establishing domestic integrated large-scale rice mills in 2010's put harder competition, Now the number of truck is just 2 per day, ③Japanese experts proposed drastic change of technology to improve the quality, such as reducing the amount of parboiling paddy into half and e times milling, ④After the workshop, the innovators tried to improve the milled rice quality but it was difficult to purchase good paddy because peak period was over	Prohibited to go to the sites
	4				Experiment for further quality improvement	①The Project conducted experiment on half amount parboiling and twice washing before parboiling.	Prohibited to go to the sites
	5					①Full-scale production stopped because peak period was over. ②Some innovators tried to sell their products to rice sellers in Lafia market. ③The Project analyzed the results of the experiment and recommended twice washing, twice milling and half amount of parboiling. ④Counterparts suggested that the reason of low dissemination ratio of false bottom could be price as well as the difficulty in handling because diameter of false bottom is almost same as the one of tank.	Prohibited to go to the sites
	6					①The Project had a workshop in Abuja to discuss the results of experiment inviting innovators to Abuja on 4th June. ②Profit-loss calculation was also instructed at the workshop. It was clarified that cost reduction is difficult because all cost items such as firewood, water and labor are fixed by Lafia Association as well as calculated production cost in off-peak period is NGN4000 per 25 kg.	Prohibited to go to the sites
	7						Lifted ban to go to the sites
	8	Off-peak			Institutional development for Lafia Association	①The Project offered institutional development workshop for Lafia Association. As a result, it was found that Lafia Association is not for collective business development but for keeping equal opportunity for individual small-scale businesses. ②Member regarded the relationships between paddy sellers as the most significant factors for their business. ③It was difficult to payback as agreed in off-peak period, the agreement was revised and innovators promised to payback NGN 2000 per week based on their custom milling fee as of 12th August.	
	9					①The Project interviewed to 3 innovators and found they had developed own paddy procuring channels. Relationship between milled rice trader and milling operators are complicated and most innovators focused not on how to process paddy but on how to process paddy.	
	10				Achieving quality improvement and trial marketing of packaged rice	①Three innovators went to Kaduna to purchase 5 bags of 60 kg paddy of early variety available in Kaduna. Through twice washing and parboiling with false bottom, neat rice with higher whiteness was produced. ②The innovators packed the rice to printed package and visited 7 rice retailer/wholesalers in Lafia. Retailer/wholesalers evaluated the product well and a wholesaler purchased 2 bags and ordered another 20 bags. Price was NGN 3600 to 4000. ③Chaff base was spreading among member of Lafia Association instead of false bottom, which was easily rusting.	
	11					①The milled rice quality was much improved by the innovator but the level was not kept after that because (1) it is difficult to acquire high quality paddy constantly and (2) technology is fluctuating in manual labor, according to the opinion by counterparts. ②Standard wholesale price was set at NGN 3600 among 3 innovators.	
	12	Peak	Spreading "chaff base"		Suspending production due to high paddy price	①Order from wholesalers/retailers in Lafia market became low. ②Because of sustained high paddy price even in peak period, it was difficult to get profit when selling at NGN 3600 per 25 kg and 3 innovators stopped milled rie production.	
2016	1						
	2			Colle		①The Project gave up to complete paying back based on the agreement within a certain period of time and collected 3 de-stoners from the innovators after the discussions with innovators and Lafia Association.	

Activity 4-5 Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Bida.

Activity 4-5-1 Conduct Training for small-scale millers, parboilers, rice farmers and traders of Bida

Table 2-4-7 shows an outline of the training for beneficiaries from February to April 2014.

Table 2-4-7: Training for beneficiaries in Niger State

Topic	Target group	No. of batch	Training method	Venue	No. of participants	No. of villages
Marketing and business management	Traders and millers of Taimako Makwala association	4	On-call	NAMDA multi-purpose centre in Bida	85	-
Marketing and Parboiling technology	Traders and parboilers of rural area	19	Caravan	Core villages	380	76
Demonstration of technology for rice farmers	Rice farmers selling paddy to the traders in above	19	Caravan	Core villages	380	76
Incubation Plant	Millers of Taimako Makwala association	6	On-call	NAMDA Incubation plant	85	-

Figure 2-4-1: Setting up a caravan-type training venue in a core village

Figure 2-4-2: Trainees of the marketing and business management training and an instructor

Figure 2-4-3: Practice on parboiling technology and pedal type thresher

Training for millers

The millers who were targeted fall into two groups: the millers in rural areas and the millers of the Taimako Rice Millers Association. Training for the former consists mainly of small-scale milling machines and de-stoners that are brought to rural areas such as the caravan-type training. This training was conducted from 20 May 2014 until the middle of August 2014. The number of training sessions was 16, and they were held in 12 different villages. The total number of participants was 161. The training for the latter group is reported in the later part of this report.

Figure 2-4-4 shows the caravan-type training for rural millers. The training contained (1) explanation of RIPMAPP, (2) problems with the quality of parboiled rice and post-harvest processing, (3) milling practices with a de-stoner, and (4) the purchasing price of milling machines and de-stoners and cost recovery calculations. During the practice of machine operations, participants paid a great deal of attention to the de-stoner. The opinion of the female parboilers who observed the training from the side was that that custom milling prices could be increased from NGN 200 to NGN 250–260 for a bag of milled rice if the stones are removed completely.

The participants in the first training session noted that the capacity of milling machines is not as high as what they expected. Therefore, the capacity was checked by the supplier and then the motor was replaced with a different engine to increase the capacity as indicated by the supplier.

Figure 2-4-4: Training for rural millers using the caravan-type training

Training at the incubation plant

Training at the incubation plant was conducted for the millers of the Taimako Rice Millers Association right after the installation of the mill. The training was managed by NAMDA. It was conducted six times for a total of 85 millers. The training covered the practices of milling by using the mill plant, the investment scale, and calculations for the recovery of investment costs.

The demonstration was also practiced for two days on 11 and 12 May 2015. The target participants were millers and traders of Niger State. The participants were potential investors who would be able to invest in the small mill. The total number of participants was 30.

Activity 4-5-2 Evaluate the training of Bida.

The learning levels of the participants of the beneficiary training in Niger State were evaluated by a post test at the end of each training session, which was the same as the one in Nasarawa. As shown in Table 2-4-8, all the trainees from Niger State understood the contents of the training.

Table 2-4-8: Results of the post test of the beneficiary training in Niger State

Training topic	Qualifying score of post test	Average score on post test
Milling technology in cluster areas	80.0	100.0
Milling technology in scattered areas	80.0	100.0
Parboiling technology	80.0	98.0
Marketing and business management in cluster areas	80.0	95.7
Marketing and business management in scattered areas	80.0	98.0

Evaluation of training at the incubation plant

Table 2-4-9 tabulates the results of the questionnaire survey after the training (demonstration) targeting the potential investors.

Table 2-4-9: Results of the questionnaire survey after the training at the incubation plant

No.	Questions	Number of responses	Proportion of responses (%)
1	Are you satisfied with the training program?		
	Yes	30	100
	No	0	0
2	Would you like to send your operators to participate in the operation and maintenance training course? (Note: The cost of the training will be borne by the participants)		
	Yes	24	80
	No	6	20
3	Does this mill plant meet your milling business's needs?		
	Yes	27	96
	No	1	3
4	Does the capacity of this mill (500 - 600kg/h) meet your milling business's needs?		
	Yes	30	100
	No	0	0
5	Would you invest in this type of mill plant if you needed to renew or replace your mill?		
	Yes	29	97
	No	1	3
	If No, how much are you able to invest?		
6	Will you be willing to rent this rice mill to conduct your rice processing business?		
	Yes	17	57
	No	13	43
	If Yes, how much will you be able to pay as a rental fee for every 100 kg of milled rice?	NGN 700 (1); NGN 700 (4); NGN 200 (11)[Note]	
7	How much milled rice do you produce per year by ton?	3,000,000 tons (1); 2,880 tons (1); 2,000 tons (1); 1,344 tons (1); 1,080 tons (3); 1,008 tons (2); 1,004 tons (1); 624 tons (1); 300 tons (1); 120 tons (2); 116 tons (3); 108 tons (1); 100 tons (1); 30 tons (1); 25 tons (1); 0.1 ton (3); 1,200 bags (1); 1,080 bags (1); 900 bags (1)	
8	What is the capacity of your mill per hour?	5 tons (1); 4 tons (2); 3 tons (5); 1.5 tons (1); 1 ton (2); 0.4 ton (1); 0.3 ton (7); 0.1 ton (1); 0.03 ton (3); 36 bags (1); 8 bags (1); 4 bags (2); 3 bags (1); 1 bag (1)	
9	What is the country of origin of the manufacturer of your mill? (e.g. China, Korea, India, Japan) Provide the name of the manufacturer as well if you know.	China (9); Japan (8); India (2)	

Note: The numerical value in the bracket is the number of respondents.

As for the question 'Would you like to send your operators to participate in the operation and maintenance training?', the number of positive respondents was 24 out of 30. Most of the participants were satisfied with the capacity and functions of the small rice mill plant. Twenty-nine (29) respondents expressed their will to invest in a mill with the same capacity. Seventeen (17) out of the 30 would like to rent the mill plant for their rice processing business.

Activity 4-5-3 Identify the outcome of the training for the millers, parboilers, and rice farmers and modify the training plan for the following period in Bida.

As described later in Activity 4-6, the number of processors who adopted false bottoms for parboiling reached 79 as of March 2016, and the quality of rice of the innovators in Bida and Doko has improved by using the false bottom and the de-stoner. This is an outcome of the training and innovator support activities.

Concerning the planning of the beneficiary training courses in Niger State, the NAMDA C/Ps elaborated the dissemination plan including the training activities with the advice of the Japanese

experts, and presented their materials at the workshop and the JCC meeting at the end of the Project period.

Activity 4-6 Support innovators in terms of technology, information on financial services and business management in Bida.

In the target area of Niger State, the traditional pot used for parboiling rice is the most common tool and the use of an aluminium false bottom and lid has been introduced as an improvement in technology at the training courses as shown in 'Activity 1-4 (1)'. The price of the false bottom is NGN 4,500, which is approximately 10 to 20 times the weekly average running cost for purchasing paddy by small-scale parboiler-cum-traders in the rural areas of Niger State. Therefore, the false bottoms were expected to spread quickly with investment from the local people. However, the reaction from the 380 trainees was slow as the training sessions finished at the end of the peak season and the paddy trade had begun to slow down. Then, as in Nasarawa State, all the trainees got a chance to use the false bottom for a two-week trial period. Most of the trial users recognized an improvement in the quality of their rice but a full reaction from the markets could not be observed because it was the off-peak season for paddy and because of the short trial period. In parallel, about ten individuals and organizations including some non-trainees started using the false bottoms. Since then, the number of false bottom users has increased gradually because of the effects of earlier users and because of fund preparation during the peak period. The number of false bottoms used in Niger State as of February 2016 was 79[30].

De-stoner

The trial use of the de-stoner was targeted at the miller-cum-traders of the Taimako market, which is the centre of rice processing and trading in Bida town, to individuals who showed interest in the trial after the training session. The number of trial users was only 10 because it was the off-peak period just before the harvest season and there was not much paddy on the market at that time. Most of the trial users showed an interest in the de-stoner but they could not make a decision to invest their own money in it. Only the chairmen of both the Taimako Rice Millers and Traders Association in Bida and the Haske Rice Millers Association in Bida who deal with relatively large amounts of paddy took an interest in paying for the long-term use of the equipment. However, as a result, in the Bida area, the chairman of the Taimako association decided to process and sell RIPMAPP packaged rice by paying for a de-stoner because another chairman decided to change his priority to a different agro-business.

For the rural target area of Niger State where half of the rice is processed and sold to places outside the region, the Awomana Women Group from the Doko community became a candidate for using a de-stoner over a longer period. The reasons for this selection were as follows: (1) the Project team had been collecting information from the group since the first year of the Project; (2) the quality of the rice parboiled by the members of the group was good enough that it was considered to contribute to a positive attitude towards the overall improvement of their rice quality; and (3) most of the members were traders who purchased paddy and sold milled rice. Because the members outsource the milling of paddy to the millers in the community, one of the millers on the value chain used a de-stoner for a trial period of two weeks. The members and the miller as a group decided to pay for the de-stoner and sell packaged rice processed by the members.

Marketing of packaged rice and quality improvements

The payment schedule for the de-stoner and the attached equipment was planned when the chairman of the Taimako Rice Millers and Traders Association in Bida and the Awomana Women Group of Doko were selected as the targets to be the innovator supporters of the Project based on the status of the processing sales. The increment of the profit margin was estimated to be NGN 300 for each packaged 25-kg bag of rice, based on the improvements in the quality of the rice. Based on this estimate, it was calculated that 21 weeks would be needed for the payment period if processing 6,000

[30] This number includes 10 of the chairman from the Taimako association and 10 members of the Awomana women group who received innovator support which is described later.

kg of paddy per week which would bring in sales of 137 bags using the 25-kg package. In the case of the Awomana group, when each of the 15 members prepared 400 kg of paddy weekly, this payment period was considered reasonable for its business scale.
However, the processing and marketing of packaged rice did not progress as planned for the following reasons.

A. Marketing (Awomana)
A1: There were existing customers who did not buy packaged rice. Therefore it was necessary to develop new markets.
A2: For new market developments in urban areas such as Abuja, transportation costs were high. It caused the mismatching between the suggested sales price and the quoted market price. The business scale of the innovators was economically and technically too small to process the necessary amount of paddy needed to save money on transportation costs.
A3: For new market development, it was necessary to set market prices lower than other similar products in the market in order to attract new consumers. However, this brought in less profit than was planned.
A4: The price of paddy changes seasonally and because of other factors such as production levels. By contrast, the sales price of packaged rice in urban areas cannot be changed and sometimes there were no profits when the price of paddy went up and processing stopped. Usually the sales unit price of rice in rural areas changes according to the paddy market.

B. Quality and techniques
B1: In the beginning, it took a few months to improve parboiling technology and the environment for processing (Taimako).
B2: It took much time and work to remove all the black-coloured grains of rice by hand.

B3: The quality of paddy affects the quality of milled rice directly. It also becomes difficult to obtain the long grain variety during the off-peak season.
B4: The number of milling machines (millers) in the community was not sufficient to meet the needs of the quantity of parboiled paddy available, and this limited processing.

C. Reasons caused by innovators themselves
C1: It was not always a priority to follow the agreed-upon schedule for processing packaged rice (low quality rice) (Taimako); other agribusiness (Taimako), and ceremonial occasions in the community (Awomana) led to work delays.
C2: It took some time to develop awareness for improving the quality of rice (Taimako) (related with B1).

D. Project management
D1. As Japanese experts had been prohibited from travelling out of Abuja since January 2015, it was not possible to have enough time for conducting new market development in Bida and Minna.
D2: For the same reason, it was not possible to have enough time to support directly the activities to have the stakeholders learn the relevant techniques and quality improvements in the field. The rice was delivered to Abuja and any advice and comments were transmitted to the C/Ps by phone. Sometimes the innovators and the C/Ps had to come to Abuja to see the Japanese experts. Thus it took extra time to solve each issue.

For the reasons above, delays in the payment for the de-stoner became a constant anxiety and the payment schedule was revised in September 2015. New repayment schemes were adopted such as making weekly or monthly payments instead of the one based on the quantity of 25-kg bags of rice. Still there was little hope to complete the payment by the end of the Project in March 2016.

As of 17 February 2016, the payment status of each innovator is as listed below.

Table 2-4-10: Payment status of the innovators of Niger state as of 17 February 2016

Innovator	Paid amount	Firstly agreed total amount to pay	Remaining amount	Payment scheme revised on September 2015	Period to complete payment after February 2016 if agreed amount is paid continuously
Awomana Women Group of Doko	NGN 219,000	NGN 539,620	NGN 332,620	Monthly NGN 10,000–12,000	27–32 months
Chairman of Taimako Rice Millers and Traders Association Bida	NGN 166,100	NGN 539,620	NGN 383,520	Weekly NGN 5,000–8,000 (Monthly NGN 20,000–32,000)	11–19 months

The payment schedule was planned based on the idea that the payments would be covered by profits gained by selling packaged rice. However, this has not always worked as planned. Nevertheless, the Awomana group has continued to make regular payments since September 2015 as was agreed upon even when the group's rice was not processed and sold as planned. In practice, it seems to take two to three years to complete the payment at this pace.

The chairman of the Taimako association has paid according to the sales of packaged rice and only half of the agreed amount has been paid since September 2015. If he was able to pay the agreed amount on a monthly basis, he would be able to complete all his payments within one year. However, considering his previous performance, it seems difficult for him to pay such an amount regularly. As of February 2016, about 26,000 kg of paddy was purchased and stocked for processing packaged rice, but the profit generated has not been enough to complete the payments.

The original amount agreed to be paid back includes the cost of the high-quality 25-kg bags. In the beginning, the Project covered the cost of the packages because it was a pilot activity to promote a new type of product, namely locally produced high-quality rice. The reason why the payment agreement included the cost of packaging was to save sufficient funds for the next printing of packages after finishing the first printed ones. As the volume of rice processing and sales wound up being much lower than expected, it seemed to take a long time to finish using the first run of printed packages.

The Project decided to deduct the cost of the package bags from the agreed payment amount to reduce the financial burden. Because of the reduced cost and the stable payment performance since September 2015 based on the revised agreement, both innovators were expected to complete repayment in due course: the Awomana group by the end of 2016, and the chairman of the Taimako association by October 2016, respectively.

De-stoners were returned from the innovators in Nasarawa state because they paid back hardly any amount and had no prospects for further repayment in the future. With regard to Niger State, because it is highly likely that the innovators can complete repayment in one year after the termination of the Project, the Project, based on the discussion with NAMDA and the JICA Nigeria Office, decided that the innovators can keep using the de-stoners. Table 2-4-11 shows the revised payment schemes; the stakeholders signed the revised agreement accordingly.

Table 2-4-11: Revised payment schemes of Niger state

Innovator	Paid amount	Total amount to pay excluding package bag cost	Remaining amount	Payment scheme revised on September 2015	Period to complete payment after February 2016 if the agreed amount is paid continuously
Awomana Women Group of Doko	NGN 219,000	NGN 309,460	NGN 102,460	Monthly NGN 10,000–12,000	8–10 months
Chairman of Taimako Rice Millers and Traders Association Bida	NGN 166,100	NGN 309,460	NGN 153,460	Weekly NGN 5,000–8,000 (Monthly NGN 20,000–32,000)	5–8 months

At the end of the Project period, NAMDA specified the following monitoring plan as part of its innovator support plan that it submitted to the relevant stakeholders: After the termination of the Project, NAMDA will monitor the activities and receive the payment continuously. NAMDA C/Ps will keep relevant records on the monitoring sheet that has been used since the Project period, and submit it to the ABM and the JICA Nigeria Office every three months. The ABM and the JICA Nigeria Office continue to check the payment status by the monitoring sheet until full payment is made within the agreed period[31].

As of February 2016, packaged rice processed by the Awomana group and the chairman of the Taimako association became symbols of RIPMAPP and new innovators were coming in upon being influenced by the packaged rice processing of the group.

NAMDA, the C/P of Niger state, expressed its intention to continue supporting innovators even after the termination of the Project through such means as dissemination of false bottoms for parboiling and trial use of de-stoners.

[31] Additionally, it was recommended that, the next time it becomes necessary to print packages, it should be done in such a way that a package can be used commonly by both processors and traders in the state.

Table 2-4-12: History of innovator support in Niger state

Year	Month	Seas	False Bottom	De-stoner	Marketing & improvement	Activities & results	Restriction for Japanese experts on travel to the Project target areas
14	4					① Parboiling training finished.	
	5					② Trial was discussed as nobody started use false bottom.	Suicide bombing at Nyanya in Nasarawa
	6					③ Trail of false bottom was prepared.	Suicide bombing at centre of Abuja
	7					③ One person who did not attend the training showed interest in false bottom. Her comments was that price of 4,500NGN was not high but it was difficult to make payment in once.	
	8	Off-peak	Trial	Trial	existing buyers Survey	① Trial of false bottom for two weeks for each started targeting all the participants of the parboiling training. ② One organization and two individuals purchased false bottoms. ③ Trial of de-stoner started for seven members of Taimako association for one week each. Only one person showed his interest in paying for long period use.	
	9			innovators Selection of potential		① Trial of false bottom continued. ② Trial of de-stoner was only for three beneficiaries due to lack of paddy in market. ③ Selection of potential innovator for packaged rice processing started. Only chairman of Taimako association showed his interest. His customers, rice buyers from north west states were interviewed about quantity, quality and price of packaged rice. ④ Package design was discussed.	
	10					① One organization and one individual ordered false bottoms. ② Trial of de-stoner for the miller on the value chain of Awomana group in Doko for two weeks. ③ Awomana group was discussed as a potential innovator in aspects of quantity quality and organization. 10 tons per week was estimated to be process by 15 members based on 700kg per member per week. ④ Chairman of Taimako association was selected as an innovator to be supported as he had experience of selling his own packaged rice and his strong willingness. Secretary of the same association was considered as another candidate as his business scale was stable. At the same time, one more candidate needed to be found from Haske association which was separated from Taimako association. ⑤ Counterpart visited Katina state to interview rice buyers. They do not deal with packaged rice. ⑥ Printing of package bag was ordered.	
	11			de-stoner Payment of Planning	Marketing and trial sales in Abuja	① Chairman of Taimako association and Awomana group remained as targets of innovator support while other candidates refused for lack of funds. The chairman made decision for 60% subsidised by the Project. Awomana group discussed who would be a signers of agreement either the group or the miller on the value chain. ② Rice quality of Awomana was confirmed acceptable at Abuja markets.	
	12			Payment scheme of de-stoner		① Payment agreement of de-stoner was signed (Chairman of Taimako association and Awomana group & the miller on the value chain). Chairman of Haske association was still under consideration. ② It was found that rice buyers from north western states to Bida prefer cheaper rice even worse quality. ③ About marketing, the chairman of Taimako association targeted existing local customers. A buyer in Lapai showed her interest in Awomana rice. Transportation arrangement and cost became issues for marketing to Abuja. ④ Parboiling training was conducted for the chairman of Taimako association. Quality of Awomana rice was not stable that was affected by parboiling technology.	
15	1	Peak				① The third candidate, chairman of Haske association gave up because he was busy with other agro business. ② Processing volume of chairman of Taimako was less than planned due to electricity failure meanwhile sales price and marketing had no problem. ③ Price was not agreed between Awomana and the buyer of Lapai and negotiation stopped. Some dark rice was found and 12 hours as duration for soaking was recommended instead of 16 hours. ④ Trial sales of Awomana rice at two shops in Garki of Abuja. Packaged rice was exhibited at Agric show organized by FMARD.	Because of prison break in Bida on December travelling only by bulletproof cars of JICA office was allowed. From 22th of January, tree access to the use of JICA vehicle stopped and indeed there was no chance to travel.
	2					① Processing volume was not stable due to electricity failure although two millers were arranged for Awomana group. ② About marketing in Abuja for Awomana rice, trial sales started in Garki market, Sahad store (supermarket) and one wholesale intermediate agent. One women trader association and another buyer contacted after the Agric show in January. ③ It was found that variety of paddy affected quality of rice. Rapid survey on variety was conducted.	Restricted on staying only in Abuja. Presidential election date was postponed to six weeks in one week before of planed date of 4th of February.
	3				Association of Taimako Site chairman and Awomana management Improvement of processing Improvement of volume, Awomana group	① The innovator visited markets in Abuja. ② Chairman of Taimako was instructed to improve processing operation line (management of workers, separation from other products, disposition of materials and equipment, cleaning, etc.). His sales in Bida became low. ③ Reaction of Abuja markets for Awomana rice was good but processing volume could not catch up the demand of the market. Awomana group provided 80 bags per week meanwhile the demands of three buyers in Abuja was 200 to 300 bags. The reasons for this gap were 1) it took time to remove black grain by hand, 2) the millers could not prioritized the Awomana group member only for other customers, and 3) transportation cost was high as 250NGN per bag.	Restricted on staying only in Abuja. Date of presidential election was postponed to 28th of March. Japanese experts left on 21th of March.
	4					① Awomana group had difficulty to purchase good variety of paddy. Analysis of removing black grain by hand found that it took seven hours for that task.	Election of state governor finished peacefully 11th of April. Without clear explanation, restriction on travel continued.
	5	Off-peak				① As Awomana had difficulty to purchase improved variety, Falo, packaged rice of indigenous variety was presented to Abuja market. Reactions were not bad but price got lower, therefore, Awomana group did not wish to process such variety. One buyer from Abuja wanted to have business with transportation arrangement. The results of analysis of productivity were 1) space was narrow, 2) the number of pots for parboiling was not enough, 3) lack of funds for purchasing paddy and 4) it took time and labour burden on purchasing water and firewood. ② Chairman of Taimako stopped processing packaged rice since March. Quality has improved somehow and price as well but it was not good enough to be grade A. Japanese experts together with counterparts had an opportunity to talk with him in Abuja and agreed to restart processing packaged rice after instructed about duration of parboiling, drying paddy in daytime, visiting Awomana group in Doko for technical improvement, cleaning and maintenance of milling machine and cleaning of drying yard.	Travel was allowed only during the terminal evaluation. Restriction continued to see the presidential inauguration on 29th of May.
	6					① According to the interview about coloured grain and black grain in Abuja markets, black grain needed to be removed from falo variety rice and both black and coloured grain needed to be removed from indigenous variety. ② The buyer with arrangement of transportation came to buy Awomana rice willingly. She appreciated light colour, taste and not sticking. On the other hand, she mentioned that small processing volume, unstable processing and high price were issue to be solved.	Restriction was reduced under the condition of using two bulletproof cars. (No travel on this month)
	7				Awomana group Improvement for stable processing	①Results of gender analysis of Awomana group were that there is no negative impact on gender and the members had strong will for working and income generation activities. Institutional analysis found that Awomana group was consisted of existing small groups and processed rice in rotation.	
	9					① Payment scheme was revised from payment per bag to fixed amount by week or month.	
	11					① Chairman of Taimako kept the quality after the improvement. He started to provide service, such as 1,000NGN for milling and parboiling service and 500NGN for de-stoning service. ② Reaction of trial sale of Awomana rice in Bida was slow due to variety. To give chances customer to taste, trial sale continued by measure in mudu. To enhance productivity, the members started to parboil and dry paddy at their own house and it brought positive results. Milling capacity remained an issue. To repair a milling machine belonging to the Awomana group needed financial support.	
	12	Peak				① Chairman of Taimako stopped processing for waiting for paddy in market. ② Awomana group stopped as well for harvesting work.	
16	1					① Chairman of Taimako purchased about 35,000kg of paddy in the cheapest price and stored it. He planned to start processing in February. ②Awomana started processing 200kg of paddy and planned to sell to a buyer of Abuja.	
	2					① Payment scheme was revised and cost for package bags was deducted. With this revised scheme, payment was expected to complete within one year.	

2.5 Project Operation

2.5.1 Joint Coordinating Committee (JCC)

The JCC has been held seven times. Table 2-5-1 shows the dates, participants and subjects of each JCC.

Table 2-5-1: Dates, participants and subjects of discussion in JCC

Dates	Participants	Subjects of discussion
1st (4–6 Oct. 2011)	・Permanent Secretary, FMARD ・Permanent Secretary, Ministry of Agriculture and Natural Resources, Nasarawa state ・Representatives of APM, NADP, and NAMDA ・Representatives, JICA Nigeria Office ・Japanese Chief Advisor and Experts	・Approval of project name as 'Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States' ・Approval of abbreviation for the project name as 'RIPMAPP' ・Confirmation of cost sharing ・Confirmation of the Work Plan Ver.0 ・Confirmation of installation location and the other items of the principal training equipment indicated in R/D
2nd (2 April 2012)	・Permanent Secretary, Ministry of Agriculture and Natural Resources, Nasarawa state ・Representatives of APM, NADP, and NAMDA ・Representatives, JICA Nigeria Office ・Japanese Chief Advisor and Experts	・Construction of incubation plant in Nasarawa state (layout of the plant is provided by Japanese expert. Based on the layout, APM ensures the budget from the state ministry) ・Submission and consideration of MOU that defines the responsibilities of APM and ADP. ・Approval of the Work Plan Ver.1, PDM, PO ・Decision on when to hold the next JCC (March 2013)
3rd (18 July 2013)	・Acting Permanent Secretary, FMARD ・Acting Permanent Secretary, Ministry of Agriculture and Natural Resources, Nasarawa State ・Acting Permanent Secretary, Ministry of Agriculture and Rural Development, Niger State ・Representatives of APM, Nasarawa ADP, Niger AMDA ・Representative, Embassy of Japan ・Representatives, JICA Nigeria Office ・Representative, Federal Ministry of Finance ・Japanese Chief Advisor and experts	・Approval of the work plan (May 2013–August 2015), PDM Ver. 2 and PO Ver. 2 ・Approval of the grading standards presented by the Project ・Unpaid travel allowances of the APM C/Ps ・Confirmation of the loss of the Memorandum Of Understanding (MOU) agreed on the Second JCC and approval on reproducing the MOU ・Confirmation of the responsibilities of Niger State in constructing the incubation plant in Niger State and of the construction schedule. ・Confirmation of when to hold the next JCC (November 2014)
4th (27 Nov. 2013)	・Acting Permanent Secretary, FMARD ・Acting Permanent Secretary, Ministry of Agriculture and Natural Resources, Nasarawa State ・Representatives of APM, Nasarawa ADP, Niger AMDA ・Representatives, JICA Nigeria Office ・Japanese/Nigerian members of the Mid-Term Evaluation team ・Japanese Chief Advisor and experts	・Evaluation of the project by the mid-term evaluation team ・Operation, management and utilization methods of the incubation plant in Nasarawa State ・Implementation of the responsibilities in construction and the costs of the incubation plant in Niger State to the Japanese side
5th (5 June 2014)	・Permanent Secretary, FMARD ・Permanent Secretary, Ministry of Agriculture and Natural Resources, Nasarawa State ・Permanent Secretary, Ministry of Agriculture and Rural Development, Niger State ・Representatives of APM, Nasarawa ADP, Niger AMDA ・Representative, National Planning Commission ・Representatives, JICA Nigeria Office ・Representative, Embassy of Japan in Nigeria ・Japanese experts	・Unpaid travel allowances of the APM C/Ps ・Progress of the project after the 4th JCC ・Approval of the Work Plan (May 2014-August 2015), PDM Ver3 and PO Ver3 ・How to utilize the Incubation plant in Nasarawa state ・Confirmation of when to hold the next JCC (March 2015)
6th (27 May 2015)	・Acting Permanent Secretary, FMARD ・Permanent Secretary, Ministry of Agriculture and Natural Resources, Nasarawa State ・Permanent Secretary, Ministry of Agriculture and Rural Development, Niger State ・Representatives of ABM, Nasarawa ADP, Niger AMDA ・Representative, Rice Value Chain ・Japanese members of the terminal evaluation team ・Representatives, JICA Nigeria Office ・Representative, Embassy of Japan in Nigeria ・Japanese experts	・Evaluation of the project by the terminal evaluation team ・Progress of the project after the 5th JCC
7th (23 Feb. 2016)	・Director, ABM ・Permanent Secretary, Ministry of Agriculture and Natural Resources, Nasarawa State ・Representatives of Nasarawa ADP and Niger AMDA ・C/P of the ABM ・Representative, Rice Value Chain ・Representatives, JICA Nigeria Office ・Representative, Embassy of Japan in Nigeria ・Japanese experts	・Presentation of Dissemination plan of the RIPMAPP technologies in Nasarawa and Niger states by each state ・Presentation of Dissemination plan of the RIPMAPP technologies to the other states by the ABM ・Unpaid travel allowances of the ABM C/Ps ・Presentation of the RIPMAPP guideline ・Procedure on Handing-Over of equipment

2.5.2 Workshops

Six workshops were held. Table 2-5-2 shows the dates, participants and subjects of each workshop.

Table 2-5-2: Participants and subjects of discussion in workshops

Dates	Participants	Subjects of discussion
1st (19–21 Mar. 2012)	・Permanent Secretary, FMARD ・Permanent Secretary, Ministry of Agriculture and Natural Resources, Nasarawa state ・C/Ps of NFRA, NADP, and NAMDA ・Representatives, JICA Nigeria Office ・Japanese Experts	・Results of a Baseline Survey ・Explanation on the Technical Assistance of the JICA ・Explanation on the PDM ・Explanation on Implementing methods of the RIPMAP
2nd (26 Feb. 2013)	・C/Ps of APM, NADP, and NAMDA ・Japanese Mid-term evaluation members ・Representatives, JICA Nigeria Office ・Japanese Experts	・Activities and Outputs of the Stage 2 ・Experiences and Lessons of the Stage 2 ・Activities of the Stage 3 ・Presentation of the PDM Ver2 ・Discussion towards the Stage 3 ・Discussion on the sustainability of project
3rd (5–7 Aug. 2013)	・C/Ps of ABM, NADP, and NAMDA ・Japanese Experts	・Opinion exchange between Nasarawa and Niger states (Experiences of Nasarawa state and action plan of Niger state) ・Visit to the Incubation plant in Nasarawa state ・Plan of the Incubation Plant in Niger state
4th (11 Feb. 2016)	・Commissioner, Ministry of Agriculture and Rural Development, Niger State ・Permanent Secretary, Ministry of Agriculture and Rural Development, Niger State ・C/P of NAMDA ・Representatives of NAMDA Regional offices ・Representatives of the Development partners ・Japanese Experts	・RIPMAPP activities and outputs in Niger state ・Presentation of the RIPMAPP guideline ・Presentation of the Niger state's RIPMAPP dissemination plan
5th (22 Feb. 2016)	・Acting Permanent Secretary, FMARD ・Chief representative, JICA Nigeria Office ・Permanent Secretary, Ministry of Agriculture and Natural Resources, Nasarawa State ・Permanent Secretary, Ministry of Agriculture and Rural Development, Niger State ・C/Ps of the ABM, NADP, NAMDA ・Representatives of the FMARD ・Representatives of 12states ・Representatives of 11 Development partners ・Representatives, JICA Nigeria Office ・Japanese Experts	・RIPMAPP activities and outputs by each C/P organization ・Presentation of the RIPMAPP guideline ・Presentation of the ABM's RIPMAPP dissemination plan to the other states
6th (25 Feb. 2016)	・Commissioner, Ministry of Agriculture and Natural Resources, Nasarawa State ・Permanent Secretary, Ministry of Agriculture and Natural Resources, Nasarawa State ・C/P of NADP ・Representatives of NADP regional offices ・Representatives of the development partners ・Japanese Experts	・RIPMAPP activities and outputs in Nasarawa state ・Presentation of the RIPMAPP guideline ・Presentation of Nasarawa state's RIPMAPP dissemination plan

2.5.3 Linkages with other development agencies

In their rice-related activities, other development agencies have adopted the technology introduced by RIPMAPP.

For example, in December 2014, GIZ together with the JICA Nigeria Office arranged a site visit in Bida of Niger State for FMARD and officials of the agriculture sector from 10 states. They visited beneficiary groups and the incubation plant to learn the improved parboiling technology and the milling machine. After several meetings between GIZ and the JICA Nigeria Office, parboiling training targeting 30 officials from four states and six organizations was held in the same incubation plant in Bida in September 2015. The C/Ps of RIPMAPP provided assistance to this training. GIZ continued activities for disseminating false bottoms and made extension materials including this technology.

In addition, the JICA Nigeria Office arranged two site visits: one in cooperation with the World Bank, and the other with IFAD, respectively.

2.5.4 Extension of the Project Period

To achieve the Project Purpose, and secure sustainability of the Project, it was necessary to strengthen the capacity of the beneficiaries in Nasarawa and Niger states, and have them gain more experience in producing high-quality parboiled milled rice in the coming harvest season. Hence, the terminal evaluation in May 2015 suggested extending the Project period, and the period was extended for half a year.

Here are the achievements of the Project during the extended period. 1) The innovators in both states were technically supported and the chairman of the Taimako millers and traders association in Bida and the Awomana women group of Doko became able to produce and sell high-quality rice in a stable manner. Those two groups are considered as models of producing high-quality parboiled milled rice using RIPMAPP technologies[32]. 2) To use the incubation plants established in both states sustainably after the termination of the Project, the Japanese experts helped NADP and NAMDA prepare the utilization plan and select candidates for Comprehensive On-the-Job Training (COJT). NADP and NAMDA submitted the utilization plan and the results of candidate screening for COJT to the JICA Nigeria Office[33]. 3) To disseminate RIPMAPP technology in both states, the Japanese experts helped NADP and NAMDA prepare dissemination plans. NADP and NAMDA presented the dissemination plan in the final workshops. 4) A guideline for RIPMAPP technology dissemination was compiled as a tool to disseminate the technology to improve the quality of parboiled rice in both the states and nationwide. The guideline was printed and distributed to relevant agencies including other development partners.

[32] The two innovators have not yet competed the repayment of their individual share of the de-stoner after two peak seasons since they started selling the high-quality rice. Therefore, it is too early to make at this stage the final decision on whether a business model in management aspect can be established.

[33] As of 10 April 2016, the Nasarawa government has not finalized COJT candidates for the Nasarawa Incubation Plant, and no date for commencing COJT has been set. The COJT at the Niger Incubation Plant is expected to start in July 2016.

3. Challenges, Key Innovations and Lessons Learned in the Implementation of the Project

3.1 Challenges

Restriction of travel to target sites: On 27 February 2013, the JICA headquarters instructed the Japanese experts to restrict activities outside Abuja for security reasons. Since the start of the second period of the Project in June 2013, overnight stays at the Project sites were restricted to weekdays. Travel over the state borders has been done in a convoy with two cars or more, and the number of security personnel accompanying the Project team has been increased. A tribal disturbance occurred in Nasarawa State in November 2014 and a prison break occurred in Niger State in December 2014. In addition, Muslim extremists in Northern Nigeria became more active than before. Hence, since December 2014, bulletproof cars have been used to travel to the target sites and the number of travelling and staying days had been more restricted than before. Consequently, the time spent for activities in target sites was reduced to one third of that of the beginning stage, and it has delayed Project activities.

Disbursement of the ABM budget: At the beginning of the Project, the NFRA was the implementing agency of the Project. The NFRA was an independent agency under the FMARD, and had its own budget. The travel expenses used for the C/Ps of NFRA to visit the target sites were paid from the NFRA's budget without any difficulty. After the NFRA was transformed to a department of the FMARD, the C/Ps of APM/ABM sometimes had difficulty acquiring travel expenses to visit the target sites, and it resulted in lower participation by the C/Ps of APM/ABM in the Project. The Japanese side made a request to the Nigerian side to allocate adequate budgetary funds for travel expenses and to execute it in a timely manner. However, this issue was not solved until the end of the Project.

3.2 Key Innovations

3.2.1 Overall status

Countermeasures for travel restrictions: As mentioned above, the activities of the Japanese experts outside Abuja were restricted from the start of the second period of the Project. To conduct Project activities at the target sites without delay, the Japanese experts and the states' C/Ps received communication every day by telephone or e-mail, as well as meeting in Abuja once every two weeks to avoid any miscommunication over the telephone and to discuss things in detail.

Flexible management to match the financial and technical capacity of C/P organizations and beneficiaries: It was confirmed at the second JCC that Niger State would bear the cost of the construction of the incubation plant premises in Bida. However, Niger State was unable to allocate the necessary budget for it, and the Japanese side had decided to construct the premises by the Project budget. At the time of switching the financial burden, the Project reconsidered the size of the small-scale milling plant to install, and changed it to a size that would be affordable for beneficiaries of Niger State. By this measure, the Project avoided further delays in its activities, and the incubation plant in Niger State became the size that met the local needs.

Need-based dispatch of additional Japanese experts: Additional Japanese experts were dispatched based on the needs. This made it possible to study items that were not included in the original plan, and enrich training contents. For example, the dispatch of an expert on finance was not included in the original plan. However, because of the substantial need for training on agricultural finance, the expert was dispatched, and the status of agricultural finance was studied. The result of the study was incorporated in the training contents.

Agreement on cost sharing: Cost sharing between the Nigerian government and the Japanese government is mentioned in the R/D; however, it does not mention cost sharing among Nigeria's state governments and federal government. It is difficult for the state governments to ensure the budget for

the Project by the R/D because they are highly autonomous. Therefore, the Project recommended making a Memorandum of Understanding (MOU) among the federal government, state governments, and JICA. The MOU was concluded. The federal government shouldered the cost of ABM C/P activities; the Nasarawa State government, costs of beneficiary training and construction of the incubation plant building; and the Niger State government, costs of beneficiary training and drying yard of the incubation plant.

Implementation of the workshops: Workshops were held at critical junctures of the Project with the participation of the Japanese experts and the C/Ps from the ABM, NADP and NAMDA. The workshops were meant to review the direction, framework and activities of the Project in accordance with its progress, and reach a consensus among the stakeholders. The first workshop was held in March 2012 when the Project was about to enter the stage of capacity building in Nasarawa state (Stage 2) through the investigation and preparation stage (Stage 1). The PDM, PO and Work Plan were agreed on at the first workshop and were approved at the second JCC meeting. The second workshop was held in February 2013 with the Project approaching the end of Stage 2 in April 2013. The workshop had three purposes: (1) review the activities carried out in Nasarawa state and share the outputs thus far; (2) introduce the plan for Stage 3; and (3) foster a further sense of ownership in the Project among the stakeholders. Final workshops were held in Nasarawa State, Niger State and the capital city of Abuja at the end of the Project to confirm the achievements and to present the plan for further expansion of the Project. The workshops were effective in formulating a consensus among the Japanese experts and the C/Ps, confirming the project directions and implementing the Project efficiently.

High-level C/P training in Japan: The Project manager and the state coordinators were sent to a high-level C/P training course in Japan. The training participants observed the operations of small agro-processing enterprises and their infrastructure, and learned new processing technologies. Upon returning from the training course, the participants, especially the state coordinators, improved their commitment to the Project.

Respect for the existing social order: It is difficult to mobilize practical actors of a project without understanding the social order regulating interpersonal relationships in Nigeria. Lack of such understanding may even cause trouble in society. In Nigeria, authority is concentrated in top management; mid-level management is far less important. Top management directs even small matters. The Project beneficiaries also must know their place under such order and act accordingly. Because the Project is an activity promoting socio-economic transformation, it has worked carefully with practical actors while respecting the existing social order and structure.

3.2.2 Project planning

Setting the research stage: The first half year of the Project period was designated as the research stage. During the stage, the Project investigated the status of rice post-harvest processing and marketing in the target areas to identify problems and countermeasures and select target groups. Based on the research results, the Project formulated the contents of its activities. The research was conducted in cooperation between the Japanese experts and the C/Ps so that the C/Ps could benefit from technical transfer and information sharing. It was correct to agree on just a framework of the Project during the preliminary study and set the research stage at the start of the Project. Such method helped implement the Project efficiently because the implementers of the Project, i.e. the Japanese experts and the C/Ps, had a consensus through the research stage. When implementing a new project where a preliminary study is unable to provide enough information about target areas and target groups, it is sensible to have a research stage.

3.2.3 Technology transfer and dissemination

Technical improvement that suits the local condition: When conducting activities to improve parboiling equipment and method, which would affect the quality of rice significantly, the Project involved beneficiaries in the activities while carefully observing the present equipment and methods, financial capability of beneficiaries who were expected to adopt equipment and methods,

socio-economic condition around the beneficiaries, and technical level of engineering in the country. Before introducing high-performance new equipment, the Project tried to show that the quality of rice can be improved to a certain extent through modification of conventional equipment. If the quality is improved by using conventional technology with a minimum input, it is obvious that such technology will be adopted far more readily than totally new methods. In this Project, the Japanese experts proposed to use a false bottom for parboiling from the beginning and made various models of false bottoms on an experimental basis. Finally, a sand-casting aluminium false bottom for a traditional cooking pot was developed and widely accepted by the beneficiaries. It was known among experts of post-harvest technology for rice that steaming is the most important step in improving the quality of parboiled rice. There were indications that various developing partners had introduced different types of improved parboiling equipment in Nigeria. However, those were not well disseminated. The sand-casting aluminium false bottom developed by the Project has the following advantages: 1) it is simple and easy to use; 2) it is durable; 3) it is easily manufactured by local sand-casting shops making traditional pots; and 4) its cost is affordable to the beneficiaries.

Training design leading to adoption of technology in practice: A training program is the first step of activities to achieve the Project Purpose. Unless participants of training programs, such as traders, adopt new technologies that they learned through the programs and improve the quality of rice, the Project Purpose will never be achieved. Therefore, training programs should be designed to meet the needs of the people who would adopt new technology at their own expense. Avoiding contents in textbook-like general terms, the Project designed training contents while keeping in mind how traders, i.e., decision makers, would apply ideas to practical actions and what kind of information would be required in such process. It is obvious that traders dealing rice as a commodity are very sensitive to any change in profit or loss. The Project has tried to explain the part of the change of profit or loss in such a way that traders easily understand, employing words, numbers, and demonstrations.

Ability assessment by the CUDBAS method: Before making the training plan for APM and ADP staff, the Project assessed in a workshop the competence to be acquired by the personnel by using the Curriculum Development Based on Vocational Ability Structure (CUDBAS) method. In the method, participants analyse competence required of an ideal professional in the aspects of knowledge, skill, and attitude, and then decide how to enhance the missing or weak aspects, and formulate a training plan. In the workshop, the Japanese experts and the C/Ps shared what they thought would be the ideal competence. It is fair to say that the CUDBAS method is an effective tool to make an activity plan for technical capacity building.

Preparation of training materials suitable to the status of trainers and trainees: The Project made training materials for the beneficiaries training programs with hand-written posters, flip charts and whiteboards, considering the office environment of ADP staff, availability of materials, and ease of transferring information to the beneficiaries. This made it possible for the training programs to provide information to beneficiaries effectively at a low cost.

Compliance with training cycle management: Training programs tend to end without the monitoring and evaluation process. To avoid this mistake, the Project held a review meeting after every training session with the strong initiative of the Japanese experts and the active participation of the ADP staff. In the review meeting, good practices in the session and issues to address were pointed out, and the person in charge of the upcoming activities and dates for them were set. This practice helped improve the training programs for beneficiaries every time, and the trainers' abilities were strengthened tremendously. It is thus important to hold a review meeting right after every training session.

Implementation of innovator support: In the initial Work Plan, only training sessions were to be implemented for technical dissemination. In the first period of the Project, training sessions were provided to beneficiaries. However, no sign of technical dissemination was seen and follow-up activities became necessary to realize technical dissemination. Therefore, the Project included innovator support activities in its second-period Work Plan. Innovator support brought about positive results as mentioned above.

Caravan-type training: Many beneficiaries of Niger State, especially farmers and parboilers, are in rural areas. If the training venue were the Niger AMDA facility in Bida town, they might find it difficult to secure transportation and arrive there on time. Therefore, caravan-type training in which the training team itself visits villages with necessary materials and equipment was applied. The villages prepared necessary items such as traditional pot, firewood, water and chairs to minimize the volume of items that need transportation. Many instructors were trained so that they would be able to take turns to form training teams and reduce the burden of trips. Women who usually had few chances to go out because of housework and child care, and people who had no information of and no interest in RIPMAPP took part in the training. Delays in the training were also minimized.

Opinion exchange meeting between Niger AMDA and Nasarawa ADP: On 6 August 2013, the opinion exchange meeting between the Nasarawa ADP and Niger AMDA C/Ps was held at the Nasarawa ADP in Lafia. The purpose of the meeting was to carry out the Project more efficiently and effectively in Niger State where the Project activities started in earnest from the second year by sharing the implementation experiences by Nasarawa State in the first year. During a visit to the incubation plant in Lafia, C/Ps of the Nasarawa ADP shared the background and experiences of the installation, and explained the facilities with the Nasarawa AMDA C/Ps who were able to realize the scale of the premises and the tasks required for the construction of the premises by looking at them. Moreover, the Nasarawa AMDA C/Ps were able to confirm the tasks that need to be added and reduced. In question-and-answer sessions and opinion exchanges on the implementation of training courses for beneficiaries, C/Ps of the NADP and the AMDA shared the following: (1) how to select trainees; (2) means for implementing training courses more effectively (e.g., use of visual materials and local languages that are used by the trainees); and (3) better means of managing the logistical aspects of training courses (e.g., ensuring the transportation of trainees and developing a contact and communication system). The experiences and lessons learned in Lafia were used in drafting the drawing of the incubation plant and implementing training courses in Bida.

3.3 Lessons Learned

A. Modality to approach the target beneficiaries

1) The target beneficiaries of the ODA technical cooperation for value chain development should be the stakeholders who understand market demand and regard it as a business opportunity while having a certain capacity for investments for innovations.

The stakeholders who acquired additional profits from markets because of innovations were the milled rice traders. Motivated through understanding market demands and taking initiative for innovation in the value chain, milled rice traders shared this additional profit with other stakeholders within the value chain such as parboilers and millers through enhancing parboiling and milling fees.

During the formulation process of the Project, millers and parboilers who handle rice processing physically can be targets of the Project. However, it is very difficult for stakeholders who have a weak relationship with the markets to have any intentions for innovation without feeling the possibility for further business opportunities through quality improvements that the markets demand. The primary Project beneficiaries should be the milled rice traders that face the market every day. In RIPMAPP many training participants were interested in the new technology being introduced but most of them were reluctant to invest in it themselves. In the end, all of the stakeholders who actually invested in the technology were milled rice traders.

Japan's ODA tends to try to minimize the idea of ‘grants’ from the point of view of sustainability and always asks the beneficiaries to invest themselves. If a donor grants something, anyone can be a beneficiary; but when a donor expects self-investment, it is necessary to check the capacity and willingness of the self-investment carefully.

For example, if a miller processes paddy in a custom milling base, the miller can handle a limited amount of cash. However, if a miller purchases paddy and mills it, the amount of cash that they can handle is usually much larger than a custom miller. From the profit of the rice trading business, the miller cum trader can accumulate more capital than a custom miller and will have more possibilities to invest in new technologies. Figure 3-3-1 summarizes the relationship of the stakeholders in the rice value chain.

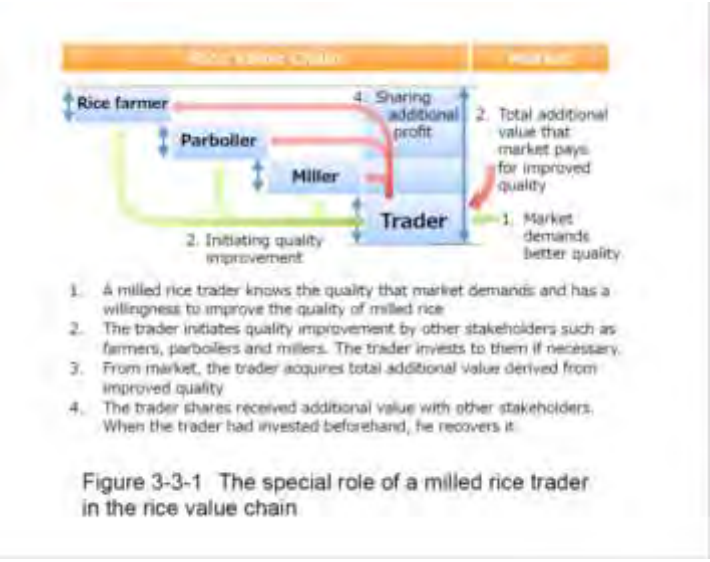


Figure 3-3-1 The special role of a milled rice trader in the rice value chain

Rice traders could be solo traders as well as millers and parboilers at the same time. In any variation, a donor should understand the functions of the rice traders and targeting them is necessary for strengthening the rice value chain.

In a technical cooperation project to fortify the whole value chain, it is necessary during the designing phase to check whether the presumed beneficiaries face market demands and whether they regard the demands as a further business opportunity. Also a project designer needs to check whether the presumed beneficiaries have the financial capacity or potential to invest by themselves.

2) Training is not enough for producing outputs; supporting the problem-based approach for the individual situations of each innovator is also necessary.

In the original Project design, it was supposed that innovators would come out of those who decided to adopt the improved technology introduced at the training sessions after they discovered that the technology brings a higher quality of rice. Post-training activities were expected to be OJT such as supporting the processors and traders who would continue to innovate with the improved technology with their own initiatives. However, no one adopted the technology by themselves after the training. Therefore, the Project devised various solutions and approached the beneficiaries who had the possibility and proper conditions to become innovators.

First of all, occasions to use the technologies such as the false bottom and the de-stoner, which were introduced at the training courses, were provided. Most of the processors who tried out the technologies were able to observe the effects on the improvement of the rice quality, but they did not adopt them.

Most of the JICA technical assistant projects for technical transfer have the following logic: 1) training is conducted; 2) trainees acquire knowledge and technology; 3) they adopt the introduced technology; as a result 4) the effects of the technology result in an improvement in quality or quantity. RIPMAPP learned lessons from activities between ‘2) acquisition of knowledge and technology’ and ‘3) adoption of technology’ and the importance of assistance in achieving ‘4) effects’. The reasons why no one adopted the technology and achieved an improvement in their quality of rice soon after the training are issues of techniques and marketing, awareness of processors and traders, and the environmental and socio-cultural background as described in ‘Activity 4-4’ and ‘Activity 4-6’. The structure was explained in detail in 1) of the section 3.3 of this report as well. Post-training activities must be given extra importance to solve each issue and re-design the project to match external conditions that are out of anyone’s control.

B. Support requires self-investment

3) Because the profit of a small-scale business is small and unstable, self-investment for innovation takes time even when the required amount is small, and a donor or government should take measures to reduce the amount of payment through measures including subsidies when the required amount of investment is large.

RIPMAPP proposed a false bottom to solve the problem of dark coloured rice in milled rice. The performance of a false bottom in the technical context was good but beneficiaries who invested in the NGN 9,000 in Nasarawa State and the NGN 4,500 in Niger State did not increase rapidly. Many rice traders in Lafia, for instance, purchase approximately 700 bags of 110 kg paddy per year. Their total cash spent exceeds NGN 7 million. Why do they not invest in a false bottom whose cost is less than 0.1% of their annual expenditures? According to the observations and opinions of C/Ps, the possible reasons are as follows: (1) profit is very small or extremely unstable because of the fluctuations in the prices of paddy and milled rice; and (2) it is difficult to accumulate a small profit without bookkeeping. In short, they are very wary of taking risks through investment.

However, a false bottom was relatively cheap and adopters increased gradually after the first runners, the so-called innovators, adopted them through self-investment. In Niger State, parboilers who asked the Project to sell them a false bottom which was fabricated for trial use increased. The lesson that the Project learned from this experience was that a new technology with small investment risk takes a certain period of time to spread.

By contrast, the de-stoner that can solve the problem of stones perfectly is expensive, costing more than NGN 600,000, and almost no one in the Project's beneficiary groups could invest in a de-stoner on their own. Thus when a project needs to introduce new technology that requires a high level of investment, substantial payments should be alleviated through subsidies or equivalent measures.

In RIPMAPP package printing, the minimum number of a printing lot was 20,000 bags. This required a high investment. A good appearance for the products was necessary to compete with packaged rice which was imported or produced by integrated large-scale rice mills. The Project covered all of the initial printing costs because this amount was far above the capacity of the target beneficiaries. A donor or government can and should cover the initial costs but ask the beneficiaries to save an actual cost per bag gradually to be able to print them again on their own.

4) Innovator support for business modelling needs to start after gaining enough experience with new technology and begin developing the market.

The period for the trial use of equipment must be arranged so that potential innovators have adequate time to acquire the techniques needed to use the improved technology and establish a structure for stable processing before they make a decision to invest with their own funds. It also has to be affirmed that the improved quality rice will be accepted by the markets with its added value as compared with previous lower quality rice.

RIPMAPP provided the trainees several occasions for the trial use of the false bottom and the de-stoners extensively for a short period of time and then started at the end of 2014 charging for the use of the de-stoner for a longer period to process and to sell packaged rice after analysing reactions from the trial. This was because the Project believed that this processing and sales of packaged rice would be profitable and become a business model. However, issues such as technical challenges to achieve the production of high-quality rice, lower sales prices than expected, and difficulties with access to quality varieties of paddy disturbed the sales of packaged rice as was initially planned. Most notably, it took a long time for the innovators in Nasarawa State to improve the quality of packaged rice because of difficulties in purchasing good varieties of paddy, maintaining a uniform quality of rice by using a large parboiling drum, and developing new customers, all of which brought a delay of payments. As a result, the innovators of Nasarawa gave up using the de-stoners by halting payments and had to return the equipment to the Project. Although the innovators of Niger State performed

better compared with Nasarawa, the sales of packaged rice were less than originally planned and the payment amount was less than what was agreed upon.

As mentioned above, the trial period of two weeks for the false bottom parboiler and the de-stoner was too short to grasp the reaction from the market toward the packaged quality rice although the trial users saw the effects of the technology in the improvement of their rice quality. The Project verified only on paper the possibilities that the adoption of the equipment would bring profits. The Project did not find causes that would disturb stable processing and sales of packaged rice that were discussed in the sections on Activity 4-4 and Activity 4-6.

The results might have been different if the ability to produce the proper amount of yield, and issues on the practical business side of packaged quality rice were assessed over a longer trial period using the equipment before starting the payment scheme. It would have been better to make a decision on the scheme for innovator support for modelling the business of packaged rice based on the results of a longer no-cost trial period targeting selected processors and traders after the short trial period.

C. Competition and coexistence with large enterprises

5) Target quality and prices set by small-scale producers supported by an ODA project should be able to compete with products produced by large-scale companies

Because of the development of transportation and communication, products by large-scale companies are penetrating rural areas in developing countries. Products that are produced by small-scale producers and supported by donor or governmental projects are forced to compete with products produced by large-scale companies. Therefore, the target level for quality and prices must be determined considering the influence of products brought in by large-scale companies in the target areas.

In RIPMAPP, stone contamination and whiteness were major issues to address. Stones in paddy are regarded as the most serious problem in Nigeria because stone-contaminated domestic rice requires housewives to remove the stones by hand one by one before cooking. When a Japanese expert asked Nigerian women whether they purchase stone-free rice with dark colour, their answer was ‘No’. This was because imported rice and domestic rice produced by large-scale mills were whiter and stone-free and these products are spreading even in rural areas and rural consumers had already become aware of them. Thus it was already common knowledge among rural people that stone-free rice is also whiter. As a result, RIPMAPP decided to strive to not only eliminate stones but also make the rice whiter through improved parboiling technologies.

As explained in Lesson No.7, a project can have an approach in which beneficiaries do not produce end products. However, even when they produce interim products, it is necessary to determine the level of improvement by checking the impact of the products produced by a large-scale company.

The quality and price of large-scale company products can be realized through mass production and it is difficult for small-scale producers to achieve the same level of quality. However, small-scale producers should try to reduce costs as much as possible first and check the possibility of realizing higher quality through small-scale production.

Because rice is a staple food, it might be difficult to differentiate small-scale production lines. However, in the case of agricultural products with high levels of preference for speciality items such as coffee, tea, spices, nuts, fruits and their processed products including health foods and cosmetic products, it has been proven possible to produce special quality products through small-scale production. In the case of vegetables, off-peak production through rain-preventing cultivation or reduced sunlight production could add values to products.

6) Although small-scale processors have limitations in their ability to improve the quality of their milled rice, they have a chance to find their own market between the one for rice processed by large-scale milling factories and the one for ordinary local rice.

Through the innovator support, it was found that eliminating black or coloured grains and giving a shine to the grains was a difficult task for small-scale processors, although they could improve the colour of the grains using the improved parboiling technology and remove the stones using the de-stoners. The small-scale processors still had limitations in improving the quality of their milled rice and it was difficult for them to obtain the same quality as the one of rice produced by the large-scale milling factories that are equipped with colour sorters and high-performance milling machines. However, the market survey conducted during innovator support showed that consumers were willing to buy stone-free rice at a better price even if it contained black or coloured grains.

The innovators in Niger State practiced adjusting grain colour to the consumers' preference by using the improved parboiling technology, removing stones with the de-stoner and removing bits of coloured grain by hand, and were able to sell their product at a much higher price than the ordinary poor-quality rice, although it did not reach the price of the rice from the large-scale milling factories. In other words, in a niche between the market for rice produced by large-scale milling factories equipped with modern machinery and the market for ordinary local rice, the new market for quality rice produced by small-scale processors was developed.

D. Narrowing activities and external factors

7) There is another innovation approach in which a project limits activities within a scope where small-scale producers can afford to implement them on the basis of their financial, technical and marketing capacity.

As explained in '5)' above, small-scale producers are forced to compete with large-scale companies that can realize mass production with minimized production costs. In RIPMAPP, as 'whiter and stone-free milled rice' were the characteristics of the large-scale companies' products, small-scale producers are forced to compete at the same standards and they must improve their rice standards to 'whiter and stone-free rice'. 'Whiter' can be achieved with a false bottom but 'stone-free' is not easy to realize because of the high price of a de-stoner. Moreover, because the quality of the printed package by large-scale companies is very high, small-scale producers also needed to pack their rice into fancy bags.

In this case, there is another approach. For example, because 'whiter' can be realized through their own investment, a project supports the beneficiaries until they achieve whiter milled rice production. Then the whiter milled rice with stones is sold to finishers that have a de-stoner to finish the products and package them for the retail market. In RIPMAPP, it was difficult to find such finishers in Nigeria, but there are similar finishers in Asian countries. Governmental projects might also be able to cover this part.

8) The project framework should be designed not to exclude any bottleneck on the value chain.

If paddy, the raw material for milling process, is mixed with different varieties or damaged grains, the end product of the process will also be mixed with them, and its overall commercial value will decrease unless the impurities are removed by a colour sorting machine or other means.

The Project aimed to improve the quality of the rice and achieved this goal through introducing better parboiling and milling technologies and a de-stoner machine. However, the innovators in Lafia in Nasarawa State could not find good local paddy suitable for producing Grade A rice. As a result, they had to get good paddy from Kano which is 600 km away from Lafia. In Bida, Niger State, the innovators were able to obtain paddy of credible quality locally, but they still had to remove the damaged grains from the milled rice by hand.

An important assumption in the PDM of the Project is that 'Sufficient quantity of quality rice seeds are provided to farmers'. This assumption was not fulfilled, and the Project faced difficulty in trying to obtain good paddy. In December 2012, the Japanese expert team proposed to dispatch an expert on rice cultivation, but eventually decided not to do so because the issue is too big to be solved by the despatch of a short-term expert. The JICA Nigeria Office also helped address this issue by sending extension officers of both states to the rice cultivation training courses in Uganda in December 2012 and February 2013 and the follow-up training in September 2014 in both states. However, the assumption was still not fulfilled. If good paddy was easily obtained, the innovators would have produced better-quality milled rice with less difficulty.

Thus it is fair to say that, if there is a bottleneck in trying to achieve the Project Purpose in the value chain but out of the project framework, the effectiveness of the project is limited. Therefore, even if a project focuses on the improvement of a particular technology in a value chain, it is necessary to study whether there is a bottleneck outside the scope of the project in the value chain. The project framework should be flexible and be adjusted when a bottleneck is found.

9) Analyse components for achieving the Project Purpose and set up realistic indicators by the time of the mid-term evaluation.

While rice satisfying Grade A needs to go through the de-stoner as mentioned above, the Project set the quantity of Grade A (High quality rice) produced as one of the indicators for the Project Purpose. At the mid-term evaluation, it was pointed out that it is not easy to disseminate de-stoners. If the elements satisfying Grade A had been analysed and realistic indicators according to the degree of difficulty of each element had been set, it would have been possible to carry out evaluation that captured the status more accurately.

E. Development of appropriate technology and its dissemination

10) The five factors of innovation in the theory of "Diffusion of innovation" developed by Everett Rogers can help in selecting the appropriate technology and the methods used to disseminate it.

The Project proposed technologies that were suitable to the targeted beneficiaries based on the situation survey done at the beginning, and examined the proposed technologies through a follow-up by training sessions and innovator support, then adjusted the technologies so that they would be acceptable to the beneficiaries. As a result, as mentioned in '4.2.3 Technology transfer and dissemination', the sand-casted aluminium false bottom introduced by the Project were widely accepted by the beneficiaries.

The theory of 'Diffusion of innovation' developed by Everett Rogers defines the following five intrinsic characteristics of innovation.

Factor	Definition
Relative Advantage	The extent to which an innovation is improved over the previous generation.
Compatibility	The level of compatibility that an innovation must have in order to be assimilated into an individual's life.
Complexity or Simplicity	If the innovation is too difficult to use, an individual will not likely adopt it.
Triability	How easily an innovation may be experimented with as it is being adopted. If a user has a hard time using and trying an innovation, this individual will be less likely to adopt it.
Observability	The extent to which an innovation is visible to others. An innovation that is more visible will drive communication among the individual's peers and personal networks and will in turn create more positive or negative reactions.

The false bottom satisfies the above five characteristics because 1) it is simple and easy to use (satisfying relative advantage, compatibility, simplicity and friability), 2) it is durable (satisfying relative advantage and compatibility), 3) it is easily manufactured by local sand-casting shops making traditional pots (satisfying relative advantage and simplicity), 4) its cost is affordable for the

beneficiaries (satisfying relative advantage and compatibility), and 5) the Project provided trial use (satisfying triability and observability).

These results suggest that it would be possible to introduce a new technology smoothly if it were examined with regard to the five characteristics above as well as with other factors on technical diffusion.

11) Based on the concepts introduced, modifying the technology to be flexible to adapt to local conditions is the key to succeed in ODA projects.

The RIPMAPP false bottom in Niger State adapted almost perfectly to the present Nigerian rural socio-economy but the iron-made false bottom in Lafia was not accepted because of the difficulty in handling it and its low durability. Instead, the Lafia Association invented the chaff base. It is better than the iron-made false bottom because the chaff base was 1) inexpensive, 2) had no durability problem because it is only used once or a couple of times at most, and 3) had no handling problems. The chaff base matches perfectly the concept of 'Separating water and paddy' introduced by RIPMAPP.

The chaff base is a new invention by Nigerian processors based on a basic concept that the Japanese experts introduced. 'Technology transfer' is a common term in ODA projects, but an introduced technology does not always take root in exactly the same way as it is introduced. It is fair to say that the key to succeed is the ability to modify the technology to adapt it to local conditions while respecting the concept introduced.

F. Financing small- and medium-scale businesses

12) An independent financial service scheme prepared by the project needs to be provided when existing services do not suit the needs of the small-scale business people.

It is difficult for small-scale processors and traders to prepare funds by themselves for investments in expensive equipment such as a de-stoner as described in 'B.3)'. Though loan services provided by commercial banks and micro finance institutions are common, no services matching the needs of the innovators targeted by RIPMAPP were found. One of the reasons for this is that loan services providing bigger amounts have stringent conditions for saving, collateral real estate and a guarantor, all of which are difficult for small-scale business people to fulfil. The rice business is low-margin while the typical loan interest rate is more than 20%. In microfinance, the loan period is short and the maximum loan amount is too limited to purchase a de-stoner. RIPMAPP surveyed and analysed the financial services of Nigeria, and found that the services were not used for the innovators.

In Nigeria, a loan service period longer than one year for agribusiness is rare. To solve this issue, the Ministry of Agriculture in Niger State provided its own financial service that met the needs of agribusiness. The ministry provided this service on a pilot basis to improve the conditions for loans and monitoring and tried to increase the target beneficiaries. However, RIPMAPP did not use this service because it did not meet RIPMAPP's needs. If existing financial services do not meet the needs of project beneficiaries, then the implementing agency of the project should design and provide financial services to the beneficiaries.

G. Necessary time to grasp real situation

13) It is necessary to take a certain amount of time using various analytical methods in order to grasp the status of an organization and the stakeholders, taking into consideration any possible difficulties.

During the process of innovator support activities, new information emerged often and contradicted previous one although the Project had conducted baseline surveys and the Japanese experts and C/Ps had interviewed potential beneficiaries such as the processors, traders and stakeholders and visited the processing sites and markets in order to grasp the situation fully and accurately.

Here are the three reasons for this gap. The first one is that many processors and traders themselves do not understand their own business scale and status correctly. They do not record their business activities in an account book and manage their daily business in a loose manner with cash in hand. The innovators supported by RIPMAPP were unable to calculate their revenues precisely.

The second reason is that the interviewees provided information mixing ideal situations with the actual status. This became obvious during institutional analysis. They provided an idealized situation for a few things, such as the rules and the system, mixed with experiences in the past which were better than the current situation. Also, their actual status seemed to be confused when they provided information to the Project.

Lastly, the beneficiaries provided the Project sometimes with incorrect information on purpose. When they had high expectations on the Project, they tended to answer questions in ways that they felt were favourable to them. They may also have misrepresented the information without knowing what would truly benefit them.

Based on the above, RIPMAPP learned the following lessons to solve issues in surveys and data gathering.

First of all, it is necessary to implement observations and collect information repeatedly while being aware of the difficulties of proper information gathering. For example, even during the peak season for paddy after harvesting in Lafia, the Project team noticed inactive business movement and began to question the existing data on processing and sales volume.

The next possible solution was the application of analytical methods such as institutional analysis and stakeholder analysis on the value chain. RIPMAPP applied those tools not at the beginning of the Project but after it had implemented activities for a while. It was possible to obtain concrete information in participatory workshops for stakeholder analysis and institutional analysis directly because RIPMAPP had in advance the basic information on the target organization and beneficiaries.

Thus, it takes a certain amount of time to assess what is really happening on the ground. As mentioned in '4)', it is better to have a longer trial period for potential innovators in order to understand their business situation and socio-cultural background accurately before selecting the innovators for support.

14）When designing a revolving fund, it is necessary to consider risks that the fund may become unrecoverable

In RIPMAPP, innovators could neither secure funds to purchase a de-stoner nor use bank loan schemes. As a result, the Project adopted a revolving fund scheme and offered a de-stoner in return for periodic re-payment to purchase a new de-stoner after recovering the initial cost.

RIPMAPP had no choice but take this approach because small-scale rice traders with limited resources had no other way to introduce a de-stoner. However, innovators in Niger State had not finished their repayment scheme at the end of the Project, and the Project understood that the loan for innovators in Nasarawa State was uncollectible.

This is primarily because the innovators in Niger State did not reach full-scale production of improved milled rice, which is the source of repayment. However, external factors such as a steep rise in the paddy price due to crop failure may also cause an unrecoverable loan. The duration of RIPMAPP saw an increasing demand for the domestic rice and escalating paddy price due to such as an increase in the custom duty for imported rice. Further, the sharp depreciation of the Nigerian Naira resulted in the higher price of a de-stoner and made it difficult for parboilers to purchase a new de-stoner even if repayment were done as planned.

It is impossible to avoid those risks completely because they are beyond the control of any project. However, it is recommended to minimize a possible negative impact by being ready for them. For

instance, to prevent a scheme from ending abruptly without being completed because of an external factor, it would be worthwhile to set a shorter repayment period and reduce the burden of a beneficiary through a subsidy while taking measures to avoid a moral hazard.

H. Activities that consider the budget disbursement situation of the C/P organization

15) It is necessary to consider how best to invite C/Ps to take part in activities and share information with them in view of the budget situation of their organizations, which is the cornerstone of activities.

RIPMAPP had three C/P organizations. One of them is the Agribusiness and Marketing Department (ABM) of the Federal Ministry of Agriculture and Rural Development. ABM personnel took part in the activities of RIPMAPP (Outputs 1, 2, 3, and 4), especially conducting surveys on rice post-harvest technology and marketing, providing lectures to ADP personnel during the Training of Trainers (TOT) in Nasarawa and Niger states, and planning beneficiary training for the two states.

As for the activities on Output 4, the ABM personnel rarely took part in the innovator support in the two states because of lack of disbursement of travel allowances from the federal government. Their understanding of the progress of innovator support was poor because information sharing by the Japanese experts with the ABM personnel on the progress was insufficient.

Meanwhile, individual ABM personnel strived to implement activities for the Outputs 1, 2, and 3 by using their own resources to cover the cost of the travel to the two states while waiting for the disbursement of a budget from the government. The Japanese experts told the ABM Director about the difficult situation of the ABM personnel who had no travel allowance and asked him to disburse a budget to cover the allowance. A few Joint Coordination Committee (JCC) meetings cited disbursement of the ABM's travel allowance. In addition, JICA's mid-term review report recommended providing the allowance. However, the federal government of Nigeria took no action on this matter.

Therefore, before Japan and a recipient country agree on the framework of a project, it is necessary to form project activities while grasping the status of the C/P organization at the planning stage. Moreover, if C/Ps of the recipient country's government cannot participate in activities in rural areas because of lack of disbursement of a travel allowance, JICA experts must fully share with them the progress of activities in the project areas right after the activities.

4. Extent of Achievement of the Project Purpose

In cooperation with all the C/P organizations, RIPMAPP carried out the end-line survey in February 2016 to verify the prospects for achieving the Project Purpose. The methods and results of the survey are as follows.

(1) Methods of the survey
RIPMAPP carried out a sample survey to predict the quantity of rice handled by the rice traders of the relevant groups in the target areas.

The targets of the survey were set as the RIPMAPP training participants as well as the beneficiaries of the trial for the false bottom and the de-stoner. The following numbers of targets were randomly selected: 29 from the Lafia association of Nasarawa state; 18 from the Taimako/Haske association of Niger State; and 27 from rural areas of Niger State. Then, the sample survey was conducted.

The RIPMAPP C/P conducted a phone interview with each target of the survey and found the quantity of rice produced per week since the start of the peak season of the target year. From the results, RIPMAPP calculated the total quantity of rice that could be produced during the peak season. RIPMAPP also calculated the total quantity of rice that could be produced by all the targets of the survey. By dividing the total quantity by the number of samples, the quantity of rice that could be handled by a target in the peak season was given. The quantity was multiplied by the number of the

total targets, and the total quantity of rice handled by rice traders of the target groups in the target areas was finally calculated.

The peak season is different between Nasarawa and Niger states. According to the C/Ps and beneficiaries, the peak season of 2015–2016 in Nasarawa State was from October-November to February-March while that of Niger State was from November-December to April-May. Therefore, the Project estimated that the peak season of Nasarawa State would last 20 weeks while the one of Niger State would be for 23 weeks.

The amount of Grade A traded is predicted from the diffusion rates of de-stoners and false bottoms.

(2) Criterion for indicators
Under normal business circumstances, the criterion for the indicators 1 and 2, i.e. 'Domestic rice satisfying the Grade A level of Rice Grade Standards is developed by the Project', shall be judged by the C/P organizations that would collate any given rice with the rice grade standards set by the Project. However, it was a phone interview and it is not possible to apply this method to rice that is not there. Therefore, the Project decided to consider that the rice satisfied the Grade A standards if 1) the rice is parboiled with the false bottom, and 2) the rice parboiled using the false bottom has gone through the de-stoner, both of which are the technologies recommended by RIPMAPP.

(3) Adoption ratio of false bottom for parboiling
In Lafia in Nasarawa State, as mentioned earlier, most of the rice processors are adopting the chaff base instead of the false bottom recommended by the Project. According to Nasarawa ADP, the chaff base may be effective on improving the quality of rice. However, no experimental verification has been performed so far. Therefore, the adoption rate of the false bottom recommended by the Project is used to verify the tool's effect on improving the quality of rice.

Thirty false bottoms for the big drum recommended by the Project had been purchased. Dividing 30 by 80, i.e. the number of participants in parboiling training, gives 38%. Thus, 38% of the rice processors have used the false bottom and parboiled paddy at least once. As reported on page 39, the false bottom would get rusted and need to be replaced in about three months. However, the false bottom may be currently not in use because no rice processor replaced the false bottom.

By contrast, people do not use the chaff base as the false bottom in Niger State. Therefore, the adoption ratio of the false bottom is equal to the one of the false bottom made of aluminium developed by the Project. Currently, the target groups use 79 false bottoms[34] while the number of the RIPMAPP training participants is 380. 79 divided by 380 equals 21%, which is the adoption ratio of the false bottom by the target groups.

(4) The adoption ratio of the de-stoners for de-stoning rice parboiled with the false bottom
The total quantity of rice handled by rice traders of the target groups in the target areas was calculated by the expected quantity of rice traded by the RIPMAPP training participants during the peak season between the end of 2015 and early 2016.

Table 4-1 shows the results of the sample survey.

[34] It is predicted that the 79 false bottoms purchased in the pilot areas are still in use for the following reasons: a false bottom costs money; a false bottom made of aluminium is durable and can be used almost permanently; and rice parboiled using the false bottom is sold at a higher price than one without using the false bottom. It should be noted that the actual number of users of the false bottom may be more than 79 because it has been reported that more than one parboiler is reportedly using a single false bottom.

Table 4-1: Results of sample survey

State	Nasarawa		Niger			
Target Group	Lafia Association		Taimako/Haske Association		Rural areas	
No. of Targets	196		161		380	
Products	Rice/week (kg)	Sub-total of the peak season(20W)(kg)	Rice/week (kg)	Sub-total of the peak season (23W) (kg)	Rice/week (kg)	Sub-total of the peak season (23W) (kg)
Sample 1	2,000	40,000	15,000	345,000	225	5,175
Sample 2	24,000	480,000	18,750	431,250	360	8,280
Sample 3	2,400	48,000	525	12,075	270	6,210
Sample 4	2,000	40,000	2,250	51,750	360	8,280
Sample 5	2,000	40,000	7,500	172,500	225	5,175
Sample 6	2,000	40,000	2,500	57,500	225	5,175
Sample 7	2,000	40,000	12,000	276,000	270	6,210
Sample 8	2,000	40,000	9,600	220,800	225	5,175
Sample 9	2,000	40,000	16,000	368,000	225	5,175
Sample 10	2,000	40,000	4,000	92,000	450	10,350
Sample 11	2,000	40,000	30,000	690,000	135	3,105
Sample 12	2,000	40,000	2,000	46,000	180	4,140
Sample 13	2,000	40,000	11,250	258,750	270	6,210
Sample 14	2,000	40,000	15,000	345,000	225	5,175
Sample 15			15,000	345,000	315	7,245
Sample 16	2,000	40,000	22,500	517,500	450	10,350
Sample 17	2,000	40,000	11,250	258,750	900	20,700
Sample 18	2,000	40,000	15,000	345,000	900	20,700
Sample 19	2,000	40,000			450	10,350
Sample 20	2,000	40,000			360	8,280
Sample 21	2,000	40,000			495	11,385
Sample 22	2,000	40,000			450	10,350
Sample 23	2,000	40,000			450	10,350
Sample 24	2,000	40,000			450	10,350
Sample 25	18,000	360,000			450	10,350
Sample 26	8,000	160,000			315	7,245
Sample 27	8,000	160,000			360	8,280
Sample 28	2,000	40,000				
Sample 29	8,000	160,000				
Sample 30	4,500	90,000				
Total of the samples (kg)		2,338,000		4,832,875		229,770
The Average of samples (kg)		80,621		268,493		8,510
Total quantity of rice produced by the target groups in the peak season（t）		15,800		43,200		3,200

Based on the results of the sample survey, the prospective total quantities of rice handled by the targets of RIPMAPP are as follows.

1) Lafia association, Nasarawa State: 15,800 t
2) Taimako/Haske association, Niger State: 43,200 t
3) Rural areas of Niger State: 3,200 t

The 'domestic rice satisfying Grade A' handled by the target groups is calculated as follows.

1) Domestic rice satisfying Grade A: Adoption ratio of the false bottom (made of chaff) × Capacity of the de-stoner/h × Running hours/day × No. of de-stoners × Working days/week × No. of weeks/ this peak season

= 0.38[35] × 250 kg × 1 hour × 3 pcs[36] × 5 days × 20 weeks =28.1 t

2) The Taimako/Haske association, Niger State: The quantity of rice which the chairman of the Taimako association believed could be produced during this peak season (Total quantity of rice produced for 2 November 2015–31 January 2016 (12 weeks) + anticipated quantity of rice produced for 15 February–2 May 2016 (11 weeks)

=2,050 kg + (75 kg/bag × 12 bags/w × 0.6% × 11 weeks)=8 t

3) Rural areas of Niger State: The anticipated quantity of rice which could be produced by the Awomana women group during the peak season (Total quantity of rice produced for 2 November 2015–31 January 2016 (12 weeks) + anticipated quantity of rice produced for 1 February–18 April 2016 (11 weeks))

=3,945 kg + (3,945 kg / 12 w×11w) =7.6 t

From these results, the ratio of domestic rice satisfying Grade A which is handled by the target groups is calculated as follows.

1) Lafia association, Nasarawa State: 28.1 t/15,800 t = 0.17% (Reference value)
2) Taimako/Haske association, Niger State: 8 t/43,200 t=0.02%
3) Rural areas of Niger State: 7.6 t/3,200 t= 0.23%

(5) Prospects for achieving the Project Purpose

The Project Purpose has not been achieved because the amount of Grade A rice traded has not reached 2.5%, which is the indicator for the Project Purpose in every target area[37].

However, with regard to the false bottom, the adoption ratio is very high. The adoption ratio in Nasarawa State currently reaches 80%; in Niger State, it is 21%. It has exceeded the tipping point (16%)[38] and is at the brink of an escalation in the adoption.

[35] As discussed on page 70, the percentage of beneficiaries who used the false bottom is temporarily used here as adoption ration as of February 2016 is unknown. Therefore, the amount of Grade A rice traded by the Lafia Association serves as reference value.

[36] Three de-stoners were provided under the innovator support and the beneficiaries were carrying out the custom de-stoning. The three de-stoners have been returned to the Project as of February 2016 while additional de-stoners are going to be provided by the Japanese Embassy through Grant Assistance for Grassroots Projects (GGP). Thereby, the beneficiaries are expected to continue the custom de-stoning service.

[37] The achievement level of the Indicator 2 for the Project Purpose was surveyed during the terminal evaluation. According to the terminal evaluation report, the Lafia association in Nasarawa state, the Taimako/Haske association, and the rural areas in Niger state achieved 0.0%, 2.8% and 0.3%, respectively. These results showed better performance than the result of this survey. A review of the integration bases revealed that the calculation formula used in the survey at the point and this time were different. During the terminal evaluation survey, the average amount of traded rice per a rice processor was calculated from the sample survey, and the final value for the indicator was calculated by dividing by the average mount the amount of traded rice by a package rice producer. When the amount of traded rice by a package rice producer was calculated, the number of people related to the package rice production was used instead of the number of all beneficiaries. Thereby, the calculation results were not the ones intended. Here are the accurate data: the Lafia association in Nasarawa state, the Taimako/Haske association in Niger state, and the rural areas in Niger state achieved 0.0%, 0.017% and 0.016%, respectively

[38] The theory of diffusion of innovation states that, once the rate of diffusion reaches 16.0%, which is called the tipping point, the rate of diffusion shall drastically and continuously increase.

As the market demand analysis in Activity 1-2 reveals, the following are the important factors for consumers in judging the quality of rice: 1) being stone-free; 2) bright colour of rice; 3) high ratio of unbroken rice, 4) being red- and black- rice-free.

The factor 4) is controlled during the cultivation, which is an external factor, while the factors 1), 2) and 3) need to be achieved by the Project. Therefore, it is reasonable to use 1), 2) and 3) as conditions to be Grade A.

While the de-stoner is essential for removing stones completely, it is not easy for the small rice processors to purchase it. It was pointed out during the mid-term evaluation that it is necessary to carry out an intervention to make easier an investment in the de-stoner. The innovator support implemented in the latter part of the Project revealed more clearly that it would not be easy to disseminate the de-stoner without a generous subsidy.

By contrast, the improved parboiling technologies including the false bottom are effective in tackling the factors 2) and 3) and relatively inexpensive. Therefore, the false bottom has been widely disseminated. It has improved the quality of rice to some extent, increased the value and price of rice.

It is fair to say that the dissemination of the false bottom in Nasarawa State has been completed.

Because the quality of rice has improved and the value of the rice has increased through the use of the false bottom, it is recommended that the adoption ratio of the false bottom be taken into account in considering the prospects for achieving the Project Purpose. While the indicators set in the earlier stages of the Project do not capture these aspects, the quality of domestic rice handled by the target groups in the target areas is showing tangible improvement.

5. Recommendations to Achieve the Overall Goal

The Overall Goal of the Project is 'The quality of domestic rice is improved in the target states'. In the final Workshop of the Project, ADPs from the two states presented RIPMAPP technology dissemination plans in the states to achieve the Overall Goal. Those plans shall be realized by the ADPs. The following are recommendations for the states to help achieve the Overall Goal.

For Nasarawa State

Effective use of de-stoners granted by the Embassy of Japan
In March 2016, the Embassy of Japan in Nigeria donated 27 de-stoners to the NADP. De-stoning is a major issue for improving the quality of local rice, but de-stoners are not used much because of their high cost. If the donated de-stoners can be fully used, they would contribute a great deal to improving the quality of rice produced by small-scale processers in the state. Therefore, the NADP together with the Lafia Millers Association should strive to manage the de-stoners properly and use them effectively.

Search for assistance from other donor agencies
The Project's experience indicates that it would be difficult to obtain enough budgetary funds from the state government to disseminate RIPMAPP technology throughout the state. The NADP should look for financial assistance from the federal government or development partners in addition to the state government.

Improvement in the quality of paddy
When innovators produced packaged rice, they had to get good paddy from Kano, which was far away. NADP should work harder to improve the locally produced paddy. For that purpose, NADP should implement activities including a seeds program and rice cultivation extension.

For Niger State

Cooperation with development partners

GIZ and IFAD have started providing assistance on the rice value chain, and are active in disseminating false bottoms in the state. In cooperation with those development partners, RIPMAPP technologies can be disseminated widely. The NAMDA should take initiative to enhance cooperation with these development partners.

Providing sand-casted aluminium false bottom at a lower price

Sand-casted aluminium false bottoms have been accepted by the beneficiaries and disseminated to such extent that they have reached the take-off point in the Rogers diffusion theory. To accelerate this dissemination, the state government should consider fabricating false bottoms using its own budget and provide them at a subsidized price.

Proposition of Objectively Verifiable Indicators for Overall Goal

The terminal evaluation report recommended reviewing the objectively verifiable indicators for the Overall Goal in the PDM. 'At least 2.5% of rice traders in the target States handle quality domestic rice satisfying the Grade A level of Rice Grade Standards developed by the Project' is the indicator of the Overall Goal in the present PDM. The result of the end-line survey revealed that the quality improvement contributed by the false bottoms does not appear as an achievement, if the achievement is evaluated by the rate of Grade A rice. According to the theory of 'Diffusion of Innovation', the adoption rate of 2.5% is the point of transforming innovators to early adopters, and the adoption rate of 16% is the take-off point for disseminating technology radically. The quality of parboiled milled rice rests on the improved parboiling technology and the use of a de-stoner. The difficulties in adopting these technologies vary. Considering these facts, the Japanese expert team proposes to change the indicator above in the following ways.

Indicator 1: At least 2.5% of local parboiled milled rice processed by small-scale millers and handled by traders in major rice growing areas of both states is de-stoned.

Indicator2: At least 16% of local parboiled milled rice processed by small-scale millers and handled by traders in major rice growing areas of both states is parboiled utilizing an improved method.

The same survey methods used for the end-line survey are proposed as a means for verifying the indicators, because the end-line survey proved that the extension officers of the NADP and the NAMDA were able to conduct a sampling survey by telephone. The extension officers who are engaged in the quality improvement of rice are expected to take 20 to 30 samples from small-scale millers cum traders or parboilers cum traders randomly from the locality that they are responsible for and ask them questions. The following are the prospective questions.

1	Name of the Interviewer	
2	Date	
3	Name of the Interviewee	
4	Organization that the Interviewee belongs to	
5	Telephone number of the Interviewee	
6	How much milled rice do you trade per week in this peak season?	( )bags of ( ) kg
7	When did this peak season start?	
8	Is the milled rice that you trade de-stoned?	Yes / No
9	Is the milled rice that you trade parboiled with the improved technology (using a false bottom)?	Yes / No

Attachments

Attachment1 PDM

PDM Ver. 3 (Latest Version)

(Appendix 1)

Changes from Ver.1 to Ver3	PDM Ver. 1	PDM Ver. 2	PDM Ver. 3	Reasons for change from Ver.2 to Ver.3
Overall Goal				
Overall Goal	Quality of domestic rice is improved, and the post-harvest loss rate is decreased in the target States.	Quality of domestic rice is improved in the target States.		
Objectively Verifiable Indicator of Overall Goal	- At least X tons of quality domestic rice satisfying X level grade standard developed by the Project is traded annually in target States. - X rice millers in the target States achieves milling recovery of 65% or over.	At least 2.5% of rice traders in the target States handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project.		
Mean of Verification of Overall Goal	Sampling from rice millers Interview to rice millers and traders	Survey of traders		
Project Purpose				
Project Purpose	Quality of domestic rice is improved, and the post-harvest loss rate is decreased in the target areas.	Quality of domestic rice is improved in the target areas.		
Indicator of Project Purpose	- At least X rice millers among the target groups in the target areas produce quality domestic rice satisfying X level grade standard developed by the Project. - X rice millers among the target groups in the target areas achieves milling recovery of 65% or over.	At least 2.5% of rice traders of the target groups in the target areas handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project.	- At least 2.5% of rice traders of the target groups in the target areas handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project. - At least 2.5% of total quantity of rice handled by rice traders of the target groups in the target areas is Grade A level of Rice Grade Standard developed by the Project.	It is expected not only the number of rice traders but also the amount of domestic quality rice is actually increased in target areas. In this context, current indicator is not sufficient to measure the achievement level of project purpose.
Mean of Verification of Project Purpose	Sampling from rice millers Interview to rice millers and traders	Survey of traders		
Outputs				
Output 3		Capacity of ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced.	Capacity of APM and ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced.	✓ The Overall Goal is "Quality of domestic rice is improved <u>in the target States.</u> " Therefore, it is not logical to include an output in non-targeted states on PDM. ✓ On the other hand, expansion of the training programs under the initiative of Nigerian side is highly
Output 5	12	Training programs for non-targeted ADP staff regarding post-harvest, marketing and business management are commenced.	---- (Delete)	

Changes from Ver.1 to Ver3	PDM Ver. 1	PDM Ver. 2	PDM Ver. 3	Reasons for change from Ver.2 to Ver.3
				recommended. In this context, it is more appropriate to regard that "training programs for non-targeted ADP staff regarding post-harvest, marketing and business management" is included as Output 3. It is suggested capacity development of APM staff is implemented through On the Job Training (OJT) at the time of training to ADP. Knowledge and experience are supposed to be shared with other states appropriately by APM who attended this OJT.
Indicator of Output 3	Results of capacity improvement evaluation of the ADP staff are X level.	Average score of capacity level of ADP staff of the both target ADPs evaluated by use of evaluation sheet is more than 3.		
Indicator of Output 4	4-1 Results of capacity improvement evaluation of the training participants are X level.	4-1 Each average score of post-test of small-scale millers, parboilers, rice farmers and traders after training is more than target score which is set for the each beneficiary group.		
	4-2 X% of the participants adopts introduced technologies.	4-2 10% of the participants take actions to adopt introduced technologies.		
	4-3 X% of the participants takes actions to adopt introduced technologies.	4-3 2.5% of the participants adopt introduced technologies.		
Means of Verification of Output 3	Results of capacity assessment	Results of capacity assessment by use of evaluation sheet		

Attachment 2. Flow chart of activities

Stage		Stage 1	Stage 2	Stage 3	Stage 4
		Survey and preparation	Training and technology transfer in Lafia	Training and technology transfer in Bida	Technology dissemination
		Sep 2011- Apr 2012	May 2012 - Apr 2013	May 2013 - April 2014	May 2014 - May 2016
Output 1	Measures to promote distribution of high-quality domestic rice are identified	Rice distribution survey	Improvement activities in Lafia	Improvement activities and Innovator support in Lafia Improvement activities in Bida	
Output 2	Rice grading standards for domestic rice are developed and improved	Rice quality survey	Development of Grading standard	Proposition of Trial use activities	
Output 3	Capacity of ADP staff regarding training implementation on marketing, post-harvest processing, and business management is enhanced.		Training for ADP Nasarawa Training for beneficiaries of Lafia	Training for NAMDA Niger Set up Incubation plant in Lafia	Training for NAMDA Niger Set up incubation plant in
Output 4	Capacity of small-scale rice millers, parboilers, rice farmers and traders in post-harvest processing, marketing and business management is enhanced.			Innovator support in Lafia Training for beneficiaries of Lafia and Bida including incubation plant	Innovator support in Bida

Attachment 3. Plan and Actual Implementation of Operation

(Appendix 2)

Attachment 4. Results of Personnel Dispatch

(Appendix 3-1, 2, 3)

Attachment 5. Training in Japan[39]

Name	Period of Participation	Field/Name of the Course	Content	Implementing Institution	Position at that time	Current Position, Date of turnover
Jatto Ohiare Badams	22 Oct.– 2 Nov. 2012	High Level Counterparts Training for Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States (RIPMAPP), Nigeria	Observation and discussion of post-harvest technology and small and medium scale processing firms in Japan	JICA	Acting Director, Agro-Processing & Marketing, the Federal Ministry of Agriculture and Rural Development (FMARD)	Director, Agri-business and Marketing Department (ABM), FMARD
Dachor Naphtali Jarumi	22 Oct.–2 Nov. 2012	High Level Counterparts Training for RIPMAPP, Nigeria	Observation and discussion of post-harvest technology and small and medium scale processing firms in Japan	JICA	Programme Manager, Nasarawa Agriculture Development Program (ADP)	Permanent Secretary, Ministry of Sports and Youth, Nasarawa State
Balarabe Abubakar Sadeeq	22 Oct.–2 Nov. 2012	High Level Counterparts Training for RIPMAPP, Nigeria	Observation and discussion of post-harvest technology and small and medium scale processing firms in Japan	JICA	Acting Programme Manager, Niger state Agricultural Mechanization Development Agency (NAMDA)	Left the office

[39] The following are neither a counterpart of RIPMAPP nor dispatched by the RIPMAPP budget.
1) 2011 'Post-Harvest Rice Processing for English Speaking African Countries' ABM 1
2) 2012 'Post-Harvest Rice Processing for English Speaking African Countries' 3 (ABM, NADP, NAMDA)
3) 3–8 Dec. 2012 'Rice Production Course of PriDe in Uganda' NADP 10, NAMDA 10
4) 4–22 Feb. 2013 'Rice Research Course of PriDe in Uganda' NADP 5, NAMDA 5

Suleiman Hussani Kpange	2 Dec. 2012–10 Oct. 2013	Fabrication of Agricultural Machine for Small Scale farmers	To upgrade the ability of participants on basic knowledge and technology needed for manufacturing farm machinery	JICA	Assistant Chief Technical Officer- Agriculture, NADMA	Assistant Chief Technical Officer- Agriculture, NADMA
B.Usman	14 Aug. –28 Sep. 2013	Rice-postharvest processing for English Speaking African Countries at Yamagata University	To Provide field agricultural Extension officers with practical knowledge and techniques to determine the optimum days to Harvest rice and carry out post-harvest rice processing.	JICA	Senior Agic. Engineer, Quality Control, APM	Senior Agric. Engineer, Quality Control, ABM
Awal Umar A.	14 Aug. –28 Sep. 2013	Rice-postharvest processing for English Speaking African Countries at Yamagata University	To Provide field agricultural Extension officers with practical knowledge and techniques to determine the optimum days to Harvest rice and carry out post-harvest rice processing.	JICA	Agro-Processing Officer, Technical Service, Nasarawa ADP	Agro-Processing Officer, Technical Service, Nasarawa ADP
Suleiman Anyu	14 Oct. –27 Nov. 2013	Implementation and promotion of Agribusiness for African countries	Clarifying Produced of Processed Agricultural Products in the field of marketing, distribution and value addition	JICA	Chief Marketing Officer, Nasarawa ADP	Chief Marketing Officer, Nasarawa ADP
Maimunat Tijjani Usman	14 Jan. –13 Feb. 2014	Farmer-led Extension Method(B)	Number of extension workers who can develop a curriculum and execute farmer led extension increase.	JICA	Block Extension Agent, Nasarawa ADP	Block Extension Agent, Nasarawa ADP
Alanana M. Emmanuel	21 July–20 Sep. 2014	Agricultural Extension Planning and Management	To bring up the participants with practical idea on the improvement of agricultural extension planning	JICA	Director, Extension, Nasarawa ADP	Director, Extension, Nasarawa ADP
Ishaq Alh. Muhammad	30 July–13 Sep. 2014	Agribusiness Promotion and Rural Development in African Countries	Clarifying Produced of Processed Agricultural Products in the field of marketing, distribution and value addition	JICA	Assistant Chief Livestock, NAMDA Bida	Assistant Chief Livestock, NAMDA Bida
Abubakar Abdullahi	30 July–13 Sep. 2014	Post-harvest Rice Processing for English Speaking African Countries	To Provide field agricultural Extension officers with practical knowledge and techniques to determine the optimum days to Harvest rice and carry out post-harvest rice processing.	JICA	Principal Agricultural Engineer, Niger AMDA Minna office	Principal Agricultural Engineer, Niger AMDA Minna office
Mohammed Musa Isah	26 Aug.–20 Sep. 2014	Planning of agricultural policy	To consider and select agricultural administration system and	JICA	Director, Planning, Monitoring & Evaluation,	Director, Planning, Monitoring & Evaluation, Niger AMDA

			technologies that could be adopted in participants' country		Niger AMDA Minna office	Minna office
Danjuma M. Yakubu	12 Aug.–27 Sep. 2015	Post-harvest rice processing for English Speaking African Countries	To Provide field agricultural Extension officers with practical knowledge and techniques to determine the optimum days to Harvest rice and carry out post-harvest rice processing.	JICA	Extension officer, Niger AMDA Bida office	Extension officer, Niger AMDA Bida office
Baba Kutigi Madugu	16 Aug.–19 Sep. 2015	Planning of agricultural policy	To consider and select agricultural administration system and technologies that could be adopted in participants' country	JICA	Managing Director, Niger AMDA	Managing Director, Niger AMDA
Danasebe Shehu	12 Oct–28 Nov. 2015	Agribusiness promotion and rural development in African countries (B)	To contribute to the promotion of agribusiness in respective countries	JICA	PM&E, Niger AMDA Bida office	PM&E, Niger AMDA Bida office
Stephen G. Kpama	8–21 Nov. 2015 (Japan) 22–28 Nov. 2015 (Kenya)	Market Oriented Agricultural Promotion for Africa (Planning and Management)	To provide participants with technical knowledge and experiences in carrying out the Market-oriented Agricultural promotion.	JICA	Programme Manager, Nasarawa ADP	Programme Manager, Nasarawa ADP
John Attah Obye	21 Mar.–12Nov. 2016	Upland rice cultivation	To transfer of fundamental cultivation skills of upland rice, seed production, and variety selection technique for increasing the upland productivity.	JICA	Research Officer 1/ Technical Services Dept. Nasarawa ADP	Research Officer 1/ Technical Services Dept. Nasarawa ADP

Attachment 6. Equipment list

(Appendices 4-1, 2)

Attachment 7. Minutes of JCC

7-1 Minutes of 1st JCC
(Appendix 5-1)

7-2 Minutes of 2nd JCC
(Appendix 5-2)

7-3 Minutes of 3rd JCC
(Appendix 5-3)

7-4 Minutes of 4th JCC
(Appendix 5-4)

7-5 Mid-term evaluation report
(Appendix 5-5)

7-6 Minutes of 5th JCC
(Appendix 5-6)

7-7 Minutes of 6th JCC
(Appendix 5-7)

7-8 Terminal evaluation report
(Appendix 5-8)

7-9 Minutes of 7th JCC
(Appendix 5-9)

Appendix 1 PDM Ver. 3

Project Design Matrix (PDM)

Project Title: Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States

Ver.3

Target Areas: Lafia, Nasarawa State and Bida, Niger State

Target Group: Small-scale Rice millers, Parboilers, Rice farmers, and Traders

Date: 26 May 2014

Project Period: 4 years from September 2011 to August 2015

Narrative Summary	Objectively Verifiable Indicator	Mean of Verification	Important Assumption
< Overall Goals > Quality of domestic rice is improved in the target States.	At least 2.5% of rice traders in the target States handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project.	Survey of traders	
< Project Purpose > Quality of domestic rice is improved in the target areas.	- At least 2.5% of rice traders of the target groups in the target areas handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project. - At least 2.5% of total quantity of rice handled by rice traders of the target groups in the target areas is Grade A level of Rice Grade Standard developed by the Project.	Survey of traders	ADPs conduct post-harvest processing and marketing training given by the Project.
< Outputs >			
1 Measures to promote distribution of high quality domestic rice are identified.	1-1 Problems, causes and solutions are specified and reported. 1-2 Specifications for machinery and equipment to be introduced are produced.	Project Report Project Report	Price of imported rice does not drop drastically.
2 Rice grading standards for domestic rice is developed and improved.	2-1 Proposed grading standard for parboiled milled rice is accepted at the JCC meeting.	JCC minutes	
3 Capacity of APM and ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced.	3-1 Average score of capacity level of APM and ADP staff of the both target ADPs evaluated by use of evaluation sheet is more than 3.	Results of capacity assessment by use of evaluation sheet	Natural disasters and economic shocks that significantly affect rice distribution in and around target areas do not occur.
4 Capacity of small-scale rice millers, parboilers, rice farmers and traders on post-harvest, marketing and business management is enhanced.	4-1 Each average score of post-test of small-scale millers, parboilers, rice farmers and traders after training is more than target score which is set for the each beneficiary group. 4-2 10% of the participants take actions to adopt introduced technologies. 4-3 2.5% of the participants adopt introduced technologies.	Results of pre-test and post-test Monitoring Monitoring	
< Activities > 1-1 Study distribution channels, quality and price trends of rice. 1-2 Examine market demands including potentials for high quality domestic rice. 1-3 Identify challenges of small-scale rice millers, parboilers and rice farmers. 1-4 Design collection, processing and marketing measures to distribute high quality domestic rice. 1-5 Collect information on financial institutions and service. 2-1 Study grading standards used by large-scale rice millers. 2-2 Study rice consumers' taste and quality standards of rice retailers. 2-3 Develop and test grading standards for parboiled milled rice suitable for small-scale rice milling. 3-1 Develop training plan for ADP staff. 3-2 Prepare the curriculums and materials for ADP staff. 3-3 Set up an incubation plant with machinery and equipment in Nasarawa State. 3-4 Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Nasarawa State. 3-5 Identify the outcome of training for ADP staff of Nasarawa State and modify training plan for the subsequent training. 3-6 Set up an incubation plant with machinery and equipment in Niger State. 3-7 Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Niger State. 3-8 Identify the outcome of training for ADP staff of Niger State and modify training plan for the subsequent training. 4-1 Develop training plan for small-scale rice millers, parboilers, rice farmer and traders. 4-2 Prepare the curriculums and materials on the training programms. 4-3 Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Lafia. 4-4 Support innovators in terms of technology, information on financial service and business management in Lafia. 4-5 Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Bida. 4-6 Support innovators in terms of technology, information on financial service and business management in Bida.	**< Input >** **Japan side** 1) Experts □ Chief Advisor □ Post-harvest technology/Parboiling technology □ Rice marketing □ Farmer organization/Training □ Coordinator/Training assistant 2) Equipment □ Machinery and equipment for training □ Office equipment 3) Counterpart Training □ Training in Japan and/or in the third country for a few persons 4) Local costs □ Local project support staff □ Hiring of project vehicles □ Office supplies and other minor expenses	**Nigeria side** 1) Personnel □ Project Director (Permanent Secretary, FMARD) □ Project Manager (Director, Agro-processing and Marketing, APM) □ State Coordinators (Programme Managers, ADP Nasarawa and Niger States) □ Counterparts - APM staff (Post-harvest Technology, Rice Value Chain and Marketing, International Relations and Collaboration) - ADP staff (Planning, Post-harvest Technology, Rice Value Chain and Marketing, Farmer Organization) 2) Buildings and facilities □ Office space and necessary facilities in APM and in the target ADP □ Training venues in the target sites □ Land and buildings for rice milling and storage of equipment 3) Local costs and recurring costs □ Domestic transportation, operation and maintenance of provided machinery and any other equipment. □ Travel fee of Nigerian counterparts □ Assignment of supporting staffs □ Running expenses for training of small-scale rice millers, parboilers, and rice farmers.	Sufficient quantity of quality rice seeds are provided to farmers. Natural disasters such as droughts and floods, diseases, animal attacks, and insect attacks which substantially affect rice production do not occur in target areas. Prices of rice in domestic market do not drop drastically. No major political disorder that affects economic activities and security of target areas occurs.
			< Pre-condition > No major political disorder that affects economic activities and security of target areas occurs.

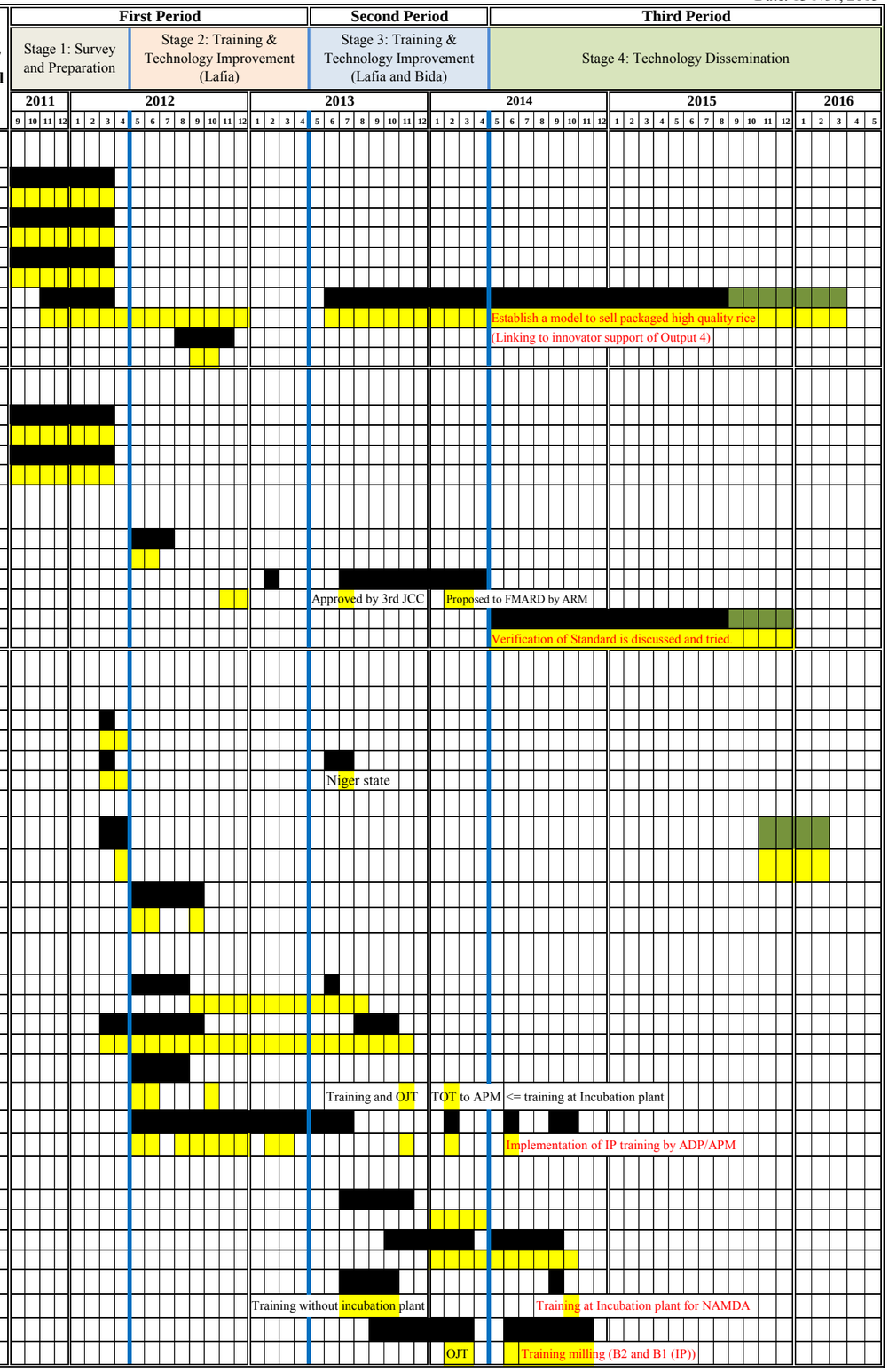
Note: Indicator 3-1: The evaluation sheet lists up category of capacity which is composed of some sub categories which are to be evaluated by the given ranking according to the five (5) grade evaluation system from 1 to 5, in order to measure capacity of ADP for Outp

Appendix 2: Plan and Actual Implementation of Operation

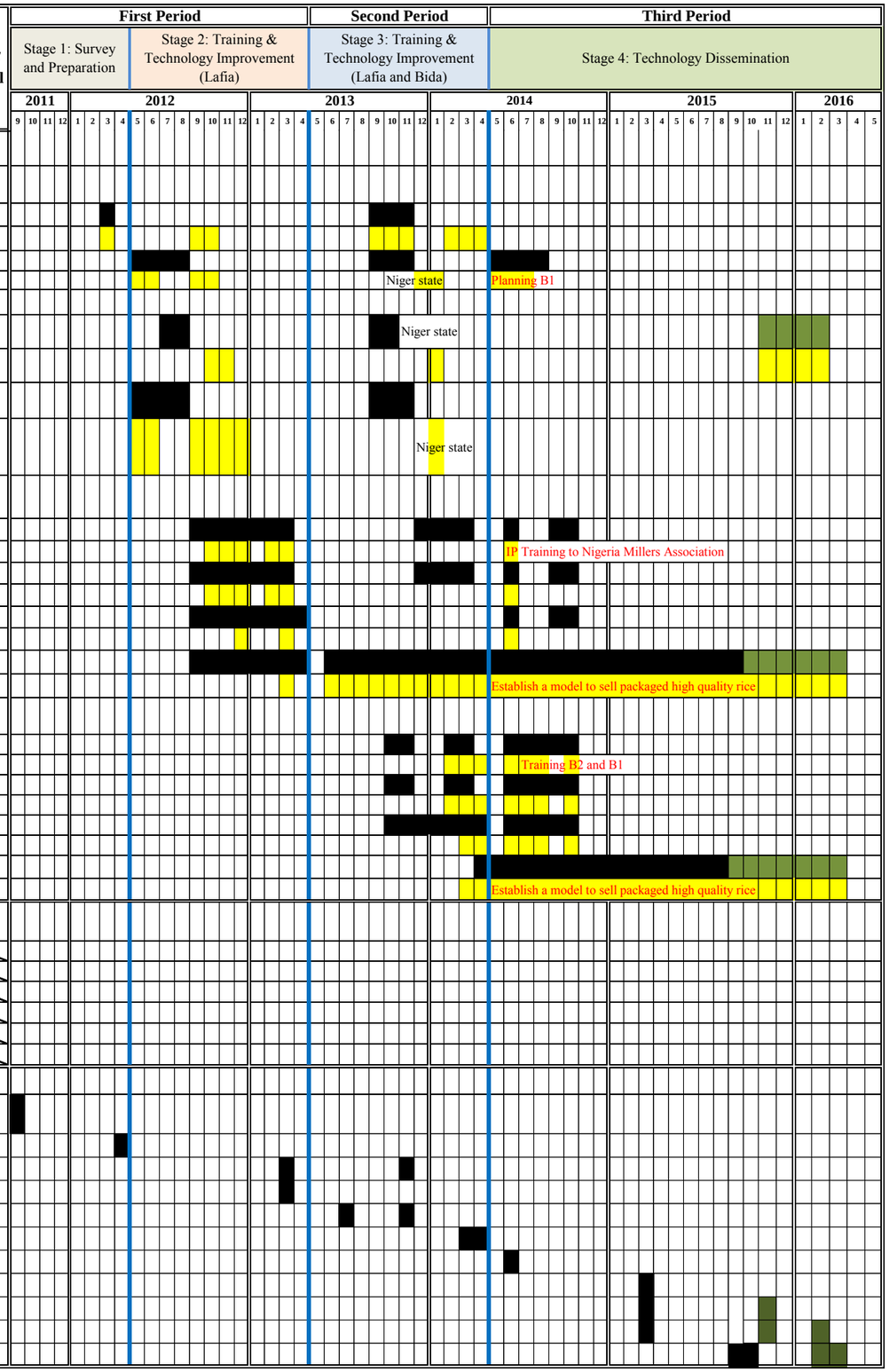
Project Title: Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States

Date: 13 Nov, 2015

Activity of the Project/ Term of Cooperation		Products	Responsibility		Plan / Actual
			Japanese Expert	Nigerian Counterpart	
Output 1	**Measures to promote distribution of high quality domestic rice are identified.**				
1-1	Study distribution channels, quality and price trends of rice.	Study report	Koyama	APM PMD Div.	Plan Actual
1-2	Examine market demands including potentials for high quality domestic rice.	Study report	Koyama	APM PMD Div.	Plan Actual
1-3	Identify challenges of small-scale rice millers, parboilers and rice farmers.	Summary table Study report	Furuichi/Koyama	APM PMD & CI Div	Plan Actual
1-4	Design collection, processing and marketing measures to distribute high quality domestic rice.	Summary table	Furuichi/Koyama	APM CI & PMD Div	Plan Actual
1-5	Collect information on financial institutions and service.	Study report	Wakisaka	APM PMD Div.	Plan Actual
Output 2	**Rice grading standards for domestic rice is developed and improved.**				
2-1	Study grading standards used by large-scale rice millers.	Study report	Koyama/Furuichi	APM QC & PMD Div	Plan Actual
2-2	Study rice consumers' taste and quality standards of rice retailers.	Study report	Furuichi/Koyama	APM QC & PMD Div	Plan Actual
2-3	Develop and test grading standards for parboiled milled rice suitable for small-scale rice milling.	Grading standards			
2-3-1	Prepare of draft grading standards for domestic rice.		Furuichi/Koyama	APM QC & PMD Div	Plan Actual
2-3-2	Review the grading standards for domestic rice.		Furuichi/Koyama	APM QC & PMD Div	Plan Actual
2-3-3	Review the grading standards for domestic rice.		Furuichi/Koyama	APM QC & PMD Div	Plan Actual
Output 3	**Capacity of APM and ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced.**				
3-1	Develop training plan for ADP staff.	Training Plan for ADP staff			
3-1-1	Discuss the framework of training for ADP staff .		Ku/Inada	APM	Plan Actual
3-1-2	Prepare training plan (draft) for ADP staff.		Ku/Inada	APM	Plan Actual
3-2	Prepare the curriculums and materials for ADP staff.				
3-2-1	Create training implementation manual for APM staff.	ADP staff training implementation manual for APM	Ku/Inada	APM	Plan Actual
3-2-2	Prepare curriculums on post harvest technology, rice value chain, marketing and institutional development for ADP staff.	ADP staff training curriculums	Furuichi/Koyama/Inada	APM PMD Div.	Plan Actual
3-3	Set up an incubation plant with machinery and equipment in Nasarawa State.				
3-3-1	Construct a building for Incubation plant in Lafia.	Building	Furuichi	APM ADP	Plan Actual
3-3-2	Procure machinery and equipment, and install them.	Machinery and equipment	Furuichi/Ku	APM ADP	Plan Actual
3-4	Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Nasarawa State.		Furuichi/Koyama/Inada/ Ku	AMP	Plan Actual
3-5	Identify the outcome of training for ADP staff of Nasarawa State and modify training plan for the subsequent training.		Each	Each	Plan Actual
3-6	Set up an incubation plant with machinery and equipment in Niger State.				
3-6-1	Construct a building for Incubation plant in Bida.	Building	Furuichi	APM PM-ADP	Plan Actual
3-6-2	Procure machinery and equipment, and install them.	Machinery and equipment	Furuichi/ Ku/Takayama	APM PM-ADP	Plan Actual
3-7	Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Niger State.		Furuichi/Koyama/Inada/ Ku	APM	Plan Actual
3-8	Identify the outcome of training for ADP staff of Niger State and modify training plan for the subsequent training.		Each	Each	Plan Actual



Activity of the Project/ Term of Cooperation		Products	Responsibility		Plan / Actual
			Japanese Expert	Nigerian Counterpart	
Output 4	**Capacity of small-scale rice millers, parboilers, rice farmers and traders on post-harvest, marketing and business management is enhanced.**				
4-1	Develop training plan for small-scale rice millers, parboilers, rice farmer and traders.				
4-1-1	Discuss of the framework of training for direct beneficiaries.		Ku/Inada	APM ADP HR.	Plan
					Actual
4-1-2	Prepare of training plan (draft) for millers, parboilers, and rice farmers		Ku/Inada	APM ADP HR.	Plan
					Actual
4-2	Prepare the curriculums and materials on the training programms.				
4-2-1	Create training implementation manual for ADP staff.	Direct beneficiary training implementation manual for ADP staff	Ku/Inada	APM ADP HR.	Plan
					Actual
4-2-2	Prepare curriculums on marketing for small-scale rice millers, parboilers, rice farmers and traders.	Direct beneficiary training curriculums	Furuichi/Koyama	APM, ADP RI Suleiman(NaHQ), PME Ishaq(B)	Plan
					Actual
4-3	Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Lafia.				
4-3-1	Conduct Training for small-scale millers, parboilers, rice farmers and trdaers of Lafia			APM ADP Dir HR	Plan
					Actual
4-3-2	Evaluate the training of Lafia		Takayama/Ku	APM ADP Dir HR	Plan
					Actual
4-3-3	Identify the outcome of training for millers, parboilers, and rice farmers and modify training plan for the following period of Lafia		Takayama/Ku	APM ADP Dir HR	Plan
					Actual
4-4	Support innovators in terms of technology, information on financial service and business management in Lafia.		Each	Each	Plan
					Actual
4-5	Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Bida.				
4-5-1	Conduct Training for small-scale millers, parboilers, rice farmers and rdaers of Bida		Takayama/Ku	APM ADP HR.	Plan
					Actual
4-5-2	Evaluate the training of Bida.		Takayama/Ku	APM ADP HR.	Plan
					Actual
4-5-3	Identify the outcome of training for millers, parboilers, and rice farmers and modify training plan for the following period of Bida.		Takayama/Ku	APM ADP HR.	Plan
					Actual
4-6	Support innovators in terms of technology, information on financial service and business management in Bida.		Each	Each	Plan
					Actual
Output 5	**Training programs for non-targeted ADP staff regarding post-harvest, marketing and business management are commenced.**				
5-1	Develop training plan for staff of non-targeted ADPs.		Ku/Inada	APM	Plan
					Actual
5-2	Prepare the curriculums and materials for non-targeted ADPs.		Each	Each	Plan
					Actual
5-3	Conduct training for staff of non-targeted ADPs.		Each	Each	Plan
					Actual
	Operational activities				
O-1	Preparation and consultation of the Draft Work Plan for the First Period (JCC)				
O-2	Agreement on the Work Plan for the First Period (JCC)				
O-3	Mid-term review of the project (JCC)				
O-4	Preparation of project progress report				
O-5	Agreement on the Work Plan for the Second Period (JCC)				
O-6	Preparation of project progress report				
O-7	Agreement on the Work Plan for the Third Period (JCC)				
O-8	Terminal evaluation of the project (JCC)				
O-9	Preparation of Project progress report				
O-10	Finalization of the project (JCC)				
O-11	Preparation of project completion report				



Appendix 3-1 Results of Personnel Dispatch（Period 1）

Position	Name	Affiliation	Period 1																				MM
			2011				2012												2013				
			9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	
Chief Advisor	Ikuo YAMAMOTO	IC Net Limited	9/3 9/14 (12)		11/26	12/21 (26)			3/10 (37)	4/15							11/20	12/17 (28)		2/16	3/19 (32)		4.50
Deputy Chief Advisor/Post-harvest technology	Shingo FURUICHI	IC Net Limited	9/17	10/9 (23)				2/4 (51)	3/25		5/26	(60)	7/24		9/19	(71)	11/28			2/3 (37)	3/11		8.07
Rice Marketing	Atsushi KOYAMA	Bansho	9/10 9/27 (18)		11/28	12/21 (24)		2/23	3/27 (34)		5/14	6/22 (40)		8/2 (40)	9/10		11/2 (46)	12/17		1/16 (55)	3/11		8.57
Rural Finance	Tomonori WAKISAKA	IC Net Limited													9/29	10/26 (28)							0.93
Farmer organization/ Training/Rural Finance	Naoko INADA	IC Net Limited	9/3	(64)	11/5			2/18	(65)	4/22				8/13	(95)		11/15		1/9	(70)	3/19		9.80
Coordinator/ Training Assistant 1	Naoki ITO	IC Net Limited		10/9	(74)	12/21		2/4	(84)	4/27			7/2 (54)	8/24		10/11 (46)	11/25						8.60
Coordinator/ Training Assistant 2	Hideki MURAKAMI/ Kwihyang KU	IC Net Limited	9/3 (45)	10/17 (MURAKAMI)							5/14	(55)	7/7 (KU)	8/20	(60)	10/18 (KU)			8/20	(70)	10/18 (KU)		7.67
																						Total	48.14

Appendix 3-2 Results of Personnel Dispatch（Period 2）

Position	Name	Name	Period 2											MM
			2013							2014				
			6	7	8	9	10	11	12	1	2	3	4	
Chief Advisor	Ikuo YAMAMOTO	IC Net Limited		7/7~21 15				11/16~30 15						1.00
Deputy Chief Advisor/Post-harvest technology/Parboiling	Shingo FURUICHI	IC Net Limited	6/21	51	8/10	9/6 34	10/9	11/8 30	12/7		2/4 30	3/5		4.83
Construction Management	Shingo FURUICHI	IC Net Limited										3/6 3/9 4		0.13
Management/ Marketing	Atsushi KOYAMA	Bansho	6/4 37	7/10 7/29	44	9/10	10/26	11/28 34		1/24	2/21 29			4.80
Rural Finance/Organization Strengthening/Training Planning	Naoko INADA	IC Net Limited	6/4 40	7/13			10/4 32	11/4		1/15	68	3/23		4.67
Construction Management1	Budi Santuso	PT RUTAN					58							1.93
Construction Management2	Puguh Prastiyo	PT RUTAN					58							1.93
Training Management/ Coordinator 1	Kwihyang KU	IC Net Limited		7/6	8/29 55	9/28			12/6 70	1/4~19		3/9～28 20	3/29～4/13	4.83
Coordinator2/Training Assistant	Takuma TAKAYAMA	IC Net Limited			8/17	50	10/5、6～8				2/4 30	3/5		2.67
													Total	26.80

Remarks: Assignment funded by IC Net

Appendix 3-3 Results of Personnel Dispatch（Period 3）

Position	Name	Name	Period 3																									MM
			2014								2015												2016					
			5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	
Chief Advisor	Ikuo YAMAMOTO	IC Net Limited	5/24 8	6/7 7											5/16 15	5/30								2/6 2/28 23				1.77
											1/7 1/23 17																	0.56
Deputy Chief Advisor/Post-harvest technology/Parboiling	Shingo FURUICHI	IC Net Limited	5/10 22	6/15 15			9/16 15	10/18 18							5/105/31 22	6/8 8		8/8 23	8/30		12/5	12/21 17						4.67
Management/ Marketing	Atsushi KOYAMA	Bansho			7/30 2	8/31 31		10/13 19	11/14 14	2 22 21		2/25 4	3/21 21								10/18 14	11/11 11		2/6 28	3/4			5.50
Rural Finance/Organization Strengthening/Training Planning	Naoko INADA	IC Net Limited				8/10 22	9/7 7		11/19 12	12/19 19	1/18 14	2/8 8	3/2 3/20 19	4/20 11	5/6 6								1/19 13	2/24 24				5.17
															5/7 5/8 2													0.06
Training Management/ Coordinator 1	Kwihyang KU	IC Net Limited	5/10 22	6/15 15	7/18 14	8/17 17	9/16 9	10/5 27	11/9 9					4/6 5/1 25	5/31 31	6/8 8	7/26 6	31	9/6 6		11/7 24	12/28 28		2/16 3/1 15	3/21	3/27 7		9.80
Coordinator2/Training Assistant	Takuma TAKAYAMA	IC Net Limited																										0

Remarks: Assignment funded by IC Net or Assignment of Another project

Total 27.53

Appendix 4-1. List of provided equipment items

Date of Acquisition	Name of Equipment	Details	Purchased Unit		Price (JPY)	Installation Place	
2011/12/16	Fax Mahine	Panasoic	90,000	NGN	43,068	ABM	Project office, Abuja
2011/12/16	Desktop OC	HP Pro3120MT	224,000	NGN	107,193	ABM	Project office, Abuja
2011/12/16	Desktop OC	HP Pro3120MT	224,000	NGN	107,193	Nasarawa ADP	Project Office, Lafia
2011/12/16	Projcector	Sony 2300LUMENS	90,000	NGN	43,068	ABM	Project office, Abuja
2012/3/12	Small-sized De-stoner	Dae Sung	3,000	USD	288,405	Nasarawa ADP	Incubation Plant in Lafia
2012/3/12	House-Use De-stoner	Dae Sung	2,000	USD	192,270	Nasarawa ADP	Incubation Plant in Lafia
2012/3/14	Photocopying Machine	Sharp MX2301N	1,390,000	NGN	832,490	Nasarawa ADP	Project Office, Lafia
2012/1/17	Infared Moisture Determination Balance	KETT FD-610	168,000	JPY	168,000	ABM	Project office, Abuja
2012/1/24	Electric Scale	SHIMAZU TXB622L	74,500	JPY	74,500	ABM	Project office, Abuja
2012/3/1	Scale	N/A	115,000	NGN	68,875	ABM	Project office, Abuja
2012/7/10	Winnowing Machine	Hokuetus TS	30,400	JPY	30,400	Nasarawa ADP	Incubation Plant in Lafia
2012/7/10	Foot Pedal Thresher	Hokuetsu FT371	40,200	JPY	40,200	Nasarawa ADP	Incubation Plant in Lafia
2012/9/7	Paddy Power Thresher	Yanmar DB1000	330,000	JPY	330,000	Nasarawa ADP	Incubation Plant in Lafia
2012/10/5	Impulse Sealer	Dae Sung	800	USD	62,815	Nasarawa ADP	Incubation Plant in Lafia
2012/10/5	Friction Type Small Scale Milling Machine	Dae Sung LH101	4,500	USD	353,340	Nasarawa ADP	Incubation Plant in Lafia
2012/11/12	Rice Ripper	Dae Sung TR-1200C	8,500	USD	675,560	Nasarawa ADP	Incubation Plant in Lafia
2013/3/13	Small-sized De-stoner	Dae Sung	3,000	USD	28,867	ABM	ABM office, Abuja
2013/3/13	Friction Type Small Scale Milling Machine	Dae Sung LH101	4,500	USD	43,301	Niger AMDA	Incubation Plant in Bida
2013/11/3	Car	Toyota Prado TX	72,936	USD	7,191,990	ABM	ABM office, Abuja
2013/3/15	Modified 2 box-type steam parboilers with a boiler	Desfabeng Company	1,200,000	NGN	731,278	Nasarawa ADP	Incubation Plant in Lafia
2012/6/13	Modified Rapid Steam Parboiler	N/A	350,000	NGN	185,424	Nasarawa ADP	Incubation Plant in Lafia

Appendix 4-1. List of provided equipment items

2013/3/13	Flatbed-type paddy dryer for experiment	N/A	520,000	NGN	314,677	Nasarawa ADP	Incubation Plant in Lafia
2013/12/3	Small-sized De-stoner	Dae Sung	3,500	USD	359,349	ABM	ABM office, Abuja
2013/12/3	Small-sized De-stoner	Dae Sung	3,500	USD	359,349	Niger AMDA	Incubation Plnat in Bida
2013/3/15	Paddy Power Thresher	Desfabeng Company	655,000	NGN	394,794	Niger AMDA	Incubation Plant in Bida
2013/3/15	Rice Winnower	Desfabeng Company	135,000	NGN	81,369	Niger AMDA	Incubation Plant in Bida
2013/3/15	Rice Thresher	Desfabeng Company	95,000	NGN	57,260	Niger AMDA	Incubation Plant in Bida
2013/8/28	Whiteness Tester	Kett C600	357,210	JPY	357,210	ABM	Project office, Abuja
2014/3/28	Generator	MIKANO 50KVA	2,163,000	NGN	1,328,890	Niger AMDA	Incubation Plnat in Bida
2014/6/2	Small-sized De-stoner	Dae Sung	3,500	USD	355,842	Niger AMDA	Incubation Plant in Bida
2014/6/2	Small-sized De-stoner	Dae Sung	3,500	USD	355,842	Niger AMDA	Incubation Plant in Bida
2014/8/15	Small-sized De-stoner	Dae Sung	3,500	USD	355,842	Niger AMDA	Incubation Plant in Bida
2014/8/15	Small-sized De-stoner	Dae Sung	3,500	USD	355,842	Niger AMDA	Incubation Plant in Bida
2014/8/15	Small-sized De-stoner	Dae Sung	3,500	USD	355,842	ABM	ABM office, Abuja
2014/8/15	Small-sized De-stoner	Dae Sung	3,500	USD	355,842	Nasarawa ADP	Project office, Lafia
2014/10/13	Small Milling Plant	Yanmar HYPC-600	90,093	USD	9,696,820	Niger AMDA	Incubation Plant in Bida
2016/3/25 (Planned)	Modified 2 box-type steam parboilers with a boile	Desfabeng Company	2,800,000	NGN	1,594,850	Nasarawa ADP	Incubation Plant in Lafia

Appendix 4-2. List of the other equipment items

Date of Acquisition	Name of Equipment	Details	Purchased Unit		Price (JPY)	Installation Place	
2011/11/18	Hardness Tester	FUJIWARA 043019-C	178,500	JPY	178,500	ABM	Project office, Abuja
2012/2/17	Testing Thickness Grader	SATAKE TWSB	367,000	JPY	367,000	ABM	Project office, Abuja
2012/2/17	Testing Grader	SATAKE TRG05B	386,000	JPY	386,000	ABM	Project office, Abuja
2012/2/17	Testing Mill	SATAKE TM05C	974,000	JPY	974,000	ABM	Project office, Abuja
2012/2/17	Testing Husker	SATAKE THU35B	651,000	JPY	651,000	ABM	Project office, Abuja
2012/2/17	Indnted Cylinder	SATAKE S5.2	77,100	JPY	77,100	ABM	Project office, Abuja
2012/2/17	Indnted Cylinder	SATAKE S5.7	77,100	JPY	77,100	ABM	Project office, Abuja
2012/2/17	Sample Divider	SATAKE TS-L	175,000	JPY	175,000	ABM	Project office, Abuja
2012/3/16	Generator	SUZUKI SV12000E2	240,000	NGN	143,739	ABM	Project office, Abuja
2012/12/5	Generator	SUZUKI SV10000D	220,000	NGN	131,761	Nasarawa ADP	Project Office, Lafia
2012/4/16	Laptop Computer	TOSHIBA C660-IMJ	153,000	NGN	76,895	ABM	Project office, Abuja
2013/1/18	Moisture Meter	Satake SS-7	24,000	JPY	24,000	1) ABM: 2 2) Nasarawa ADP: 1	1) Project office, Abuja 2) Incubation Plant in Lafia
2013/8/28	Whiteness Tester	Kett C600	357,210	JPY	357,210	ABM	Project office, Abuja
2014/2/6	Generator	SPG8800E2	128,000	NGN	79,382	Niger AMDA	Incubation Plnat in Bida
2014/2/7	Moisture Meter	Dae Sung	350	USD	35,556	Nasarawa ADP	Lafia Association

MINUTES OF THE FIRST (1ST) JOINT COORDINATING COMMITTEE MEETING (JCC) ON RICE POST-HARVEST PROCESSING AND MARKETING PILOT PROJECTS (RIPMAPP) IN NASARAWA AND NIGER STATES HELD ON THE 6TH OF OCTOBER, 2011 AT THE HONOURABLE MINISTER'S CONFERENCE ROOM, FEDERAL MINISTRY OF AGRICULTURE & RURAL DEVELOPMENT, AREA 11,GARKI, ABUJA

1.0 ATTENDANCE:

See annex 1, attached.

2.0 OPENING:

The meeting started by 2.20 p.m. with self-introduction of all the participants. The meeting was presided over by the Permanent Secretary, Federal Ministry of Agriculture and Rural Development, Dr Ezekiel O. Oyemomi.

3.0 OPENING REMARKS BY THE CHAIRMAN:

The Chairman welcomed all to the meeting particularly our foreign partners. He gave a brief history of the Ministry's cooperation with the Japan International Cooperation Agency (JICA) dating back to 1986 with the Kennedy Round 2(KR2) project which greatly assisted in increased food production in Nigeria. He then enumerated some achievements of JICA in Nigeria, and commended the Government and people of Japan for the gesture, while commiserated with them on the calamity that befell the Country some months ago.

The Chairman also gave an overview of the Rice Post-harvest Processing and Marketing pilot Projects, stressing that rice value chain is a very important component of the Federal Government's Transformation Agenda. He implored JICA to look in a broader plane other areas of support to the Transformation Agenda.

He charged the JCC, being the highest decision making body of the project, to brainstorm on the strategic areas that would help to facilitate the overall successful implementation of the project which is expected to last from September, 2011 to August,2015.

4.0 SPEECH BY THE RESIDENT REPRESENTATIVE OF JAPAN INTERNATIONAL COOPERATION AGENCY (JICA):

In his speech the JICA Resident Representative Mr. Sumi Yoshitaka said that the Rice Project in Nigeria is very important considering the fact that rice consumption in the Country is increasing with a corresponding high importation cost. He said that JICA is interested in increasing production and improving processing to create employment and reduce poverty in the Country. He then thanked the Federal Government for their support and cooperation. He stressed that the Coalition for Africa Rice Development (CARD) initiative is intended to expand the scope of the value chain in the rice sector.

5.0 PRESENTATION OF THE DRAFT WORKPLAN (ZERO DRAFT):

In his presentation, Mr. Shingo Furuichi gave a comprehensive explanation of the zero draft work plan and schedule of activities for the project which includes:

- Project Objectives and Frame Work
- Target Areas
- Target Groups
- Basic Principles and Approaches of the Project
- Overall Flow of the Project
- Detailed Activities
- Work Schedule
- Output of Technical Cooperation
- Japanese Experts and their Responsibilities and Schedule, etc.

6.0 OBSERVATIONS/SUGGESTIONS:

After the presentation of the zero draft work plan by Mr. Shingo Furuichi, the following questions and observations were raised:-

(i) That the construction component of the project was not mentioned in the presentation;

(ii) Whether there is any provision for training of Local fabricators in the project;

(iii) That there is need to enrich the work plan with monitoring and evaluation as well as a uniform format for progress report rendition;

(iv) The need to draft a Memorandum of Understanding (MOU) stating clearly the functions and responsibilities of all the stake holders (Federal and States Governments and JICA); and

(v) Project Location and sustainability.

7.0 RESPONSES:

In his response, Mr. Shingo Furuichi said the issue of building for the equipment would be resolved soon, he promised to contact the equipment manufacturers to get the dimensions which will determine the type and size of structure as well as the size of land required for the project.

On the issue of training for local fabricators, he said that although it is not part of the initial plan, he is of the view that local fabricators be incorporated in the training programme especially those he visited at National Cereals Research Institute (NCRI) Badeggi and other private fabricators identified in Bida.

On project locations, the meeting resolved unanimously that the project be located on a neutral ground (Government Land) rather than on a private Miller's land to avoid any dispute in future.

8.0 OTHER RESOLUTIONS:

The meeting also resolved that:

GS

- A Memorandum of Understanding (MoU) be developed with the functions and responsibilities of all the parties clearly stated.
- The omission of processing from the project title be corrected, hence the project title should be "RICE POST-HARVEST PROCESSING AND MARKETING PILOT PROJECTS IN NASARAWA AND NIGER STATES, as captured on page 2 of the original document, and all the necessary diplomatic steps be taken accordingly.
- An acronym "RIPMAPP" was adopted for the project.

9.0 DATE OF NEXT MEETING:

The next meeting was tentatively fixed for March, 2012.

10.0 CLOSING:

In the absence of any other deliberations, the meeting came to a close at 4.10 pm.

Engr. M. A. A. Adewuyi
Director
Agro-Processing and Marketing
Federal Ministry of Agriculture and Rural Development

Mr. Shingo Furuichi
Deputy Adviser
RIPMAPP

Dr. Ezekiel O. Oyemomi
Permanent Secretary
Federal Ministry of Agriculture and Rural Development
(Chairman)

Mr. Sumi Yoshitaka
Resident Representative
(JICA)

MINUTES OF THE SECOND (2ND) JOINT COORDINATING COMMITTEE (JCC) MEETING ON RICE POST-HARVEST PROCESSING AND MARKETING POILT PROJECTS (RIPMAPP) IN NASARAWA AND NIGER STATES HELD ON 2ND APRIL, 2012 AT THE HONOURABLE MINISTER'S CONFERENCE ROOM, FEDERAL MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT, AREA 11, GARKI - ABUJA

1.0 **Attendance:**

S/No	Name	Organisation	Post
1.	Engr. M. A. A. Adewuyi	APM	Director
2.	Yahaya O. Ibrahim	MANR, Lafia	Perm Sec
3.	Naphtali J. Dachor	Nasarawa ADP	PM
4.	Zakari S. Yahaya	NAMDA/NSADP	MD
5.	Kayode Adebiyi	APM	AD
6.	G. I. Igoji	APM	CAS
7.	J. M. Dadet	FMA&RD	AD
8.	Dr. Oyeleye O. S.	APM	S.A Media
9.	Famure E. H.	APM	SEO
10.	K. I. Babangida (Mrs)	APM	DD
11.	Yoshiro Masuda	JICA	Rep
12.	Ikuo Yamamoto	RIPMAPP/JICA	Chief AD
13.	Masako Yamamoto	JICA	PFA
14.	Naoko Inada	RIPMAPP/JICA	Farmers Org
15.	Orji Juliet	Embassy of Japan	S. Econ.
16.	Naoki Ito	RIPMAPP/JICA	C/Training
17.	Abdullahi Yakubu	NPC	PPO (Asia)
18.	S. T. Mahmood (Mrs)	APM	ACAO
19.	Engr. G. Nadungu	APM	ACAE

2.0 **Opening:**

The meeting was declared open with prayer said by Mr. Naphtali J. Dachor, at about 2.37 pm. This was followed by self-introduction of all participants.

3.0 **Remarks by the Chairman:**

3.1 The Director, Agro-Processing and Marketing Department (APM) Engr. M. A. A. Adewuyi informed the meeting that the Chairman who is also the Permanent Secretary, Federal Ministry of Agriculture and Rural Development who fixed this meeting for 2.0 pm had to attend to other urgent official assignment at the Presidential Villa with the Honourable Minister of Agriculture. He apologized for the conspicuous absence of the Chairman. Engr. Adewuyi was mandated by the Chairman to preside over the meeting on his behalf.

3.2 The Chairman welcomed all the participants to the 2nd JCC with Special thanks to Japan International Cooperation Agency (JICA) for their technical assistance to Nigeria by way of providing food production and processing machinery and equipment that led to significant increase in food production and development of rice value chain in Nigeria.

The Chairman also gave a brief background of RIPMAPP Project which started in 2007 when JICA conducted a survey of the country's rice production areas to identify potential areas of rice processing and marketing. He said based on the survey, approval was given in 2009 by Japanese Government through JICA for the establishment of the Rice Processing and Marketing centres in Bida, Niger state and Lafia, Nasarawa State whose main purpose is to improve the quality of our domestic rice and to decrease post-harvest losses in the targeted States. He gave highlights of the achievements recorded under the project as follows:

(a) Market survey for creating rice grading and quality in Nigeria,
(b) Rice Market distribution survey
(c) Social economic survey
(d) Importation and installation of laboratory equipment to test the quality of locally milled rice. Others include
(e) Meetings with the beneficiaries (farmers, rice parboilers, rice millers and traders to address the issue of rice quality, and the development of problems, causes and solutions matrix.
(f) Performance test of rice parboiling and milling at Dan Abu Integrated Farm Ltd Bida, Niger State as well as the workshop conducted for NFRA counterpart personnel and ADP counterpart personnel from Nasarawa and Niger states at Golden Astoria Hotels, Abuja.

3.4 He concluded by saying that with the level of commitment shown, we shall definitely overcome the challenges of rice value addition in Nigeria through this project.

4.0 **Progress Report on the Status of the Project by Director APM:**

The Director of Agro-Processing and Marketing Department, Engr. M. A. A. Adewuyi who doubled as the Chairman said that most of the progress made so far in the project have been captured in the remarks made by the Substantive Chairman. He however stated that he was quite happy to note of recent that there is a departure from the previous list of machinery and equipment under this project to a more acceptable ones that would stand the taste of time.

5.0 **Remarks by the Representative of JICA**:

Mr. Yoshiro Masuda in his remark thanked Nigerian Government for the total support and enabling environment created for JICA to operate in Nigeria. He said that JICA has completed their survey under RIPMAPP and hoped to solve the problems identified. Mr. Masuda was of the view that JCC has to finalize the adoption of the work plan (Ver.I) to enable JICA to start the implementation of the project as in the draft work plan.

6.0 **Minutes of Last Meeting**:

The minutes of last meeting was read with the following amendment made:-

(i) The E-mail address of Yahaya O. Ibrahim in no 10 of the attendance list is to read yoibrahim@mail.com and not yoibrahimgmail.com.

6.1 Adoption of the minutes of last meeting:

In the absence of any other amendment, Mr. Naphtali Dachor moved for adoption of the minutes seconded by Naoko Inada of JICA.

6.2 Matters Arising from the minutes:-

(i) Construction of the building for the machinery and equipment;

(ii) Memorandum of Understanding (MOU) stating the functions and responsibilities of the parties concerned.

6.3 On the construction of the building for the machinery and equipment, the Programme Manager, Nasarawa Agricultural Development Programme (ADP) Mr. Naphtali Dachor suggested the fast tracking of the building design by JICA to enable Nasarawa ADP to get the required funds from the State Government. In response, RIPMAPP Chief Advisor Mr. Yamamoto said that the building design is not to be prepared by JICA, rather the building out lay and the required dimension will be provided by JICA. He promised to provide the building dimension within a month's period. It was emphasized that whatever is to be given to Nigeria should not be of low standard but what both the donor country (Japan) and Recipient country (Nigeria) would be proud of.

6.4 On the issue of MOU Stating the responsibilities and functions of the parties concerned, it was resolved that the stakeholders (ADPs and NFRA) should go with the draft copy of the MOU to properly study the said MOU, make amendments where necessary before arriving at the acceptable MOU during the next JCC meeting.

7.0 **Presentation of Project Design Matrix (PDM), Plan of Operation (PO) and revised draft plan**:

Mr. Ikuo Yamamoto gave a vivid explanation of the PDM, PO and revised draft work plan for the project to include;

- Problems, causes and solutions on rice quality;
- Strategy for realizing high quality rice;
- How to develop grading standards;

- Implication of project Design Matrix and Work Plan
- Project Design Matrix (PDM);
- Basic information. Others include:
- Narrative summary of the overall goal and project purpose and activities for outputs
- Conceptual framework of the project
- Technology transfer methods
- Target areas and target groups
- Objectively verifiable indicators and means of verification
- Four (4) stages of the project and work flow.

8.0 **Discussions:**

The participants had meaningful discussions which cut across the major components of the project. The Chairman made it categorically clear that the target groups for the project should be Young Farmers, parboilers and millers as well as army of unemployed Youths and not older people in the targeted States.

It was observed that the issue of rice quality starts from the quality of rice paddy; and for this reason, emphasis should be placed on the rice variety(ies) to be used under this project. The issue of uniform variety is intended to eliminate mixed seeds and to pave way for high quality milled rice. To achieve this, it was suggested that outgrowers should be involved to produce rice paddy of may be 2 – 3 different varieties for the project.

The need to encourage beneficiaries of the project to source or access money through micro finance bank or other financial institutions was also stressed. As an alternative, it was also suggested that Nigerian resources could also be used to develop the country through other viable projects.

In a related development, the Managing Director, Niger State Agricultural Development Programme Zakari S. Yahaya suggested that JICA should provide the necessary specifications of the project meant for Niger State. He also informed the meeting that Niger State Government is advocating for the relocation of the project in Niger State from Bida to another location such as Doko Village to reduce the concentration of similar projects in Bida town. In response, he was told that if the machinery and equipment earmarked for Lafia are functional, it will be quite easy to provide specifications for Niger State. On the issue of relocating the project from Bida to Doko or other villages around Bida, the Japanese and Federal Ministry of Agriculture and Rural Development are of the view that Bida and Doko are almost the same. However, it was made known that Bida was suggested from the view point of easy accessibility and presence of institutional infrastructure for training.

The issue of costing (budget) for activities to be handled by the two (2) ADPs under RIPMAPP featured prominently. It was agreed that the activities would be costed and be used as counterpart requirement for the next four years, but would be on State by State basis.

On the support to provide rice paddy to feed the mill and other inputs like herbicides and fertilizer, JICA has agreed to provide one (1) tonne of rice seed to be distributed to farmers. JICA also promised to support farmers in the provision of herbicides and other necessary inputs required for the operation of 10 hectares in 2012, while farmers would provide for themselves as from next cropping season (2013).

9.0 **Other Resolutions**:

The Joint Coordinating Committee (JCC) has approved the revised work plan (Vers. I) and Project Design Matrix (PDM) for full implementation.

10.0 Any Other Business (AOB):

The need to give advanced and adequate notice to Agro-Processing and Marketing Department (APM) and Product Market Development (PMD) on the future arrival of the Japanese Experts working with the project was advocated. This would enable the Department and the Division involved to make necessary preparation ahead of their arrival.

11.0 **Date of next meeting:**

The next JCC meeting was fixed for March, 2013

12.0 **Closing:**

In the absence of any other deliberations, the meeting came to a close with prayer offered by Yahaya O. Ibrahim at 4.30 pm.

MINUTES OF THE 3RD JOINT COORDINATING COMMITTEE (JCC) MEETING ON RICE POST-HARVEST PROCESSING AND MARKETING PILOT PROJECT (RIPMAPP) IN NASARAWA AND NIGER STATES HELD ON 18TH JULY, 2013 AT THE AGRO-PROCESSING AND MARKETING DEPARTMENT CONFERENCE ROOM, UTAKO- ABUJA.

1.0 ATTENDANCE

S/N	Name
1	Mr. Chudi .O. Uwandu Rep. PS
2	Engr. O.B. Jatto
3	Kwihyang KU
4	Mr. Dadet .J.M
5	Halima Ahmed
6	Ikuo YAMAMOTO
7	Shingo FURUICHI
8	IKE Joshua Chukka
9	Engr. M.O.Ogunbiyi
10	Mr. Makama Michael
11	Mr. Naphtali J. Dachor
12	Masako YAMAMOTO
13	Kazuhito Kibana
14	Tetsuo SEKI
15	Julius .S. Karma
16	Baba Kutigi Madugu
17	Adejo Jermiah
	Secretariat
18	Igoji G. Ikpeme
19	Alh. I. Shaibu

2.0 OPENING

The meeting started at about 10.15 am and was declared with an opening prayer said by Halima Ahmed from JICA Nigeria office. This was followed by self introduction of all participants.

3.0 MINUTES OF LAST MEETING.

The minutes of last meeting was read with the following amendments made:

The E- mail address of Yahaya .O. Ibrahim in the attendance list is to read.

(i) ibrahimyahaya@mail.com
(ii) yamamoto @icnet.co.jp
(iii) ndachor@yahoo.com
(iv) Paragraph 3.3 was omitted
(v) Name of those in the secretariat be reflected
(vi) Secretariat to take note of paging the minutes

Adoption of the minutes of last meeting

In the absence of any other amendment, Mr. Naphtali. J. Dachor moved for adoption of the minutes as amended seconded by Mr.J.M.Dadet

4.0 OPENING REMARK BY THE CHAIRMAN

The meeting was presided over by the Director in the Office of the Permanent Secretary Mr. Chudi. O. Uwandu who represented the Permanent Secretary Federal Ministry of Agriculture and Rural Development

In his opening remarks, the chairman welcomed the participants to the meeting particularly the foreign partners and gave a brief recap of the activities of JICA, which he said greatly assisted in increased food production in the country. He commended the government and the people of Japan for the gesture. The chairman also gave an overview of the Rice Post–Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States (RIPMAPP) saying that the rice value chain is a very important component of the present Administration's Agricultural Transformation Agenda (ATA). He further stated that it will be to our glory that at the end of the project, Nigeria will not only be self – sufficient in rice production but will be a net exporter of rice.

5.0 PROGRESS REPORT ON THE STATUS OF THE PROJECT BY THE PROJECT MANAGER

The National Coordinator of the project Mr. J .M.Dadet presented a progress report on the project. He said that the project was conceived in 2009 and came to full operation in 2011. He informed the meeting that the project is aimed at addressing rice processing challenges in the targeted States (Niger and Nasarawa). He reported that the project started in Lafia, Nasarawa State with the training of APM staff and ADP staff respectively with the assistance of JICA Experts.

He further explained that the training focused on 3 major areas which include:

--- Post – Harvest Technology (parboiling, milling and grading standard)

--- Marketing and Business Management and

--- Extension

He went on to say that the building for the incubation plant in Nasarawa State is at 90% completion. On this note, the Nasarawa State ADP Programme Manger assured the meeting that by 9th September, 2013 the installation of the incubation plant will commence. The National Coordinator said that as from August, 2013 training of Niger State ADP staff will commence and advised that the building for the incubation plant in Niger State be ready in good time to avoid any undue delay in the implementation of the project. The incubation plant is expected to be sited in Bida, Niger State.

6.0 SPEECH BY CHIEF REPRESENTATIVE OF JICA

The Chief Representative of JICA Nigeria office Mr. Tetsuo Seki, in his speech, said that it is his pleasure to deliver a speech on RIPMAPP, which is being implemented in Nasarawa and Niger States. He appreciated the efforts of the counterpart personnel from Federal Ministry of Agriculture and that of Agricultural Transformation Agenda (ATA) of this administration.

He confirmed to the meeting that Nigeria is one (1) of the 23 countries participating in CARD program and ranked Nigeria as one of the best performers. He highlighted the objective of CARD objective, whichincludes doubling rice production by 2018 among CARD member countries.

He further explained that due to the security challenges in Nigeria, the activities of RIPMAPP were put on hold, and the training in Niger State was behind schedule as a result of restriction of movement of the JICA experts. The mid- term review team was to visit Nigeria in March but due to the security challenges the trip by the team was suspended. He informed the meeting that the review team will now visit Nigeria by November, 2013.

Mr. Seki also said that Nigeria has the potential to export rice and wondered why millions of Naira is spent on importation of rice. He advised that such money could be spent on production and processing. He appealed to the management of NAMDA to speed up the construction of the building for the Incubation plant so that training cancommence in good time.

7.0 PRESENTATION OF WORK PLAN AND PLAN OF OPERATION FROM MAY, 2013 TO AUGUST, 2015 BY MR. IKUO YAMAMOTO (CHIEF ADVISER OF RIPMAPP)

The Chief Adviser said that the work plan and the plan of operation from May, 2013 to August 2015 is a modification of what was done in Nasarawa State. He said that the project has five (5) main outputs which include:

-- Measures to promote distribution of high quality domestic rice are identified;

-- Rice grading standards for domestic rice is developed and improved;

-- Capacity of ADP staff regarding training implementation on marketing, post-harvest processing and business management is enhanced;

-- Capacity of small-scale rice millers, parboilers, rice farmers and traders in post-harvest processing, marketing and business management is enhanced; and

-- Training programme for non- targeted ADP staff regarding post harvest processing, Marketing and Business Management are commenced.

He guided the participants as they went through the relevant areas in the work plan and plan of operation of the project. As a way forward, he enjoined Niger State Government to facilitate the building for the incubation plant before the commencement of beneficiary training in Niger State. On this note, Niger State ADP Managing Director

informed the participants that the draft memo on the budget to access funds for the building of the incubation plant has been forwarded to the state government for necessary action.

7.1 PRESENTATION OF PROPOSED PROJECT DESIGN MATRIX (PMD)

The Project Design Matrix (PDM) version 2 was presented by Mr. Furuichi Shingo. Mr. Furuichi explained that the PDM is an arrangement of how the project will be carried out giving details of the Narrative Summary, Objectively Verifiable Indicators, Means of Verification and Important assumptions. He further stated that the PDM version 2 is simply the revision of version one which was used in Nasarawa State. He said that the project purpose is to improve the quality of rice but not "post-harvest losses is decreased" as canvassed for in the project document. According to him, decreasing post-harvest losses is supposed to be a different project. Based on experience, milling recovery after processing is approximately 70%, which is the highest in most cases for parboiled rice. The proposed PDM Version 2 was approved by JCC members.

Mr. Furuichi also presented the proposed Rice Grading Standard produced by RIPMAPP. The grading standard focused on 3 important aspects, namely:

--- Light colour

--- Less broken rice

--- No stones

The rice grading standard produced by RIPMAPP was approved by the JCC members. He then informed the meeting that JICA experts will reside in Minna town and will be going to Bida on a daily basis during training in Niger state.

8.0 OTHER DISCUSSIONS

The issue of difficulties experienced by the APM counterpart personnel towards the settlement of their travelling expenses on RIMAPP activities was raised. This was occasioned by the fact that most of the travelling claims by the counterpart personnel are yet to be paid. This, according to the observation, may pose a serious threat to the successful implementation of the project if not addressed in good time.

The Representative of the Permanent Secretary (Director in the Office of the Permanent Secretary) assured the members that he will make a special report on this matter to the Permanent Secretary.

The Director Agro-Processing and Marketing Department, Engr O. B. Jatto tasked the JICA experts to prepare the schedule of activities and submit in time. This would to enable the Permanent Secretary to consider the schedule for approval so that the concerned APM staff can have their clams before they depart for the training. The meeting requested the Managing Director of NAMDA to delegate his Engineers (staff) to travel to Nasarawa and view the building for the incubation plant in Lafia.

In a related development, the Memorandum of Understanding (MoU) earlier endorsed by the Project was reported missing. It was suggested that another MoU be produced for the signature of the Permanent Secretary and other stakeholders' attention. This suggestion was graciously approved by the Chairman.

Furthermore, a representative from the Federal Ministry of Finance, Mr. Adejor Jeremiah, gave some highlights on the fiscal policy of the Federal Government on agricultural development. Some of these polices include:

--- Increase in the import duty on rice

--- Zero percent (0%) duty on Agricultural equipment etc

He suggested that there is a need to be reporting to Federal Ministry of Finance if there is deviation from these polices by any agency or organization that are implementing the polices for necessary action.

The representative of the Permanent Secretary, Ministry of Agriculture Niger State, Mr. Julius .S. Karma, assured the meeting that the budget is already prepared and it is left for the Chief Executive (Governor) to approve. He said that the Hon. Commissioner of Agriculture in the State is following up the budget. In another development, the Managing Director NAMDA/ADP informed the meeting that a memo has been sent to the Governor to enable them access funds to commence rehabilitation of the training venue. Moreover, the design has been forwarded to the Ministry of Works and Housing for preparation of the Bill of Quantity (BQ) and promised that by God's grace there will be no problem.

9.0 Date of next meeting has been attentively for November 2013

10. Closing

In the absence of any other business, Mr. Baba Kutigi Madugu from Niger State ADP moved for adjournment of the meeting and was seconded by Ms. Halima Ahmed at about 12.00pm.

Engr. O.B. Jatto
Acting Director
Agro Processing & Marketing
Federal Ministry of Agriculture and Rural Development

Mr. Ikuo YAMAMOTO
Chief Advisor
RIPMAPP

Mr. Akinbolawa OSHO
For Permanent Secretary
Federal Ministry of Agriculture and
Rural Development
(Chairman)

Mr. Tetsuo SEKI
Chief Representative
JICA Nigeria Office

MINUTES OF THE 4TH JOINT COORDINATING COMMITTEE (JCC) MEETING ON RICE POST HARVEST PROCESSING AND MARKETING PILOT PROJECT (RIPMAPP) IN NASARAWA AND NIGER STATES HELD ON 27TH OCTOBER, 2013 AT THE PERMANENT SECRETARY'S CONFERENCE ROOM, AREA 11, GARKI, ABUJA

1.0 **Present:**

/No	Participant	Organization	Post
	Mr. Osho A. O. Rep. (PS)	Fertilizer/FMARD	D (Fertilizer)
	Engr. O. B. Jatto	APM/FMARD	D (APM)
	Engr. A. O. Afowowe	FMARD	DD (APM)
	Engr. I. U. Nwankwo	FMARD	DD (APM)
	Tkida Kunihiro	JICA Mid-Term Evalu.	Head
	Kudo Yasunobu	JICA Mid-Term Eval.	Consultant
	Tetsuo Seki	JICA Nigeria Office	Chief Rep.
	Ike J. Chuka	Embassy of Japan	Research Analysis/Adviser
	Mohammed M. Isah	Niger ADP	D (Planning)
0	Mr. J. M. Dadet	FMARD	AD (APM)
1	Shingo Furuchi	RIPMAPP	DCA
2	Masako Yamamoto	JICA Nigeria Office	PEA
3	Kmihyang Ku	RIPMAPP	PC
4	Naphtali Usachor	Nasarawa ADP	PM
5	Ikuo Yamamoto	RIPMAPP	CA
6	Makama Mihail	NMA	Rep. (P S)
7	Egen-Odey Banjanin	FMF	AO II
8	Bukola Shobowale	FMF	PAO
9	Mrs. S. M. Etiebet	NPC	Representative
0	Ejeagbasi C. Oby	NPC	Representative
1	Andrew K. Ibili	FMARD	CAO

1.1 **Secretariat:**

		Organization	Post
2	Godwin I. Igoji	FMARD	C/Personnel
3	Alhaji I. Shaibu	FMARD	CP
4	Halima Ahmed	JICA Nigeria Office	Consultant
5	Engr. M. B. Usman	FMARD	CP

2.0 **Opening:** The meeting was declared open at about 9.15 am followed by self-introduction of all the participants.

3.0 **Opening Remarks by the Chairman:** The meeting was presidedover by the Director, Fertilizer Department, Mr. A. O. Osho who represented the Permanent Secretary, Federal Ministry of Agriculture and Rural Development (FMARD).

In his opening remarks, he welcomed all the participants to the 4th Joint Coordinating Committee (JCC) meeting of the Rice Post-Harvest Processing and Marketing Pilot Project (RIPMAPP) in Nasarawa and Niger States. He commended the efforts of the Government and people of Japan particularly the Japan International Cooperation Agency (JICA) for their technical assistance to Nigerian Government in boosting food production in the country. He said that RIPMAPP is a project with the sole aim of improving the quality of our locally milled rice and therefore assured JICA of Nigeria's support to make the project a reality.

4.0 **Speech by the Representative of JICA:** The Resident Representative JICA Nigeria Office Mr. Tetsuo Seki in his speech said that the good standing relationship between Nigeria and Japan started since 1970 when JICA first constructed irrigation scheme in the present Anambra State. He said since then, Japan and Nigerian Governments have been cooperating in different spheres of life especially in agriculture. He informed the meeting that he also visited Lafia, Nasarawa State to inspect the incubation plant already installed under the project and commended the JICA Experts and Nigerian Officials for their wonderful commitment. He urged Niger State Government to ensure that all the necessary infrastructures required for the project in Niger State are provided in good time to ease the implementation of the project. He equally pleaded with the FMARD to provide a budget line to cater for the travelling/training expenses of the Agro-Processing and Marketing Department (APM) staff involved in the project. This according to him will motivate the staff towards the overall successful implementation of the project.

5.0 **Presentation of the Minutes of the 3rd JCC Meeting:**

5.1 The minutes of the 3rd JCC meeting could not be presented for adoption in view of the fact that both parties (Representatives of Governments of Nigeria/Japan) were yet to append their signatures to make it an authentic document. The minutes of the 3rd JCC meeting was therefore reverted to JICA for appropriate action.

6.0 **Report on the results of Mid-Term Evaluation Study of RIPMAPP:**

6.1 The Mid-Term Evaluation study was jointly conducted by the staff of Federal Ministry of Agriculture and Japanese Experts. From Nigerian side, the team was led by Engr. I. U. Nwankwo in company of Engr. A. O. Afowowe and Mr. Andrew K. Ibili as members, while Dr. Kunihiro Tokida led the Japanese Team with Ms Yoshie Sasabe and Mr. Yasunobu Kudo as members.

6.2 The first part of presentation was done by Engr. Nwankwo which highlighted the five criteria used for evaluation study of RIPMAPP. These include:

- Relevance
- Effectiveness
- Efficiency
- Impact; and
- Sustainability

6.3 The team evaluated the relevance of the project as high. This is because issues of Post – harvest and Marketing are crucial in tackling issues of the National Rice Development Strategy (NRDS) and Government of Nigeria's policy in the Rice Transformation Agenda (ATA). Effectiveness was viewed as uncertain as highly motivated counterparts and beneficiaries are not enough to make a judgment of the prospects to achieving the project purpose. Efficiency was judged as low due to increase in inputs and increased expenses for higher security measures taken to secure the Japanese experts and also due to delay in the installation of the incubation plant. Impact was considered to start appear at a later period. Sustainability was scored as moderate since it is early to judge the criterion at this point.

6.4 The second presentation on the recommendation was made by Dr. Tokida. There are five (5) items of recommendations made by the evaluation team. The first was appointment and budgetary measures for APM staff. It was specifically recommended for the appointment of a full-time training Program Coordinator from APM staff in Abuja as Counterpart Personnel (CP) to realize the smooth communication in the reporting line for training purpose. It was also recommended for placement of a budgetary officer from FMARD as JCC member and secure budget for APM staff operations. It was suggested that a comprehensive breakdown of expected expenses for APM for the remaining period of the project duration be worked out and submit to the Ministry for approval and placement in dedicated account for RIPMAPP.

6.5 Other recommendation was on building for the incubation plant at Bida, Niger State. This recommendation was accepted specifically on:-

(i) The clearing and foundation preparation to be done by Niger State Government which was confirmed by Representative from Niger State;

(ii) Japanese side is to offer a shelter for the incubation plant at Bida. Other facilities including power supply, training hall, water and drying yard are to be carried out by Niger State Government;

(iii) After the completion of the construction of the incubation plant and defect inspection, the building and its maintenance would be the responsibility of Niger State Government.

The third recommendation was the appropriate size of the incubation plant at Bida, Niger State. It was recommended that the machineries and equipment to be procured for Bida, will be appropriately applied based on the number of rice farmers, parboilers, millers and traders in the targeted area.

The fourth recommendation was on the revision of the current Project Design Matrix (PDM) which was accepted as recommended.

The fifth recommendation was on the utilization of the Ministry's Rice Transformation Program. It was specifically recommended that destoners and threshers procured under Rice Transformation Program be used to benefit the beneficiaries already trained in the targeted areas of the two States. It was observed that the distribution of destoners will greatly contribute to the outcome of the project.

7.0 **Other Issues:**

7.1 The National Coordinator of RIPMAPP in Nigeria Mr. J. M. Dadet informed the meeting that the two (2) States where the Pilot projects are sited are centres where training can take place for both States Agricultural Development Project Staff (ADP) and Federal Ministry of Agriculture staff and advised that at the end of the project ADP should be allowed to select those who will run the mill (incubation plant) by forming cooperative and that Memorandum of Understanding (MoU) be drafted to such Cooperative Society for at least 20 – 30 years to enable them pay back to ease the replication of the project in other areas within the rice producing zone of the State.

8.0 **Vote of thanks:** In a related development, Director, (APM) Engr. O. B. Jatto thanked the Mid-Term Evaluation Team on RIPMAPP, ADP staff and the Ministry staff for their cooperation and support towards the successful completion of the project in Lafia, Nasarawa State. He apologized for the delay in carrying out the Mid-term evaluation which was due to the security situation in the country, but assured everybody that the project will be completed on schedule. He assured the meeting that the rice quality will be determined by stone free, colour and percentage of broken rice as proposed under RIPMAPP in determining the grade of rice. He is optimistic that the Niger State incubation plant would be successful based on the lessons learned from that of Nasarawa State.

9.0 **Closing:** In the absence of any other deliberations, the meeting came to a close at about 2.30 pm.

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Engr.B.O Jatto
Director, Agro-Processing and
Marketing Department
Federal ministry of Agriculture and
Rural Development

.....

Mr. Ikuo Yamamoto
Chief Advisor
RIPMAPP

.....

Mr. Akinbolawa Osho
For: Permanent Secretary
Federal Ministry of Agriculture
& Rural Development

.....

Mr.Tetsuo Seki
Chief Representative
JICA Nigeria Office

Joint Mid-Term Review Report

on

Rice Post-Harvest Processing and Marketing Pilot Project

in Nasarawa and Niger States

(RIPMAPP)

Joint Mid-term Review Team

Abuja

26th November, 2013

Dr. Kunihiro TOKIDA
Team Leader
Japanese Mid-Term Review Team
Japan International Cooperation Agency

Engr I.U. NWANKWO
Team Leader
Nigerian Mid-Term Review Team
Deputy Director, Agro-Processing and
Marketing Department, Federal Ministry
of Agriculture and Rural Development

Table of Contents

Annexes:

Annex 1: Schedule of the Joint Mid-term Review

Annex 2: Project Design Matrix (ver.2) and Plan of Operations (ver.2)

Annex 3: List of Machinery and Equipment

Annex 4: List of Counterpart Personnel Participated in Training Courses in Japan

Annex 5: Project Running Cost Covered by JICA

Annex 6: List of Nigerian Counterparts

Annex 7: Budgetary input covered by Nigerian Side

Annex 8: The List of Reports and Manuals Produced by the Project

Annex 9: Specification of Incubation Plant in Bida

Abbreviation

APM	Deputy Director, Agro-Processing and Marketing Department
CARD	Coalition for African Rice Development
CP	Counterpart Personnel
FMARD	Federal Ministry of Agriculture and Rural Development
JICA	Japan International Cooperation Agency
m/m	man-months
NADP	Nasarawa State Agriculture Development Programme
NAMDA	Niger State Agriculture and Mechanization Development Authority
NFRA	National Food Reserve Agency
NGN	Nigerian Naira
NRDS	National Rice Development Strategy
PDM	Project Design Matrix
PO	Plan of Operation
R/D	Record of Discussion
RIPMAPP	Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States
RTA	Rice Transformation Agenda
TOT	Training of Trainers

1. Outline of the Mid-Term Review

1.1. Objectives

The objectives of Mid-term Review are as follows:

(1) To review the inputs to "Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States" (herein after referred to as "the Project"), the progress and achievements of the project activities.

(2) To evaluate comprehensively the Project in accordance with five evaluation criteria (relevance, effectiveness, efficiency, impact and sustainability) by both Nigerian and Japanese sides.

1.2. Schedule

The Mid-term Review was undertaken from 11th to 29th November 2013. The schedule is attached in Annex 1.

1.3. Members

The Mid-term Review was conducted by the Joint Mid-term Review Team (hereinafter referred to as "the Team"), composed by both Japanese and Nigerian team members. The members of the Team are as follows:

[Japanese Member]

Name	Role in the Team	Position
Dr. Kunihiro TOKIDA	Senior Advisor, Rural Development Department, JICA HQ	Team Leader
Ms. Yoshie SASABE	Staff, Rural Development Department, JICA HQ	Project Management
Mr. Yasunobu KUDO	Consultant, Task Co., Ltd.	Evaluation Analysis

[Nigerian Member]

Name	Role in the Team	Position
Engr I.U.NWANKWO	Deputy Director, APM, FMARD	Team Leader
Engr. Amos O. AFOWOWE	Deputy Director, Agro-Processing and Marketing, APM, FMARD	Member
Mr. Andrew K. IBILI	Chief Administrative Officer, Planning Research and Statistics Department, FMARD	Member

1.4. Method

The Progress of the Project was assessed jointly by the Team based on the materials showing the framework of the Project such as the Project Design Matrix (hereinafter referred to as

"PDM", the Plan of Operation (hereinafter referred to as "PO") and the Record of Discussion (hereinafter referred to as "R/D"). The review activities including examination of the project reports, field surveys, and interviews with staff of Agro-Processing and Marketing Department (hereinafter referred to as "APM") of the Federal Ministry of Agriculture and Rural Development (hereinafter referred to as "FMARD"), Nasarawa State Agriculture Development Programme (hereinafter referred to as "NADP") and Niger State Agriculture and Mechanization Development Authority (hereinafter referred to as "NAMDA"), and experts dispatched by JICA. Also beneficiaries of the Project are interviewed including farmers, parboilers, millers, traders and other concerned personnel in the Project. This review was conducted based on the following Five Evaluation Criteria.

1) Relevance	Assess the relevance of the purpose and the overall goal of the Project through confirming Nigerian government policies, needs of the beneficiaries, the assistance policies of Japan, etc.
2) Effectiveness	Check the achievement of the outputs and examine the relationship between the outputs and the project purpose. (Based on prospects)
3) Efficiency	Analyze the outputs produced from the inputs of the Project considering the timing, the quality and the quantity of the inputs.
4) Impact	Consider potential positive and negative impacts, which are caused by the project implementation. (Based on prospects)
5) Sustainability	Examine institutional, organizational, financial and technical sustainability of the results and effects of the Project after the termination of the assistance. (Based on prospects)

2. Outline of the Project

2.1. Background

In Nigeria, about 65% of the population earns their living through agriculture-related jobs and agriculture accounts for about 40% of GDP of Nigeria. Rice is one of those agricultural produce for which the demand is increasing. The domestic production of rice, however, does not meet this demand, and hence, the Nigerian government has decided to increase the self-sufficiency ratio of rice.

By recognizing that inadequate knowledge and technique of farmers or the processors with regards to post-harvest processing make the overall quality as well as the price of domestic rice low, resulting in discouraging farmers from rice production, the Nigerian government requested the Japanese government to assist implementing the "Rice Post-Harvest and Marketing Pilot Project in Nasarawa and Niger States", for the purpose of human resource development of federal and state government officials, rice producers, processors and other concerned personnel in the Project.

In response to the request from the Nigerian Government, the Detailed Planning Survey was conducted in 2011 and the framework of the Project was officially agreed between JICA and the Nigerian authorities concerned of the Project by the signing of R/D on 18th March, 2011.

2.2. Summary of Project Design

The framework of the Project is described in the Annexes of R/D, which was partially modified with the approval of 2nd Joint Coordination Committee held on 2nd April, 2012. The framework is summarized as follows.

Table 1: Summary of the Project Design

Overall Goal	Quality of domestic rice is improved in the target States.
Purpose	Quality of domestic rice is improved in the target areas.
Outputs	1. Measures to promote distribution of high quality domestic rice are identified. 2. Rice grading standards for domestic rice is developed and improved. 3. Capacity of ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced. 4. Capacity of small-scale rice millers, parboilers, rice farmers and traders on post-harvest, marketing and business management is enhanced. 5. Training programs for non-targeted ADP staff regarding post-harvest, marketing and business management are commenced.

2.3. Duration

Four years from September 2011 to September 2015.

2.4. Implementing Agency

Agro-Processing and Marketing Department (APM), Federal Ministry of Agriculture and Rural Development (FMARD) (It was originally National Food Reserve Agency (NFRA) but it was re-organized in 2012.)

2.5. Target Areas

Lafia, Nasarawa state, Bida, Niger state

2.6. Target Groups

Small-scale rice millers, parboilers, traders and rice farmers

3. Project Performance and Implementation Process

The Team reviewed the performance of the Project by measuring the achievement made so far on the project outputs and the implementation process examining the process of provision of inputs and activities.

3.1. Achievement of the Project

3.1.1 Inputs

[Japanese Side]

(I) Dispatch of JICA Experts

Eight (8) experts in total have been dispatched to the Project as listed below. The total duration of the assignment of experts is 45.50 man-months (m/m) with 1.40 m/m of the home-based work as of 30 September 2013.

Table 2: Dispatch of JICA Experts

Name	Field of Expertise	From	To
Ikuo YAMAMOTO	Chief Advisor	3 September, 2011	To date
Shingo FURUICHI	Deputy Chief Advisor/Post-harvest technology/Parboiling	17 September, 2011	To date
Atsushi KOYAMA	Management/Marketing	10 September, 2011	To date
Tomonori WAKISAKA	Rural Finance	29 September, 2012	26 October, 2012
Naoko INADA	Rural Finance/ Organization Strengthening/ Training Planning	3 September, 2011	13 July, 2013
Naoki ITO	Coordinator / Training Assistant	9 October, 2011	25 November, 2012
Hideki MURAKAMI	Coordinator / Training Assistant	3 September, 2011	17 October, 2011
Kwihyang KU	Training Management/ Coordinator 1	14 May, 2012	To date
Takuma TAKAYAMA	Coordinator 2/Training Assistant	17 August, 2013	30 September, 2013

Source: The data provided by the project experts

(2) Provision of machinery and equipment

The machinery and equipment were provided for the purpose of training, rice quality test and management of the Project with total value equivalent to 26,999,800 Nigerian Naira ((hereinafter referred to as "NGN"), and the incubation plant in Lafia with value equivalent to 45,795,800 NGN including electric generator. So, total value of all machinery and equipment provided is equivalent to 72,795,600 NGN. These machinery and equipment, and the milling plant were installed in the offices of APM, NADP and NAMDA, and the incubation plant in Lafia, Nasarawa state.

The majority of the machinery and equipment is utilized as planned with adequate maintenance. The detailed list of the machinery and equipment is as provided in Annex 4. The incubation plant will be utilized for the innovator[1] support through training and demonstration as well as the counterpart personnel (CP) training for operation and maintenance.

(3) Training of the CP in Japan and the Third Countries

Three (3) of the CP were trained in Japan by attending "the High Level Counterpart Training for Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger State (RIPMAPP) Nigeria". The list of CP attended these trainings are as shown in Annex 5. In addition, twenty (20) extension agents and ten (10) researchers from both Nasarawa and Niger states attended the third-country training Rice Cultivation course and Rice Research course in "Promotion of Rice Development Project" in Uganda. A part from above trainings, three (3) CP participated in JICA training course "Development Farm Machinery for Small-Scale Farmers" and "Rice-post harvest processing for English Speaking African Countries at Yamagata University".

(4) Local cost

As of 30 September 2013, the local cost borne by the Japanese side is 42,894,777 Japanese Yen in total (70,776,382 NGN equivalent). The breakdown of the expenditure is shown in Annex 6.

[Nigerian Side]

(1) Appointment of the Counterpart Personnel (CP)

The Nigerian side appointed the Project Director and the Project Manager from FMARD and the State Coordinators from both the Nasarawa and Niger states. In addition, the officers from the relevant offices in charge of three entities have been allocated and undertaken the tasks under the Project. The list of the CP is as shown in Annex 7.

(2) Building and facilities

The office space for the Project is provided both by APM, NADP and NAMDA within their premises with other facilities with the supply of utilities. In addition, NADP provided land. building and drying yard for the incubation plant in Lfia and NAMDA provided land for the incubation plant in Bida.

(3) Local cost

The local cost borne by APM has been 11,698,074 NGN including transportation costs and taxes and excises paid for the machinery and equipment, and travel allowances and costs of the CP. NADP also bears travel allowances, and costs of the state-level CP, expense of

[1] Innovator is someone, from the participants of the training, who has strong will to adopt machinery, equipment, or improved technology for quality improvement. Support consists of providing financial information and its access, support of business planning, technical support of skills or consultation using of incubation plant, etc.

implementation of training to small-scale rice millers, parboilers, traders and rice farmers as well as other miscellaneous expenses such as reporting and meetings expenses. In addition, land acquisition and preparation as well as the construction of the building for the incubation plant in Lafia are covered by the budget of NADP, which is projected to be 30 million NGN. The total amount provided is 88,590,874 NGN including the already banked budget for the construction of the incubation plant in Lafia. The detail of the expenditure of both offices is as shown in Annex 8.

The assignment of expert is appropriate after reviewing dispatch schedule. The assigned number of CP is appropriate.

The local expense by the Japanese side is increased due to measures at higher security level. The local cost shouldered by the Nigerian side is adequate.

The total amount spent for procuring the incubation plant was excessively high due to change of size and specification. The timing of installation of the incubation plant was delayed due to delayed process of construction.

3.1.2 Achievement of the Outputs

The degree of the achievement of Outputs was assessed by comparing between the objectively verifiable indicators and the status of the time of the Joint Mid-term Review.

Output 1: Measures to promote distribution of high quality domestic rice are identified.

1-1) Problems, causes and solutions are specified and reported.

Under Output 1, "Problems, causes and possible solutions on rice quality in Nigeria" was compiled and reported based on the studies[2] conducted by the Project. In the report, some key issues of technology to be tackled in the areas of raw material (paddy), parboiling process and milling process were identified. The Project started to improve post-harvest technologies.

Area/ Process	Activity being tackled by the Project
Raw paddy	In order to show the influence of seed quality on rice quality, quality seed and other inputs were provided to rice farmers. It was demonstrated that the difference in quality of milled rice between rice produced by using non-renewal seed and using quality seed.
Parboiling process	Improvement of parboiling tank (utilization of steaming screen and a lid)
Milling process	Introduction of destoner. Package design and suitable packaging size

[2] Studies on the socio-economic situation in Nasarawa and Niger States, and the rice distribution system and market situations and consumer preference, The Project, 2012

After the designing, improved packaging (smaller size, indication of specification, transparent sack and attractive design) were introduced to the Lafia Rice Millers and Dealers Association (hereinafter referred to as "Lafia Association"), the major partner for the Project in Lafia.

Table 3 Four Technology Packages

Package	Contents
1	A destoner and an improved parboiling equipment
2	Package 1 and replacement of current milling machine with small-scale friction-type milling machine
3	Package 1 and improved one-pass milling machine
4	Package 1 and Small-scale milling plant

Source: The data provided by the experts

The Project has conducted experiments using various types of parboiling tank and its parts in order to identify the optimal design for parboiling equipment together with the NADP and the beneficiaries. The Project reached use of a lid and a steaming screen with conventional type parboiling tank can bring a certain level of improvement. This improved parboiling tank has been rent to innovators in Lafia Association for the trial use, and resulted increase of selling price by better whiteness (brightness), color uniformity, decrease of broken rice ratio. It also improved in reduction of fuel wood and increase of processing volume by shortening of processing time. The Project plans to continue further dissemination of improved parboiling equipment through innovator support.

1-2) Specifications for machinery and equipment to be introduced are produced.

In accordance with four (4) technology packages presented above, a series of training was conducted under the activities of the Output 4. As these types of improvement requires continuous and tailor-made approach according to the business types and scales. The similar tasks in Bida may be expected, which is planned to be undertaken in the latter part of the Project. Some remaining and on-going works were observed regarding trial packaging and improvement of the milling skills and operational procedures using the incubation plant.

Output 2: Rice grading standards for domestic rice is developed and improved.

2-1) Proposed grading standard for parboiled milled rice is accepted at the JCC meeting.

The grading standard was accepted by JCC meeting, but the standard has not utilized well yet. Based on the research findings, the factors, which affect the price of the parboiled rice, were narrow down into brightness of kernel, broken rice ratio, red kernel mixture and stone mixture. Of which, removal of red kernel and stone from final product is absolute requirement in any

grade of quality rice. So, remaining two factors, brightness and broken rice ratio was considered as grading factors. Eventually, 3 grades, A, B and C were determined from combination of 8 levels of brightness and 2 levels (less than 10% and 30%) of broken rice ratio. Through the some experimental activity, second version of the grading standard was approved at the 3rd JCC meeting in July 2013.

Regarding to utilization of the grading standard, a primary purpose of development the rice grading standard is not institutionalization, but stimulating consciousness on rice quality difference among stakeholders in rice value chain. Once stakeholders aware price change depending on quality, motivation for rice quality improvement is enhanced. Then the standard can be applied within the stakeholder group, then it expands beyond the group. As a final stage, application of unified standard in field level of rice value chain is essential for sound rice market development. If institutionalization is necessary for expansion of unified standard after the market recognition, it should be taken into consideration.

Output 3: Capacity of ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced.

3-1) Average score of capacity level of ADP staff of the both target ADPs evaluated by use of evaluation sheet is more than 3.

The indicator was achieved for NADP CP.

(1) The training for NADP and NAMDA staff members

In the period from October 2012 to Feb 2013, evaluation of capability of NADP and NAMDA CP was improved in the area of (1) Capacity of Training Management, (2) Capacity of Post Harvest Technology, (3) Capacity of Marketing and Business Management, and (4) Capacity of Teaching Method, and the evaluation points in all areas scored more than 3.

The activities under the Output 3 were undertaken jointly by Japanese expert and the CP of APM. Based on the training plan for ADP staff, a series of training was conducted utilizing "The Training Implementation Manual for ADP Staff", which was developed in order to operationalize the training of trainers (hereinafter referred to as "TOT") to ADP staff members as well as the training curriculum with modules, and necessary teaching materials (the products developed are as listed and shown in Annex 9).

Table 4 Training Courses Conducted and Participants

Name of the Course	Dates	No. of Participants	Target Participants
Training for NADP Staff of Nasarawa State on Marketing and Business Management	30 May, 2012 31 May, 2012 01 June, 2012	26 28 26	Candidates of Trainers for Beneficiary Trainings

Training for NADP Staff of Nasarawa State on Post-Harvest Technology	18 June, 2012 19 June, 2012 25 June, 2012 26 June, 2012 27 June, 2012 28 June, 2012	11 10 14 12 15 15	Candidates of Trainers for Beneficiary Trainings
Training for NADP staff of Nasarawa State on Extension	03 October, 2012	31	Candidates of Trainers for Beneficiary Trainings
Training for NADP staff of Nasarawa State on Training Cycle Management	10 October, 2012 11 October, 2012 12 October, 2012	22 22 13	Candidates of Trainers for Beneficiary Trainings
Training for NAMDA staff of Niger State on Post-harvest Technology	30 July, 2013 31 July, 2013 19 September, 2013 28 November 2013	21 7 7 12 (Planned)	Candidates of Trainers for Beneficiary Trainings
Training for NAMDA staff of Niger State on Marketing and Business Management	13 August, 2013 14 August, 2013 15 August, 2013	20 21 20	Candidates of Trainers for Beneficiary Trainings
Training for NAMDA staff of Niger State on Extension	20 August, 2013 21 August, 2013 22 August, 2013	20 20 20	Candidates of Trainers for Beneficiary Trainings
Training for NAMDA staff of Niger State on Training Cycle Management	28 October, 2013- 01 November,2013	30	Candidates of Trainers for Beneficiary Trainings

Source: The data provided by the JICA experts

(2) Installation of the Incubation plant in Lafia

Installation of machinery and equipment to the incubation plant in Lafia was completed in November 2013. It was about one year behind of the plan, because of delayed building construction. The training utilizing the incubation plant has yet to start as of the time of the Mid-term Review. In order to catch-up delayed period, approach of technical transfer to CP has to be reconsidered. Considering replication of the activities in Niger state by APM, full participation of APM CP in the activities related to the incubation plant in Lafia.

Output 4: Capacity of small-scale rice millers, parboilers, rice farmers and traders on post-harvest, marketing and business management is enhanced.

Since beneficiary training has not started in Bida in Niger state at the time of the Joint Mid-term Review, the review of the progress was mainly focused on the Nasarawa State.

4-1) Each average score of post-test of small-scale millers, parboilers, rice farmers and traders after training is more than target score which is set for the each beneficiary group.

(1) Training for beneficiaries in the Nasarawa State

The result of post-test shows that in Nasarawa state, 77% of parboiler, 79% of miller and 91% of rice farmer achieved target score. While the training materials and teaching aids were prepared, the trainers (instructors and support staff from NADP) shared the work relevant to the

preparation and coordination as part of the technology transfer in terms of the operationalization and management of the training activities.

The training undertaken as of the time of the Joint Mid-term Review is as indicated in the Table below:

Table 5: The Number of the Training for Final Beneficiaries

Name of the Course	Dates	No. of Participants	Target Participants
Training on Milling Technology (Nasarawa)	22 October, 2012 12 November, 2012 16 January, 2013 22 January, 2013 23 January, 2013	10 9 10 10 10	Rice Millers in Nasarawa State
Training on Assakio-type Parboiling (Nasarawa)	08 November, 2012 14 November, 2012 29 January, 2013	9 10 10	Female Parboilers in Assakio, Nasarawa State
Training on Threshing and Winnowing (Nasarawa)	19 November, 2012 26 November, 2012 28 November, 2012 03 December, 2012 05 December, 2012 10 December, 2012 12 December, 2012	13 9 13 24 5 13 15	Farmers in Nasarawa State
Training on Marketing and Business Management (Nasarawa)	31 January, 2013 05 February, 2013 07 February, 2013 12 February, 2013 14 February, 2013 21 February, 2013 14 March, 2013	28 31 32 30 28 28 30	Farmers, Parboilers, Millers, and Traders in Nasarawa State
Training on Lafia-Association-type parboiling (Nasarawa)	28 February, 2013 05 March, 2013 12 March, 2013	20 20 20	Parboilers in The Rice Millers and Traders Association Lafia, Nasarawa State

Source: The data provided by the JICA experts

4-2) 10% of the participants take actions to adopt introduced technologies.

4-3) 2.5% of the participants adopt introduced technologies.

Activities have been conducted. The project will promote action taking through innovator support. Numerical data for above indicators is yet to be collected, but some signs are observed in Nasarawa state.

Nasarawa *State*

According to the participants of the training, the consciousness on rice quality has been dramatically changed through participating in a series of the training and experiments of equipment improvement. They emphasized this point as the result of the Project intervention. It

is observed that the motivation of Lafia Association is high enough to commit the Project activities.

Innovator support as a key activity in Nasarawa under the Output 4 is on the process of implementation. Considering business size and nature of business, 49 of 111 interviewed candidates, who were interested in investing in the improved technology, were selected as potential innovators.

In September 2013, 10 units of improved parboiling equipment were rented out to the potential innovators as a four-week trial to make them recognize the improved technology. As a result, increase of selling price by brightness, decrease of broken rice ratio, and reduction of fuel wood and increase of processing volume by shortening of processing time were observed. Some other association members already adopted a part of improved technology (a lid or a steaming screen). 10 other potential innovators from Lafia Association are undertaking second turn of the trial for further dissemination of improved technology.

Meanwhile, in order to strengthen the capacity of fabricators, the CP of NADP conducted training on manufacturing improved parboiling tank for 5 fabricators in Lafia Association.

Destoner will be the next target to be disseminated for removal of stone from final product. However, according to the study by RIPMAPP, strict loan terms of banks, such as interest rate, collateral, down payment, hamper stakeholders to borrow money and invest in equipment. Since the Project does not have function of lending money, the Project is seeking alternative ways for purchase of a destoner other than utilization of a bank loan. One is utilization of accumulation of additional profit by selling improved parboil rice. According to the project, a typical parboiler in Lafia Association annually processes 100 tons of parboiled rice. Parboiled rice, which is processed by improved parboiling equipment, can be sold with 70-80 USD/ton higher than the selling price of ordinary quality one, even though stone is not removed. Accumulated additional profit will be 7,000-8,000 USD/year, and it can cover the price of a destoner (about 3,000 USD). Another way is establishment of destoner revolving fund in Lafia Association. Firstly, the Project provide a destoner to Lafia Association, and the association lease the destoner to their member and receive lease fee. Once accumulated lease fee reached to the cost of destoner, ownership is transferred to the member. The association again procures another destoner for leasing, and revolves the fund. Moreover, according to APM, under the program of Rice Transformation Agenda, APM will supply thresher and destoner at subsidized price to rice farmer and processor in 2014. In order to expect synergy, harmonization of the program and the RIPMAPP could be taken into consideration.

As for another target group in Nasarawa, Asakio Millers Association, ethnic group conflict in Asakio village caused discontinuation of follow-up activity and innovator support for this target group

Niger State

No innovators support has started in Niger state, because beneficiary training has not yet started at the time of Mid-tem review.

Output 5: Training programs for non-targeted ADP staff regarding post-harvest processing, marketing and business management are commenced.

The activities under this Output are expected to commence in the final stage of the Project. Therefore, no activity has been carried out except for the capacity building of APM staff who will be the main implementer of the activities.

3.1.3 Prospect of Achieving the Project Purpose

At least 2.5% of rice traders of the target groups in the target areas handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project.

"Target Group" was defined as small-scale millers, parboilers, rice farmers and traders, who were actually trained in the Project. Achievement of the Project Purpose is uncertain.

Since the target quality of rice was set as Grade A in verified indicator of the Project Purpose, installation of destoner, which costs 3,000-4,000 USD, is indispensable to remove stones from final product. At the planning stage of the Project, it was anticipated that suitable loan products for small-scale millers are available to invest in machinery and equipment. However, there is no suitable loan products according to the study by the Project. Although a few countermeasures are considered by the Project as mentioned above, viability of these countermeasures is still unknown. In addition, destoner available in Nigeria is electric motor driven type, which needs stable power supply, may require further investment in installation of electric generator.

Improvement of other quality factors including brightness and broken rice ratio are prospected by improved parboiling tanks, which do not require as high investment cost as destoner.

3.2. Implementation Process

3.2.1 Management and Decision Making

In addition to Nasarawa and Abuja, scale of the Project activities has been expanded to Niger state. So, the management and decision making of the Project and counterpart agencies has to be strengthened.

The important issues regarding the Project framework and implementation has been discussed with the decision made at JCC held October 2011, April 2012 and July 2013. The issues handled by three JCC include the revision of the PDM and PO, counterpart budget allocation for the Project in APM and decision on undertaking some necessary activities such as drafting

Memorandum of Understanding between three parties, APM, ADPs and JICA to clarify the responsibilities of each party. All parties need to make efforts to execute these clarified responsibilities.

The day-to-day management has been relatively maintained through the communication at the occasional meetings between the JICA experts and relevant counterpart personnel. As the project coordinator in APM is too busy to communicate with JICA experts, a full-time counterpart should be assigned in this position.

3.2.2 Monitoring and Evaluation

The major problems have not been observed on monitoring. A system of utilization of lessons learnt in Nasarawa state to Niger state may need for further improvement of the Project activity. Overall management of the Project has been reported to the JCC. The day-to-day operations of the activities under Output 3 and Output 4 have been managed by the experts and CP in charge of the activities, As a part of the technical transfer, the team of trainers of NADP holds meetings every time after the training to review the performance and utilize the lessons for the next training.

3.2.3 Communication between the Experts, APM and ADP CP

The communication among parties has been well maintained although access of experts to the target areas is restricted due to security measures.

3.2.4 Ownership of the Counterpart Organizations

The ownership of the NADP is highly commendable with the dedicated individuals. It is also noted that the strong support provided by the beneficiary side especially by the Lafia Association contribute to the smooth and effective operation of the Project in the Nasarawa State. The ownership of the NAMDA is observed acceptable and expected to be high because of strong initiative of program coordinator and commitment of counterpart personnel.

Since organizational structure of APM was transformed only last year, and standing point and relation with other departments of the Federal Ministry are not clear enough at the working level. As for APM's ownership with the budgetary commitment, since counterpart fund for the Project has not been allocated, expenses for the activities of the counterpart personnel is often delayed, and it discourages counterpart personnel to actively participate in the Project activity. Relatively low initiative to implement the Project is affected morale of counterpart personnel in APM as well.

4. Evaluation Results

Based on the data and information collected by the Team, the Project was evaluated using five (5) evaluation criteria, namely, relevance, effectiveness, impact and sustainability.

4.1. Relevance

The relevance of the Project is evaluated as high based on the following reasons:

(1) Consistency in the relevant policies of Nigeria

The consistency of the Project with the policies of Nigeria remains adequate.

Project is relevant in relation to the policy outlined in the National Rice Development Strategy (NRDS). The goal of NRDS is to increase rice production in Nigeria from 3.4 million tons paddy in 2007 to 12.85 million tons by the year 2018. One of the prioritized target areas of intervention of NRDS is Post-harvest Handling and Processing.

Further, proposed actions in NRDS for post-harvest processing in short term are as follows; 1) To establish 2,360 nos. small mills of 1,000 tons/yr capacity, and 2) To increase farmers' appreciation of strict quality control through extension services and training. Midterm proposed actions are 1) To establish 916 nos. small mills of 1,000 tons/yr capacity and 2) Capacity building for processors and farmers on post-harvest handling and processing.

A part from above policy, following policies and regulations would promote domestic rice production, and be a driving force for activation of rice value chain in Nigeria.

- Import tariff for agriculture machinery is lifted.
- Import of rice through road transportation has been prohibited.
- 100% tariff of imported rice is maintained.
- A ban of import of rice from 2015 is planned.(RTA)

(2) Consistency in the relevant policies with Japanese policy for Official Development Assistance

Agriculture and rural development is prioritized in cooperation policy of Japan, which explores assistance on improvement of rice productivity, quality, and marketing, strengthening of farmer organization, assistance corresponding with needs like capacity development of engineer and farmer. Japan supports Coalition for African Rice Development (CARD) and Nigeria is one of the important participating countries of CARD.

4.2. Effectiveness

(1) Prospect for of achievement of the Project Purpose

Positive signs of achieving the Project Purpose were observed, but achievement of the Project Purpose cannot be judged at the time of Mid-term Review because of difficulty of loan access for the investment in destoner.

Through the innovator support in Nasarawa state, improved parboiling equipment showed significant performance as mentioned above in Output 4 of 3.1.2. And other association members started to adopt improved parboiling equipment partially (a steaming screen or a lid). It is expected to be disseminated in Lafia Association.

(2) Causal relationship between the Project Outputs and Project Purpose

The causal relationship is generally considered reasonable and proper between the Project Outputs and the Project Purpose except the Output 5, which does not directly contribute to the achievement of the Project Purpose, rather, contributes to the Overall Goal.

Under Output 4, the Project supports beneficiaries for credit access for investment in new equipment through introduction of suitable loan products. However, according to the study by the Project, there are few accessible loan products available for small-sale processors due to strict loan terms for them. Installation of destoner is indispensable condition to achieve the Project Purpose, and credit access by beneficiaries has to be secured for the investment in destoner. Other than utilization of banks, some countermeasures, such as establishment of destoner revolving fund, utilization of Government equipment supply program, are considered by the Project.

4.3. Efficiency

The efficiency of the Project is evaluated as low based on the following reasons.

(1) Incubation Plant in Nasarawa state

Degree of the Inputs

As a specification of incubation plant in Nasarawa was scaled up comparing the planned one, the procurement cost of the plant became more than 4 times higher than the plan. Cost of maintaining security of experts is additional cost, which was not anticipated.

Degree of the achievement of the Outputs

Delay of activity for operation and maintenance training for NADP CP and APM CP is noted.

(2) Other Outputs

The achievement in Output 1 and Output 2 as well as Output 3 except incubation plant related activities are regarded as satisfactory, and the level of technology transfer to NADP is considered to be high with the functioning trainers. As of the achievement in Output 4, a series of beneficiary trainings in Lafia were completed, and the innovator support started with application of improved parboiling equipment. As the innovator support has different nature from the training-centered activities, sufficient guidance of the experts is expected to be significant. On the other, ToT followed by beneficiary trainings will be started in the other Project site, Bida, Niger state. Under this circumstance, the efficient operation of the Project

activities and share of responsibilities among APM, ADP, AMDA and JICA experts are necessary, and especially, roles of APM should be highlighted even more than current status.

(3) Target Group

Activities with Asakio Millers Association, which is one of target groups in Nasarawa state was discontinued, and the planned output with them are no longer expected.

Focusing rice traders-cum-processors, who are the price sensitive stakeholder as well as the quality control action taker, in the target groups contributed to a significant improvement in efficiency of the project implementation. They are key stakeholders to affect other stakeholders in rice value chain in terms of improvement of rice quality.

(4) Adequacy of inputs

Experts

It was observed that the dispatch of the experts has been made on-time with sufficient number with necessary expertise. However, due to the security concerns, activities may have been negatively affected by limitation of access to the target areas.

Machinery and Equipment

The machinery and equipment are utilized in the training and testing for collecting data for technical improvement. The time and work consumed for the procurement and site preparation of the incubation plant was considered the negative factor affecting the efficient operation of the Project despite the significance. Specification of the incubation plant in Lafia is more than planned one. This caused the project cost increment, time and work consuming, and delay of related activities.

Nigerian CP

The appropriate allocation of CP by NADP can be evaluated as a contributing factor for the progress in the activities in Nasarawa. APM CP provided sufficient contribution to the activities under the Output 3 as lecturers of the trainings. APM CP are expected to fully organize the training program, such as planning, preparation, communication, implementation, monitoring and evaluation.

Other Inputs from Nigerian Side

Generally, the inputs from Nigerian side are sufficient. Especially, the financial contribution as well as other facilitation provided by NADP and NAMDA should be commended, which provides the expenses for the operational costs covering such expenses as training and business trip of staff members. APM had also availed the office space as well as covering significant expenses such as import duties and taxes for machinery and equipment imported for the Project. However, since the counterpart fund for the Project has not assured, travel allowance could not

be paid or paid delay. It often makes difficulty for APM CP to work with experts in the field, and affects capacity building of APM CP, which is conducted through On-the Job-Training.

Training of the CP in Japan and the Third Countries

CP, who participated in training course in Japan, brought a batch-type dryer, and it is under practical test using chaff as a heat source. If it were applicable, parboiled paddy drying in wet season would be faster. CP, who attended to Third Country training in Uganda, transfers the techniques in the field level. If quality seed provision program by the Government can work with extension activity, more effective results would be seen for increase of rice production.

(5) Possibility in achievement of Outputs through planned activities

The achievement of the Output 3 likely to be secured assuming APM provides necessary guidance and technical support with the assistance of experts, especially in Niger state. The capacity building for APM has been encompassed in the activities may be addressed in Output 3.

4.4. Impact

The impact of the Project is unknown at this time. Based on the observation, followings were analyzed.

(1) Prospect for achievement of Overall Goal

The difficulty in projecting the possibility of achieving the Overall Goal is found based on the same problem as the Project Purpose with difficulty of access to loan products for installation of equipment such as destoners.

In case of Lafia, however, it was found that the results of trial use of improved parboiling equipment by innovators encouraged the adoptation of the technology by other members of the association. In addition to the similar beneficiaries' commitment, if activities by NADP CP with strong commitment of NADP are expanded to the other two zones of the state, contribution to the Overall Goal can be prospected.

The same type of the commitment from key stakeholders may also be a crucial factor for the achievement of the Overall Goal in the Niger state.

(2) Technical improvement in other areas of the rice value chain

While the Project touches limited areas of the harvesting and post-harvest operations of farmers, it has been noted that the quality improvement starts from farmer's field in the rice value chain. However, the incentives for producing better quality rice arises from downstream of the value chain, like traders and processors, who are targeted and influenced by the Project. Once the incentives and its feasibility are properly perceived by farmers through traders or processors, better cultivation practices may be accepted by farmers.

(3) Prospect of impact on promoting domestic rice market

Change of handling volume of traders can indicate impact to the rice market. Figures from traders in target groups of the Project can be referred for rough impact estimation.

4.5. Sustainability

The sustainability of the Project is evaluated as moderate based on the following reasons.

(1) Policy, legislation and institutional arrangement for sustainability

NRDS covers the period until 2018, therefore, the policy on rice promotion will be maintained until 2018. Apart from the efforts in the federal level, the linkages and support from the State Government may be sought in order to explore the budgetary support from state Government.

(2) Organizational capacity of the CP organizations for sustainability

APM is the governmental institution, which implement various supports on rice processing, distribution and marketing. They will continue to prioritize capacity building of stakeholders in rice value chain. In terms replication of the Project outputs to other areas or other states, it is vital to establish adequate mechanism as a government program securing budget allocation and exercising strong initiative by APM. To that end, RIPMAPP activity should be properly acknowledged in the Federal Ministry of Agriculture and Rural Development, especially Rice Transformation Agenda office, as a project contributing quality improvement of domestic rice.

(3) Financial resource allocation

As mentioned above, once the adequate mechanism which supports APM to promote rice quality improvement activities is established, it will be the effective measures for financial sustainability.

(4) Possibility in acceptance and sustainable utilization of transferred technology

Although the incubation plant was constructed and installed in Lafia, training on operation and maintenance skills for a rice mill plant, which is rather complicated and new for CP, are yet to be started. Subsequently, the incubation plant in Bida will be installed in 2014, and it will need the same skills for continuous utilization of the plant. The available time for the training on the operation and maintenance skill in Bida is very limited. Since APM is supposed to take full-scale initiative in Bida as an organizer of the project activities, it is expected APM CP will be trained together with the incubation plant in Lafia with NADP CP. And NADP CP is expected to support APM CP to train NAMDA CP in operation and maintenance training.

NADP considers that the incubation plant would be utilized for a series of training of NADP staff and beneficiaries in other two zones in the state after the Project termination. After the utilization for these trainings, NADP plans to consign operation of the plant to private sector whoever has a capability to manage.

Improvement process of processing equipment, especially parboiling equipment, by trial-and-error method is applicable in other areas, where different processing practice is applied.

Once the rice market acknowledges pricing by quality, trice grading standard can be introduced into the market. So, it is reasonable to introduce it in the target areas confirming acknowledge of quality differentiation, then it should be expand to the other areas. In order to expand the standard, APM should take an initiative through authorizing the standard in APM and using it in quality improvement activity.

According to the study by RIPMAPP, loan terms are strict for stakeholders of rice value chain, and there is not suitable credit source. RIPMAPP can only introduce the bank aud loan products, which have relatively easier terms.

Organizational and Financial Aspect

APM CP can work as a lecturer of the training, but are not capable enough to plan, organize, monitor and evaluate the training.
Equipment has been used for adaptation test, analysis of fabrication, and introduction in the training. CP will learn maintenance in the remaining project period.

Technical Aspect

Post-harvest processing technique varies from area to area, and it needs some modification for improvement. But the basic approaches, (1) improvement of parboiling technique, (2) installation of destoner, and (3) installation of friction type milling machine, which RIPMAPP uses are considered to be adapted by other areas.

5. Conclusion

Due to the delay of the installation of incubation plant in Nasarawa State, some activities supposed to take place at the incubation plant including trainings for the operation and management of the milling machine are behind schedule. In addition, activities of JICA experts have been controlled according to the revised security code of JICA the target areas which brought further delay of activities. In this context, further efforts to enhance efficiency of the Project will be closely considered. Besides these, trainings for ADP staff and beneficiaries (i.e., rice millers, parboilers, rice farmers and traders) on post-harvest have been making satisfactory progress.

From point of view of Five Evaluation Criteria, activities so far can be summarized as follows.

Relevance : High. The relevance of the Project is evaluated as high since issues in post-harvest and marketing are regarded as important issues to be tackled in NRDS, and the government of Nigeria keeps policies for promoting domestic rice going (As such, current tariff rate for rice is 100% and imports of rice are to be prohibited from 2015).

Effectiveness : Uncertain. Activities by highly motivated CP and beneficiaries so far in Nasarawa state are positive signs of achieving the Project Purpose, but theses are not enough to make a judgment of prospect of achieving Project purpose.

Efficiency : Low. It is due to considerable increase in inputs in incubation plant and increased expenses necessary for higher security measures, and due to delayed installation of the incubation plant.

Impact : Expected to appear at a certain level. Scope of target groups which covers the whole stakeholders of rice value chain including traders, and high performance of ADP, contributes to further expansion of outputs in the target states.

Sustainability : Moderate. It is too early to judge at this time because an organization that manages the incubation plant in Lafia after the termination of the Project has not been selected. Prospect of financial sustainability is evaluated as insufficient to expand outcome of the Project to other states taking into account current budgetary circumstance of APM which has not ensured sufficient CP fund for the Project after its reorganization from NFRA.

6. Recommendations

6.1. Appointments and Budgetary Measures for APM staff

It is noted APM CP is knowledgeable on post-harvest and is highly capable of delivering lectures at trainings. On the other hand, it is reported that administrative tasks in preparatory stage and evaluation stage of the training are mostly led by JICA experts. In order for APM staff to take an initiative on training in each state, it is necessary for APM, as an organization, to build an efficient structure to implement the whole stages of the training. Precisely, the following actions are recommended to be taken by APM.

(1) Appointment of a full-time training program coordinator from APM staff in Abuja as CP to realize smooth communication in reporting line for the training.
(2) Appointment of a budgetary officer from FMARD staff as a JCC member
(3) Secure budget for APM staff for operations and carrying out relevant activities under RIPMAPP project in Nasarawa and Niger states.

6.2. Building for Incubation Plant in Bida, Niger State

It is agreed on Record of Discussions in Annex 2 that land and building for rice milling and storage of equipment (i.e. Incubation plant) are the measures to be taken by the government of Nigeria. It is observed that 1) the Nigerian side acquired land for an incubation plant but the land is sandy which needs land preparation and that 2) the building has not been prepared in time dne to budget constraints. In this context, it is advisable to reqnest the Japanese side to bear construction cost of the building for the incubation plant in order to prevent delay of activities taken place at the incubation plant. From a viewpoint of enhancing ownership of the government of Nigeria, following conditions should be met.

(1) The land clearing and foundation preparation will be implemented for the construction of the incubation plant by Niger state government.
(2) Japanese side offers a shelter for the incubation plant in Niger state. Other facilities including power supply, training hall, drying yard are to be prepared by Niger state government as specified in Annex 9.
(3) After the completion of the construction of the building and the defect inspection, the building and its responsibilities of maintenance are transferred to Niger state government.

6.3. Appropriate Size of the Incubation Plant in Bida, Niger State

It is observed that rice farmers, parboilers, millers, and traders in Niger state are scattered and small in scale. It is strongly recommended that the machineries and equipment procured for the incubation plant in Bida, Niger State should meet the current condition of those beneficiaries as specified in Annex 9.

6.4. Recommendation on Revision of Current PDM

It is recommended to revise current PDM as shown on the table below.

Item	Version 2	Proposed revision (Version 3)	Reason for change
Indicators of Project purpose	-At least 2.5% of rice traders of the target groups in the target areas handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project.	- At least 2.5% of rice traders of the target groups in the target areas handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project. - At least 2.5% of amount of Grade A level quality domestic rice is handled by the traders in the target groups.	It is expected not only numbers of rice traders but also the amount of domestic quality rice is actually increased in target areas. In this context, current indicator is not sufficient to measure the achievement level of Project purpose.
Output3	Capacity of ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced.	Capacity of APM and ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced.	✓ The Overall goal is "Quality of domestic rice is improved in the target States." Therefore, it is not logical to include an output in non-targeted states on PDM. ✓ On the other hand, expansion of the training programs under the initiative of Nigerian side is highly recommended. In this context, it is more appropriate to regard that "training programs for non-targeted ADP staff regarding post-harvest, marketing and business management" is included as Output 3. It is suggested capacity development of APM staff is implemented through On the Job Training (OJT) at the time of training to ADP. Knowledge and experience are supposed to be shared with other states appropriately by APM who attended this OJT.
Output 5	Training programs for non-targeted ADP staff regarding post-harvest, marketing and business management are commenced.	---(delete)	

6.5. Utilization of Rice Transformation Program

In 2014, destoners and threshers will be sold to stakeholders with government subsidy under "Rice Transformation Program" of APM. Since removal of stones is essential to meet Grade A level of Rice Grade Standard, collaborating with the program, distribution of destoners will greatly contribute to outcome of the Project. It is recommended that distribution of destoners and threshers takes place in the target areas of the Project, i.e. Lafia and Bida.

Annex 1: Schedule for Joint Mid-term Review

Day	Date/ Month		Activities	Stay in
1	11/Nov	Mon.	Mr. Kudo arrive in Abuja	Abuja
2	12/Nov	Tue.	Preliminary meeting w/ JICA, project experts Courtesy call to APM, Meeting w/ Nigerian review team	
3	13/Nov	Wed.	Move to Nasarawa Visit incubation plant	Lafia
4	14/Nov	Thu.	Interviews to target groups	
5	15 /Nov	Fri.	Interviews to C/P, move to Abuja	
6	16/Nov	Sat.	Report preparation	Abuja
7	17/Nov	Sun.	Ms. Sasabe arrive in Abuja	
8	18/Nov	Mon.	Dr. Tokida arrive in Abuja Meeting at JICA office, Courtesy call to APM Meeting w/ Nigerian review team	
9	19/Nov	Tue.	Move to Bida, Visit AMDA zonal office and target village, Move to Minna	Minna
10	20/Nov	Wed.	Courtesy call in Niger, move to Abuja	Abuja
11	21/Nov	Thu.	Move to Nasarawa, meeting w/ Nasarawa ADP	
12	22/Nov	Fri.	Interview to Japanese Experts	
13	23/Nov	Sat.	Drafting Joint-Evaluation report	
15	24/Nov	Sun.	Drafting Joint-Evaluation report	
16	25/Nov	Mon.	Discussing Joint-evaluation report and M/M	
17	26/Nov	Tue.	Signing on the report, discussion of M/M	
18	27/Nov	Wed.	JCC meeting (signing on M/M)	
19	28/Nov	Thu.	Report to Japanese Embassy	
20	29/Nov	Fri.	Visit RTA, Leave Abuja	

Annex 2 Project Design Matrix

Project Design Matrix (PDM)

Project Title: Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States
Target Areas: Lafia, Nasarawa State and Bida, Niger State
Project Period: 4 years from September 2011 to August 2015
Target Group: Small-scale Rice millers, Parboilers and Rice

Ver.2(Draft)
Date: 02 July 2013

Narrative Summary	Objectively Verifiable Indicator	Mean of Verification	Important Assumption
< Overall Goals > Quality of domestic rice is improved in the target States.	At least 2.5% of rice traders in the target States handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project.	Sampling survey of milled rice	
< Project Purpose > Quality of domestic rice is improved in the target areas.	At least 2.5% of rice traders of the target groups in the target areas handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project.	Sampling survey of milled rice	ADPs conduct post-harvest processing and marketing training given by the Project.
< Outputs > 1 Measures to promote distribution of high quality domestic rice are identified. 2 Rice grading standards for domestic rice is developed and improved. 3 Capacity of ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced. 4 Capacity of small-scale rice millers, parboilers, rice farmers and traders on post-harvest, marketing and business management is enhanced. 5 Training programs for non-targeted ADP staff regarding post-harvest, marketing and business management are commenced.	1-1 Problems, causes and solutions are specified and reported. 1-2 Specifications for machinery and equipment to be introduced are produced. 2-1 Proposed grading standard for parboiled milled rice is accepted at the JCC meeting. 3-1 Average score of capacity level of ADP staff of the both target ADPs evaluated by use of evaluation sheet is more than 3. 4-1 Each average score of post-test of small-scale millers, parboilers, rice farmers and traders after training is more than target score which is set for the each beneficiary group. 4-2 10% of the participants take actions to adopt introduced technologies. 4-3 2.5% of the participants adopt introduced technologies. 5-1 The number of the States where the training courses are conducted is X. 5-2 The total number of the participants of the training courses is X.	Project Report Project Report JCC minutes Results of capacity assessment by use of evaluation sheet Results of pre-test and post-test Monitoring Monitoring Training report Training report	Price of imported rice does not drop drastically. Natural disasters and economic shocks that significantly affect rice distribution in and around target areas do not occur.
< Activities > 1-1 Study distribution channels, quality and price trends of rice. 1-2 Examine market demands including potentials for high quality domestic rice. 1-3 Identify challenges of small-scale rice millers, parboilers and rice farmers. 1-4 Design collection, processing and marketing measures to distribute high quality domestic rice and reduce post-harvest loss. 1-5 Collect information on financial institutions and service. 2-1 Study grading standards used by large-scale rice millers. 2-2 Study rice consumers' taste and quality standards of rice retailers. 2-3 Develop and test grading standards for parboiled milled rice suitable for small-scale rice milling. 3-1 Develop training plan for ADP staff.	**< Input >** **Japan side** 1) Experts i) Chief Advisor ii) Post-harvest technology/Parboiling technology iii) Rice marketing iv) Farmer organization/Training v) Coordinator/Training assistant 2) Equipment i) Machinery and equipment for training ii) Office equipment	**Nigeria side** 1) Personnel i) Project Director (Coordinating Director, NFRA) ii) Project Manager (Director, Agro-processing and Marketing, NFRA) iii) State Coordinators (Programme Managers, ADP Nasarawa and Niger States) iv) Counterparts - NFRA staff (Post-harvest Technology, Rice Value Chain and Marketing, International Relations and Collaboration) - ADP staff (Planning, Post-harvest Technology, Rice Value Chain and Marketing, Farmer Organization) 2) Buildings and facilities	Sufficient quantity of quality rice seeds are provided to farmers. Natural disasters such as droughts and floods, diseases, animal attacks, and insect attacks which substantially affect rice production do not occur in target areas. Prices of rice in domestic market do not drop drastically. No major political disorder that

Annex 2 Project Design Matrix

3-2 Prepare the curriculums and materials for ADP staff. 3-3 Set up an incubation plant with machinery and equipment in Nasarawa State. 3-4 Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Nasarawa State. 3-5 Identify the outcome of training for ADP staff of Nasarawa State and modify training plan for the subsequent training. 3-6 Set up an incubation plant with machinery and equipment in Niger State. 3-7 Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Niger State. 3-8 Identify the outcome of training for ADP staff of Niger State and modify training plan for the subsequent training. 4-1 Develop training plan for small-scale rice millers, parboilers, rice farmer and traders. 4-2 Prepare the curriculums and materials on the training programms. 4-3 Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Lafia. 4-4 Support innovators in terms of technology, information on financial service and business management in Lafia. 4-5 Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Bida. 4-6 Support innovators in terms of technology, information on financial service and business management in Bida. 5-1 Develop training plan for staff of non-targetec ADPs. 5-2 Prepare the curriculums and materials for non-targeted ADPs. 5-3 Conduct training for staff of non-targeted ADPs.	3) Counterpart Training i) Training in Japan and/or in the third country for a few persons 4) Local costs i) Local project support staff ii) Hiring of project vehicles iii) Office supplies and other minor expenses	i) Office space and necessary facilities in NFRA and in the target sites ii) Training venues in the target sites iii) Land and buildings for rice milling and storage of equipment 3) Local costs and recurring costs i) Domestic transportation, operation and maintenance of provided machinery and any other equipment. ii) Travel fee of Nigerian counterparts iii) Assignment of supporting staffs iv) Running expenses for training of small-scale rice millers, parboilers, and rice farmers.	affects economic activities and security of target areas occurs. **< Pre-condition >** No major political disorder that affects economic activities and security of target areas occurs.

Note: Indicator 3-1 The evaluation sheet lists up category of capacity which is composed of some sub categories which are to be evaluated by the given ranking according to the five (5) grade evaluation system from 1 to 5. in order to measure capacity of ADP for Output 3.

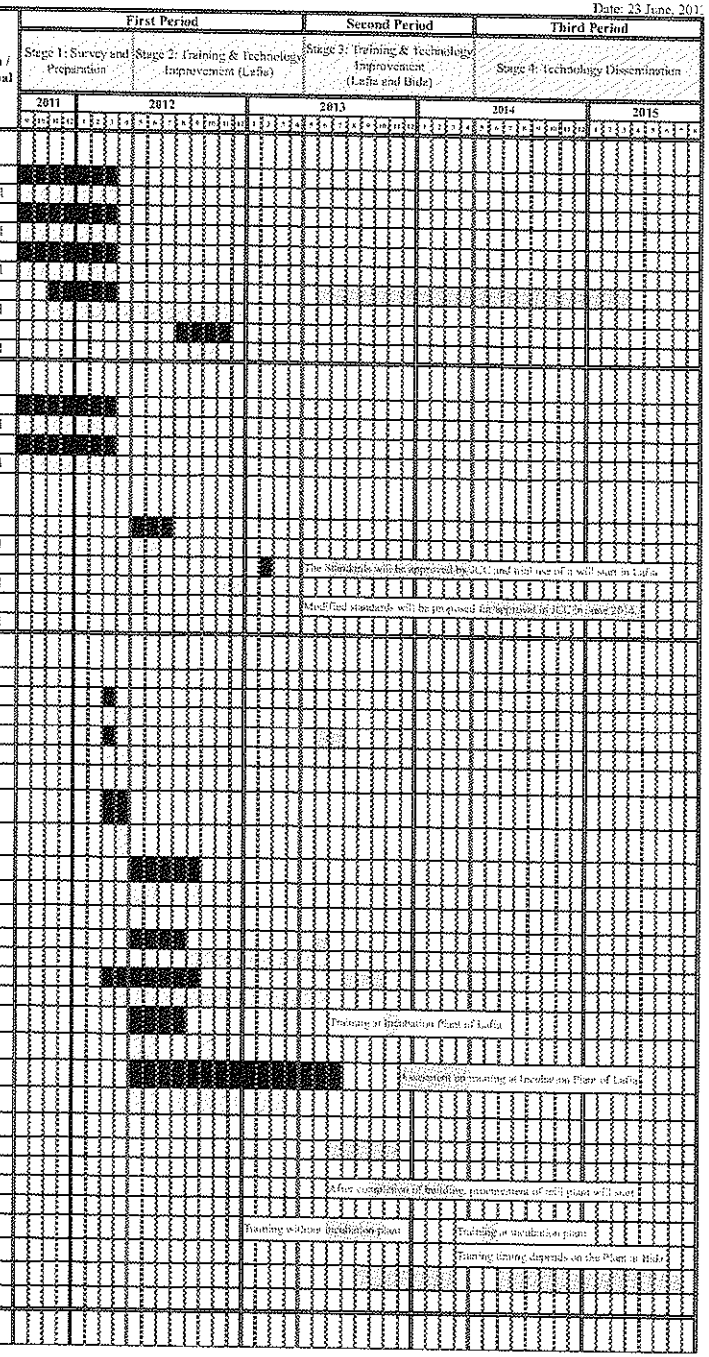
Annex 2: Plan of Operations

Plan of Operation (Draft of Version 2)

Project Title: Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States

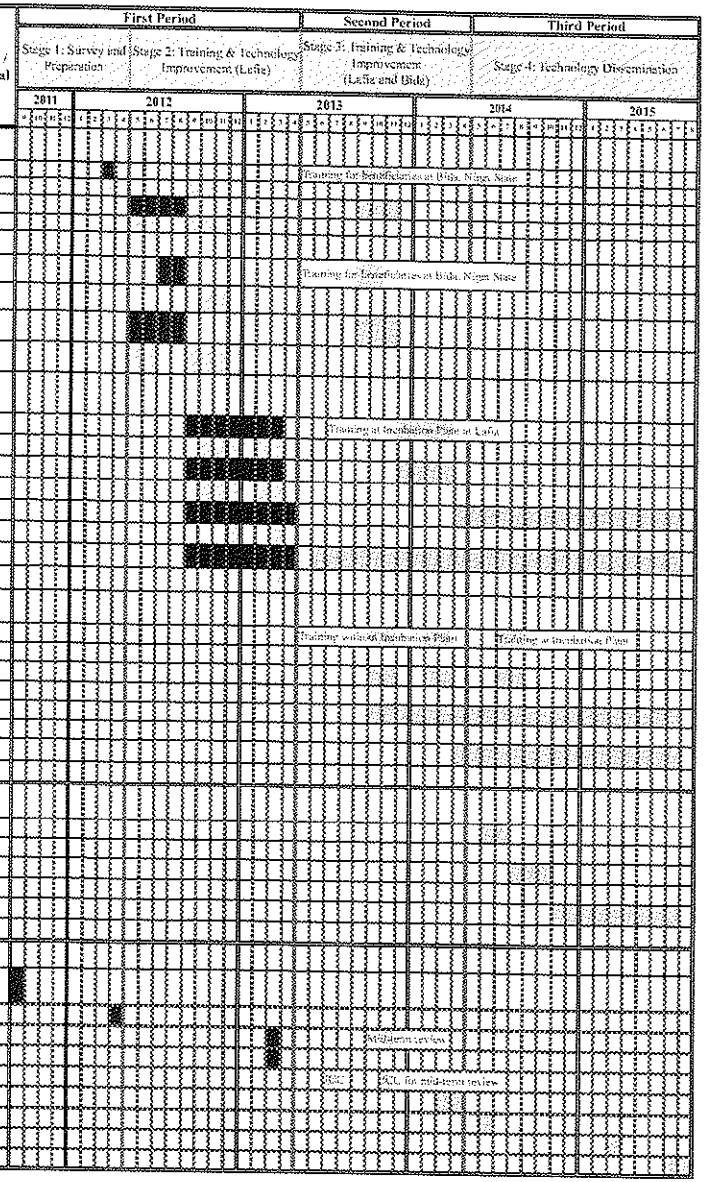
Date: 23 June, 2011

Activity of the Project/ Term of Cooperation	Products	Responsibility		Plan / Actual
		Japanese Expert	Nigerian Counterpart	
Output 1 **Measures to promote distribution of high quality domestic rice are identified.**				
1-1 Study distribution channels, quality and price trends of rice.	Study report	Koyama	PMD Div.	Plan / Actual
1-2 Examine market demands including potentials for high quality domestic rice.	Study report	Koyama	PMD Div.	Plan / Actual
1-3 Identify challenges of small-scale rice millers, parboilers and rice farmers	Summary table Study report	Furuichi/Koyama	APM PMD & CI Div	Plan / Actual
1-4 Design collection, processing and marketing measures to distribute high quality domestic rice and reduce post-harvest loss.	Summary table	Furuichi/Koyama	APM CI & PMD Div	Plan / Actual
1-5 Collect information on financial institutions and service.	Study report	Wakisaka	APM PMD Div.	Plan / Actual
Output 2 **Rice grading standards for domestic rice is developed and improved.**				
2-1 Study grading standards used by large-scale rice millers.	Study report	Koyama/ Furuichi	APM QC & PMD Div	Plan / Actual
2-2 Study rice consumers' taste and quality standards of rice retailers.	Study report	Furuichi/ Koyama	APM QC & PMD Div	Plan / Actual
2-3 Develop and test grading standards for parboiled milled rice suitable for small-scale rice milling.	Grading standards			
2-3-1 Prepare of draft grading standards for domestic rice.		Furuichi/ Koyama	APM QC & PMD Div	Plan / Actual
2-3-2 Review the grading standards for domestic rice.		Furuichi/ Koyama	APM QC & PMD Div	Plan / Actual
2-3-3 Review the grading standards for domestic rice.		Furuichi/ Koyama	APM QC & PMD Div	Plan / Actual
Output 3 **Capacity of ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced.**				
3-1 Develop training plan for ADP staff.	Training Plan for ADP staff			
3-1-1 Discuss the framework of training for ADP staff.		Ku/ Inada	APM	Plan / Actual
3-1-2 Prepare training plan (draft) for ADP staff.		Ku/ Inada	APM	Plan / Actual
3-2 Prepare the curriculums and materials for ADP staff.				
3-2-1 Create training implementation manual for APM staff.	ADP staff training implementation manual for APM	Ku/ Inada	APM	Plan / Actual
3-2-2 Prepare curriculums on post harvest technology, rice value chain, marketing and institutional development for ADP staff.	ADP staff training curriculums	Furuichi/Koyama /Inada	APM PMD Div.	Plan / Actual
3-3 Set up an incubation plant with machinery and equipment in Nasarawa State.				
3-3-1 Construct a building for Incubation plant in Lafia.	Building	Furuichi	APM ADP	Plan / Actual
3-3-2 Procure machinery and equipment, and install them.	Machinery and equipment	Furuichi/Ku	APM ADP	Plan / Actual
3-4 Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Nasarawa State.		Furuichi/Koyama /Inada/Ku	AMP	Plan / Actual
3-5 Identify the outcome of training for ADP staff of Nasarawa State and modify training plan for the subsequent training.		Each	Each	Plan / Actual
3-6 Set up an incubation plant with machinery and equipment in Niger State.				
3-6-1 Construct a building for Incubation plant in Bida.	Building	Furuichi	APM PM-ADP	Plan / Actual
3-6-2 Procure machinery and equipment, and install them.	Machinery and equipment	Furuichi/ Ku/Takayama	APM PM-ADP	Plan / Actual
3-7 Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Niger State.		Furuichi/Koyama /Inada/Ku	APM	Plan / Actual
3-8 Identify the outcome of training for ADP staff of Niger State and modify training plan for the subsequent training.		Each	Each	Plan / Actual
Output 4 **Capacity of small-scale rice millers, parboilers, rice farmers and traders on post-harvest, marketing and business management is enhanced.**				



Annex 2: Plan of Operations

Activity of the Project/ Term of Cooperation		Products	Responsibility		Plan / Actual
			Japanese Expert	Nigerian Counterpart	
4-1	Develop training plan for small-scale rice millers, parboilers, rice farmer and traders.				
4-1-1	Discuss of the framework of training for direct beneficiaries.		Ku/ Inada	APM ADP HR.	Plan
					Actual
4-1-2	Prepare of training plan (draft) for millers, parboilers, and rice farmers		Ku/ Inada	APM ADP HR.	Plan
					Actual
4-2	Prepare the curriculums and materials on the training programms.				
4-2-1	Create training implementation manual for ADP staff.	Direct beneficiary training implementation manual for ADP staff	Ku/ Inada	APM ADP HR.	Plan
					Actual
4-2-2	Prepare curriculums on marketing for small-scale rice millers, parboilers, rice farmers, and traders.	Direct beneficiary training curriculums	Furuichi/Koyama	APM, ADP RI Suleiman(NaHQ), PME Ishaq(B)	Plan
					Actual
4-3	Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Lafia.				
4-3-1	Conduct Training for small-scale millers, parboilers, rice farmers and traders of Lafia			APM ADP Dir HR	Plan
					Actual
4-3-2	Evaluate the training of Lafia		Takayama/ Ku	APM ADP Dir HR	Plan
					Actual
4-3-3	Identify the outcome of training for millers, parboilers, and rice farmers and modify training plan for the following period of Lafia		Takayama/ Ku	APM ADP Dir HR	Plan
					Actual
4-4	Support innovators in terms of technology, information on financial service and business management in Lafia.		Each	Each	Plan
					Actual
4-5	Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Bida				
4-5-1	Conduct Training for small-scale millers, parboilers, rice farmers and traders of Lafia		Takayama/ Ku	APM ADP HR.	Plan
					Actual
4-5-2	Evaluate the training of Bida.		Takayama/ Ku	APM ADP HR.	Plan
					Actual
4-5-3	Identify the outcome of training for millers, parboilers, and rice farmers and modify training plan for the following period of Bida.		Takayama/ Ku	APM ADP HR.	Plan
					Actual
4-6	Support innovators in terms of technology, information on financial service and business management in Bida.		Each	Each	Plan
					Actual
Output 5	**Training programs for non-targeted ADP staff regarding post-harvest, marketing and business management are commenced.**				
5-1	Develop training plan for staff of non-targeted ADPs.		Ku/ Inada	APM	Plan
					Actual
5-2	Prepare the curriculums and materials for non-targeted ADPs.		Each	Each	Plan
					Actual
5-3	Conduct training for staff of non-targeted ADPs.		Each	Each	Plan
					Actual
	Operational activities				
O-1	Preparation and consultation of the Draft Work Plan for the First Period (JCC)				
O-2	Agreement on the Work Plan for the First Period (JCC)				
O-3	Mid-term review of the project (JCC)				
O-4	Preparation of project progress report				
O-5	Agreement on the Work Plan for the Second Period (JCC)				
O-6	Preparation of project progress report				
O-7	Agreement on the Work Plan for the Third Period (JCC)				
O-8	Terminal evaluation of the project (JCC)				
O-9	Preparation of project completion report				



Annex 3 The List of Machinery and Equipment

No.	Purpose of Use	Arrival Date	Name of Machinery	Product No.	Manufacturer	Price	Nigerian Naira	Installation Place	Condition
1	Rice Quality Test	21 October, 2011	Moisture Meter	SS-7	Satake	JPY25,200	NGN52,392.6	ADP Office, Lafia	Working
2	Rice Quality Test	28 October, 2011	Grain Counter	KY-130	Satake	JPY3,400	NGN6,667.21	ADP Office, Lafia	Working
3	Rice Quality Test	28 October, 2011	Magnifier	ES-30	Satake	JPY5,700	NGN11,194.1	ADP Office, Lafia	Working
4	Rice Quality Test	28 October, 2011	Sample Pan (20pcs)	TS-180	Satake	JPY8,000	NGN15,711.1	ADP Office, Lafia	Working
5	Rice Quality Test	28 October, 2011	Grain Shape Tester	RT-10	Satake	JPY48,000	NGN94266.5	ADP Office, Lafia	Working
6	Rice Quality Test	28 October, 2011	Rice Husker	TR-130	KETT	JPY6,000	NGN11,634.2	ADP Office, Lafia	Working
7	Rice Quality Test	28 October, 2011	Grainscope	TX-200	KETT	JPY20,000	NGN38780.6	ADP Office, Lafia	Working
8	Rice Quality Test	18 November, 2011	Hardness Tester	043019-C	FUJIWARA	JPY178,500	NGN342,500.0	APM Office, Abuja	Working
9	PC for Local Staff and C/Ps	16 December, 2011	Desktop PC	PRO 3120 MT	HP	NGN112,000	NGN112,000	APM Office, Abuja	Working
10	PC for Local Staff and C/Ps	16 December, 2011	Desktop PC	PRO 3120 MT	HP	NGN112,000	NGN112,000	ADP Office, Lafia	Working
11	Presentation	16 December, 2011	Projector	2300 LUMENS	Sony	NGN90,000	NGN90,000	ADP Office, Lafia	Working
12	Rice Quality Test	17 February, 2012	Testing Grader	TRG05B	Satake	JPY386,000	NGN771,607	ADP Office, Lafia	Working
13	Rice Quality Test	17 February, 2012	Testing Mill	TM05C	Satake	JPY974,000	NGN1,947,010	ADP Office, Lafia	Working
14	Rice Quality Test	17 February, 2012	Testing Husker	THU35B	Satake	JPY651,000	NGN1,301,340	ADP Office, Lafia	Working
15	Rice Quality Test	17 February, 2012	Octagonal Cylinder	S5.2	Satake	JPY77,100	NGN154,122	ADP Office, Lafia	Working
16	Rice Quality Test	17 February, 2012	Octagonal Cylinder	S5.7	Satake	JPY77,100	NGN154,122	ADP Office, Lafia	Working
17	Rice Quality Test	17 February, 2012	SATAKE Sample Divider	TS-L	Satake	JPY175,000	NGN349,822	ADP Office, Lafia	Working
18	Rice Quality Test	1 March, 2012	150kg Scale	N/A	N/A	NGN115,000	NGN115,000	ADP Office, Lafia	Working
19	Training	12 March, 2012	Small Destoner	N/A	Dae Sung	USD3,000	NGN471,300	Mr Usman's Mill (Tentative)	Working
20	Training	12 March, 2012	House-use Destoner	N/A	Dae Sung	USD2,000	NGN314,200	Mr Usman's Mill (Tentative)	Working
21	Training	12 April, 2012	Parboiling Tank	N/A	NCRI	NGN350,000	NGN350,000	ADP Office, Bida	Working
22	Color Photocopying	14 March, 2012	Photocopying Machine	MX2301N	Sharp	NGN1,390,000	NGN1,390,000	ADP Office, Lafia	Working
23	Power Generation	16 March, 2012	Generator	SV12000EV	Suzuki	NGN240,000	NGN240,000	APM Office, Abuja	Working

	for Lecture								
24	Lecturing	16 April, 2012	Laptop PC	Satelite	Toshiba	NGN153,000	NGN153,000	ADP Office, Lafia	Working
25	Training	10 July, 2012	Winnowing Machine	TS	Hokuetsu	JPY28,400	NGN56,973.0	ADP Office, Lafia	Working
26	Training	10 July, 2012	Foot Pedal Thresher	FT371	Hokuetsu	JPY37,200	NGN74,626.6	ADP Office, Lafia	Working
27	Training	7 September, 2012	Paddy Thresher	DB100	YANMAR	JPY330,000	NGN657,333	ADP Office, Lafia	Working
28	Training	5 October, 2012	Impulse Sealer	N/A	DAE SUNG	USD800	NGN124,758	Mr Usman's Mill (Tentative)	Working
29	Training	5 October, 2012	Stand-alone Rice Miller	LH101	Dae Sung	USD4,500	NGN701,766	Mr Usman's Mill (Tentative)	Working
30	Training	12 November, 2012	Reaper	TR-1200C	Dae Sung	USD8,500	NGN1,317,360	ADP Office, Lafia	Working
31	Transportation	11 March, 2013	Project Car	Prado TX 7-S AT FS	Toyota	NGN 11,450,940	NGN 11,450,940	APM Office	Working
32	Training	13 March, 2013	Stand-alone Rice Miller	LH101	Dae Sung	USD4,500	NGN701,766	ADP Office, (Tentative)	Working
33	Training	13 March, 2013	Small Destoner	N/A	Dae Sung	USD3,000	NGN471,300	ADP Office (Tentative)	Working
34	Training	15 March, 2013	Parboilling Tank	N/A	Desfabeng Company Ltd.	NGN1,200,000	NGN1,200,000	ADP Office, Lafia	Working
35	Training	15 March, 2013	Winnowing Machine	N/A	Desfabeng Company Ltd.	NGN70,000	NGN70,000	ADP Office, Lafia	Working
36	Training	15 March, 2013	Foot Pedal Thresher	N/A	Desfabeng Company Ltd.	NGN80,000	NGN80,000	ADP Office, Lafia	Working
37	Training	15 March, 2013	Paddy Thresher	N/A	Desfabeng Company Ltd.	NGN800,000	NGN800,000	ADP Office, Lafia	Working
38	Color Photocopying	17 August, 2013	Photocopying Machine	Pro 200	HP	NGN80,000	NGN80,000	APM Office	Working
39	Black and White Photocopying	17 August, 2013	Photocopying Machine	P2035	HP	NGN40,000	NGN40,000	Niger AMDA Office, Minna	Working
40	Training	26 August, 2013	Whiteness Tester	C-600	Kett	JPY357,210	NGN574,271	APM Office	Working

Annex 4: CP Participated in Training Courses in Japan and in Uganda

Training Course in Japan

Name	Period of Participation	Field/Name of the Course	Content	Implementing Institution	Position at that time	Current Position, Date of turnover
Jatto Ohiare Badams	22 October,2012 – 2 November,2012	High Level Counterparts Training for Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States (RIPMAPP), Nigeria	Observation and discussion of post-harvest technology and small and medium scale processing firms in Japan	JICA	Acting Director, Agro-Processing & Marketing	Acting Director, Agro-Processing & Marketing
Dachor Naphtali Jarumi	22 October,2012 – 2 November,2012	High Level Counterparts Training for Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States (RIPMAPP), Nigeria	Observation and discussion of post-harvest technology and small and medium scale processing firms in Japan	JICA	Programme Manager, Nasarawa ADP	Programme Manager, Nasarawa ADP
Balarabe Abubakar Sadeeq	22 October,2012 – 2 November,2012	High Level Counterparts Training for Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States (RIPMAPP), Nigeria	Observation and discussion of post-harvest technology and small and medium scale processing firms in Japan	JICA	Acting Programme Manager, Niger state Agricultural Mechanization Development Agency	Director, Engineering Services, Niger state Agricultural Mechanization Development Agency
Suleiman Hussani Kpange	December 2012 - February 2014	Development Farm Machinery for Small-Scale Farmers	To upgrade the ability of participants on basic knowledge and technology needed for manufacturing farm machinery	JICA	Higher Technical Officer Agro Processing, Niger state Agricultural Mechanization Development Agency	Higher Technical Officer Agro Processing, Niger state Agricultural Mechanization Development Agency
B. Usman	14 August 2013 - 28 September 2013	Rice-post harvest processing for English Speaking African Countries at Yamagata University	To Provide field agricultural extension officers with practical knowledge and techniques to determine the optimum days to harvest rice and carry out post-harvest rice processing.	JICA	Senior Agric Engineer, Quality Control, Agro-Processing & Marketing	Senior Agric Engineer, Quality Control, Agro-Processing & Marketing
Awal Umar A.	14 August 2013 - 28 September 2013	Rice-post harvest processing for English Speaking African	To Provide field agricultural extension officers with practical	JICA	Agro-Processing Officer, Technical Service, Nasarawa	Agro-Processing Officer, Technical Service,

		Countries at Yamagata University	knowledge and techniques to determine the optimum days to harvest rice and carry out post-harvest rice processing.		ADP	Nasarawa ADP

Rice Production Course of PRiDe in Uganda

	Name	Position	State	Location of work	Zone
1	Abdurahman Owusowose	Subject Matter Supervisor (Crops)	Nasarawa	Obi Zonal Office	South Zone
2	Alanana Manasseh Emmanuel	Assistant Director of Extension Department	Nasarawa	HQ	-
3	David Adamu Mama	Zonal Extension Officer	Nasarawa	Akwanga Zonal Office	Central Zone
4	Elamoshi Stella Sabo	Block Extension Agent	Nasarawa	Assakio Block Office	South Zone
5	James S. Egwa	Zonal Extension Officer	Nasarawa	Obi Zonal Office	South Zone
6	Keziah James Waziri	Block Extension Agent	Nasarawa	Doma Block Office	South Zone
7	Paul Alogala	Block Extension Supervisor	Nasarawa	Assakio Block Office	South Zone
8	Salome Sabo	Block Extension Supervisor	Nasarawa	Adogi Block Office	South Zone
9	Yakubu Mohammed	Area Extension Officer	Nasarawa	Doma	South Zone
10	Zakari Daibu Usman	Block Extension Supervisor	Nasarawa	Lafia Block Office	South Zone
11	Audu Mamman	Area Extension Agent	Niger	Kataeregi	Zone 1
12	Baba Ibrahim Saluchi	Block Extension Supervisor	Niger	Lemu Block Office	Zone 1
13	Comfort F. Ahmed	Block Extension Agent	Niger	Doko Block Office	Zone 1
14	Haruna M. Jiya	Area Extension Agent	Niger	Tafyan	Zone 1
15	Mohammed Kudu Darata	Block Extension Supervisor	Niger	Katcha Block Office	Zone 1
16	Nathaniel Gana Yisa	Zonal Extension Agent	Niger	Bida Zonal Office	Zone 1

17	Ndajiya Muhammed	Area Extension Agent	Niger	Mambe	Zone 1
18	Peter Santali	Block Extension Supervisor	Niger	Badeggi Block Office	Zone 1
19	Theophilus B. Mamman	Area Extension Agent	Niger	Edozhigi	Zone 1
20	Zubairu Alhaji Ahmed	Block Extension Supervisor	Niger	Doko Block Office	Zone 1

Rice Research Course of PRiDe in Uganda

	Name	**Position**	**State**	**Location of work**	**Zone**	**Block/Area**
1	Hashiya A.Osoga	Subject Matter Specialist (Crops)	Nasarawa	HQ		
2	Bulus A. Dazhila	Subject Matter Specialist (Crops)	Nasarawa	Lafia	Obi	South Zonal
3	Veronica Ma'aji	Subject Matter Specialist Women on Agriculture (SMS WIA)	Nasarawa	Lafia	Obi	South Zonal
4	Joshua Jonathan	Chief Research Officer	Nasarawa	HQ		
5	John Azige Sunday	Assistant Chief Research Supervisor	Nasarawa	HQ		
6	Abubakar Mohammed Kwatachi	Chief Evaluation Officer/ Coordinator Agriculture survey	Niger	HQ		
7	Ibrahim Usman Isah	Subject Matter Specialist (Crops)	Niger	Bida	1	Bida
8	Zubairu Isa Ketta	Deputy Director Extension (DDE)/Subject matter specialist	Niger	Minna	State	Minna
9	Ruth Saba	Deputy Head women in Agric. (Subject Matter Specialist)	Niger	Minna	State	Minna
10	Ibrahim A. Abdulraheem	Zonal Extension Officer	Niger	Bida	1	Bida

Annex 5: Project Running Cost Covered by JICA (as of the end of September 2013)

Item	Cost Details (JPY)		
1st Year	1st Year	2nd Year	Total
Local Staff	1,231,734	393,427	1,625,161
Facility Management	92,809	463,759	650,188
Building Maintenance	93,620		
Consumable Goods	2,733,621	356,670	3,090,291
Travel fee and Transportation	20,000	720,903	740,903
Communication	1,665,088	749,198	2,414,286
Documentation	27,054	148,195	175,249
Rental Car Charge	7,928,949	4,481,511	12,410,460
Conference, Workshop	3,106,693	366,924	3,473,617
Miscellaneous	646,749	759,548	1,406,297
Insurance	1,675,000	1,161,370	2,836,370
Report (with bookbinding)	0	0	0
Local Consultant	11,261,000	0	11,261,000
Training by Country in Japan	382,000	0	382,000
Other Expense	1,607,961	820,994	2,428,955
TOTAL	32,472,278	10,422,499	42,894,777

1st Year: September, 2011-April, 2013
2nd Year: June, 2013-September, 2013

Annex 6: The List of Counterpart Personnel

Institution	Name, Position	Area of Specialty	Assigned Period
APM	Engr. M.A.A. Adewuyi, Director		Sep 2011 -2012/6/1
APM	Engr. O.B. Jatto, Acting Director	Quality Control	Sep 2011 - present
APM	Engr. I.U. Nwanko	Cottage Industries	Sep 2011 - present
APM	Engr. Gagare N.	Cottage Industries	Sep 2011 - present
APM	Dr. O.A. Adebiyi	Quality Control	Sep 2011 - present
APM	Mr. B. Usman	Quality Control	Sep 2011 - present
APM	Mrs. K.I. Babangida	Product & Market Development	Sep 2011 - June 2012
APM	Mr. J.M. Dadet	Product & Market Development	Sep 2011 - present
APM	Mr. Igoji G. I.	Product & Market	Sep 2011 - present
APM	Mrs. Sugra T. Mahmood	Product & Market Development	Sep 2011 - June 2012
APM	Mr. Shuaibu I.	Product & Market Development	Sep 2011 - present
APM	Mr. Odeyemi O.	Product & Market Development	Sep 2011 - present
APM	Mr. Suleiman S. Aliyu	Export Conditioning Centres	Sep 2011 - present
APM	Engr. O.M. Ogunbiyi	Cottage industries	Sep 2011 - present
APM	Mr. Suleiman Majeed Ovijima	Quality Control	Sep 2012 - present
APM	Mr. Aliyu M. M.	Export Conditioning Centres	Sep 2011 - present
APM	Engr. Isah Mohammed	Agro-Industrial Parks	Sep 2011 - present
APM	Engr. Ajenifuja Maruf Olalekan	Principal Agricultural Engineer	Dec 2012 - present
NADP	Mr. Naphtali J. Dachor	Project Coordinator	Sep 2011 - present
NADP	Mr. Stephen G. Kpama	Planning	Sep 2011 - present
NADP	Mr. Yunusa Muhammed	Post-Harvest Technology	Aug 2012 - present
NADP	Mr. Ahmed Tanko	Post-Harvest Technology	Sep 2011 - present
NADP	Mr. Awal Umar A.	Post-Harvest Technology	Sept2012 - present
NADP	Ms. Salome Sabo	Block Extension Supervisor	Oct 2012 - present
NADP	Ms. Maimunat T. Tijjani Usman	Block Extension Agent	Oct 2012 - present
NADP	Ms. Patricia A. W.Jika	Evaluation Statistical Officer, Planning, Monitoring & Evaluation	Oct 2012 - present
NADP	Mr. Paul Alogala	Block Extension Supervisor	Oct 2012 - present
NADP	Mr. Yakubu I. Mohammed	Area Extension Officer	Oct 2012 - present
NADP	Mr. Zakari D. Usman	Block Extension Supervisor	Oct 2012 - present
NADP	Mr. James S. Egwa	Zonal Extension Officer	Oct 2012 - present
NADP	Mr. Suleiman Anyu	Rice Value Chain and Marketing	Sep 2011 - present
NADP	Mr. Emmanuel M. Alanana	Farmer Organization	Sep 2011 - present
NADP	Mr. Benjamin Awajoh Yusuf	Rice Production	Sep 2011 - present
NAMDA	Mr. Zakari Sidi Yahaya	Project Coordinator	Sep 2011 – Aug 2012
NAMDA	Mr. Baba Kutigi Madugu	Project Coordinator	Feb 2013 - present
NAMDA	Mr. Abubakar Balarabe Sedeeq	Engineering	Aug 2012 - present
NAMDA	Mr. Mohammed Isah Musa	Planning	Feb 2013 - present

NAMDA	Mr. Sulaiman A. Rijau	Extension	Feb 2013 - present
NAMDA	Mr. Adamu Bala Idris	Rural Enterprise Development	Feb 2013 - present
NAMDA	Mr. Idris Bala Ango	Marketing	Sep 2011 - present
NAMDA	Mr. M.A. Kwatachi	Planning	Sep 2011 - present
NAMDA	Engr. Suleiman Hussaini Kpange	Agro-processing	Sep 2011 - present
NAMDA	Mr. Zubairu I. Ketta	Extension	Sep 2011 - present
NAMDA	Mr. Mustapha Ahmed	Engineering	Feb 2013 - present
NAMDA	Mr. Abubakar Abdullahi	Engineering	Feb 2013 - present
NAMDA	Mr. Silas Keta Yisa		Sep 2011 - present
NAMDA	Mr. Matthew Ahmed	Zonal Programme Manager	Feb 2013 - present
NAMDA	Mr. Ibrahin A Abdurrahim		Sep 2011 - present
NAMDA	Mr. Nathaniel Gana Yisa	Zonal Extension Officer	Sep 2011 - present
NAMDA	Mr. Ibrahim U. Isah		Sep 2011 - present
NAMDA	Mrs. Confort Ahmed	Women in Agriculture	Sep 2011 - present
NAMDA	Mr. Raimi Alao	Engineering	Sep 2011 - present
NAMDA	Mr. Ishaq Alh. Muhammad	Monitoring & Evaluation	Sep 2011 - present
NAMDA	Mr. Mohammed Suleiman Ahmed	Rural Enterprise Development	Sep 2011 - present

Department of Agro-Processing & Marketing (APM)

Nasarawa Agricultural Development Programme (NADP)

Niger state Agricultural Mechanization Development Agency (NAMDA)

Annex 7: Project Running Cost Covered by JICA (as of the end of September 2013)

1) Agro-Processing and Marketing Department, FMARD

Input	Description / Expenses
Land, Buildings and Facilities	
Rent of the project office (For 2 years)	N8,640,000.00
Running cost of the project office	N180,000.00
Expenses necessary for transportation within Nigeria of the equipment provided by JICA and the operation and maintenance fee	
Transportation	N210,000.00
Customs duties, Internal taxes and any other charges imposed in Nigeria on equipment provided by JICA	
Customs duties	N40,459.00
Internal taxes	N655,615.00
Expenses necessary for the implementation of the Project	
Travel fee of the CP	N2,500,000.00
GRAND TOTAL	**N12,226,074.00**

2) Nasarawa Agricultural Development Programme (NADP)

Input	Description / Expenses
Land, Buildings and Facilities	
Repairing cost of the project office	N470,000.00
Supply of the necessary equipment for the project office	N360,000.00
Running cost of the project office	N342,750.00
Expenses necessary for the implementation of the Project	
Travel fee of the CP	N349,000.00
Expenses for implementation of training for small-scale rice millers, parboilers, and rice farmers	N3,196,200.00
Incubation Plant	
Machine and plant Hall	N17,103,240.00
Storage for paddy, generator house, parboiling shed and dry slab	N7,922,386.50
Fence, flower bay, gate and gate house	N10,806,253.50
External work including Generator, Borehole, access road and parking lots	N13,500,000.00
Preliminaries	N500,000.00
VAT	N2,491,594.00
Additional budget for construction	N12,676,527.00
Movement of Machineries from Supplier Store to the incubation Plant	N400,000
Any Other Miscellaneous expenses	
Monthly Technology Review Meeting, Quarterly Reports, etc	N1,525,450.00
GRAND TOTAL	**N71,643,401.00**

ANNEX 8: The List of Reports and Manuals Produced by the Project

A. Study Report

1) Household Socio-Economic Survey in Nasarawa and Niger State, Nigeria
2) Rice Distribution System in Kana, Kaduna, Nigel', Nasarawa, Benne and Ebonyi States in Nigeria
3) Report on Creating Rice Grading Standards in Nigeria
4) Work Completion Report on Rural Finance

B. Manuals

I) Training Implementation Manual for NFRA on RIPMAPP
2) Marketing & Business Management Textbook (for ADP)
3) Post Harvest Technology Textbook (for ADP)
4) Extension Textbook (for ADP)
5) Training Cycle Management Textbook (for ADP)

Annex 9: Amended List of Machinery and Equipment for Incubation Plant in Bida, Niger state

1. Cost borne by the Japanese side

JICA shall provide machinery, equipment and other materials necessary for the implementation of the project within budgetary limitations. After the completion of the construction, Both Nigerian and Japanese sides swiftly conducts the defect inspection of the building. After this inspection, responsibilities of maintenance are to belong to Nigerian side.

	Name of equipment	Specification	No of units	Remarks
1	Feeding hopper		1	
2	Elevator		3	
3	Paddy cleaner		1	
4	Rice-mill	750kg(paddy)/h	1	
5	Destoner		1	
6	Product tank		1	
7	Packing machine		1	For 1-10kg package
8	Weighing scale	100kg	1	
9	Hand sewing machine		1	
10	Generator		1	
11	Minimum spare parts are attached to the equipment above.			

*1: The size and number of the equipment are subject to change due to available size of equipment based on the capacity of the rice mill size, 750kg(paddy)/h

*2: Installation cost of the equipment above and building for construction of the incubation plant will be borne by the Japanese side.

2. Cost borne by the Nigerian side

	Name of equipment	Specification	No of units	Remarks
1	Drying yard	20m x 20m	1	
2	Deep well		1	With deep well pump
3	Water tower		1	With plumbing

*3: Site acquisition for the incubation plant has already completed by Nigerian side. The land preparation will be conducted and be borne by the Nigerian side.

MINUTES OF THE 5TH JOINT COORDINATING COMMITTEE (JCC) MEETING ON RICE POST- HARVEST PROCESSING AND MARKETING PILOT PROJECT (RIPMAPP) IN NASARAWA AND NIGER STATES HELD ON 5th JUNE 2014 AT THE CONFERENCE ROOM B,FMA&RD, AREA 11 , GARKI – ABUJA

1.0 Present:

N/S	Participant	Organization	Position
1	Mrs. Ibukun Odusote	FMA&RD	PS/Chair person
2	Engr. O. B. Jatto	FMA&RD	D(APM)
3	Tetsuo Seki	JICA NIGERIA	Chief Rep Nigeria
4	Stephen .G. Kpama	Nasarawa ADP	Program. Manager
5	Mohammed. M. Isah	NIGER STATE	Director Planning
6	Dadet .J. Mundi	FMA&RD	AD (APM)
7	Shingo Furuichi	RIPMAPP EXPERT	Deputy Chief Advisor
8	Kwihyang Ku	RIPMAPP	Project Coordinator
9	Ikuo Yamamoto	RIPMAPP	Chief Adviser
10	Hamaza . A Gayam	NMA (Lafia)	Perm Secretary
11	Jeremiah Adejo	FED. MIN. FINANCE	Principal Exec officer
12	Mrs .S. Etiebet	NPC	Representative
13	B. K. Madugu	NAMDA	Director Planning
14	Chikara Yoshimura	EMBASSY OF JAPAN	Chief of Development
15	Likuna Julius.h	NPC	planning officer
16	Chukka .J.Ike	EMBASSY OF JAPAN	Research Analyst
17	Halima Ahmed	JICA NIGERIA	Consultant
18	Godwin .i. igoji	FMA&RD	c/personnel
19	Alh. I. Shaibu	FMA&RD	c/personnel

[redacted]

2.0 **OPENING:**

The meeting was declared open with prayer offered by the Director Engr. O. B. Jatto at about 10.37am. This was immediately followed by self-introduction of the participants.

2.1 **OPENING REMARKS BY THE CHAIRMAN:**

The meeting was presided over by the Permanent Secretary, Federal Ministry of Agriculture and Rural Development Mrs. Ibukun Odusote. In her

opening remarks, she welcomed the participants to the 5th JCC meeting and expressed her gratitude to participants as the meeting was well attended by the stakeholders. She said that the country is looking at 2015 as a year in which Nigeria would be fully self- sufficient in rice production and this would reduce importation of rice into the country. This according to her would also help to conserve foreign exchange used for importation of rice into the country; she went on to say that State like Niger is optimistic that they can even produce enough rice that can feed the nation.

She informed the meeting that the Federal Government, through the Federal Ministry of Agriculture and Rural Development, is establishing paddy aggregation center, as this would help to feed both small and large scale rice mills and overcome the problem of inadequate paddy during off season. She was full of appreciation to Japan International Cooperation Agency (JICA) for their various intervention projects in Nigeria especially in the field of Agriculture. On the on-going RIPMAPP project in Nasarawa and Niger States, she suggested scaling-up of the project in view of its importance within the Agricultural Transformation Agenda (ATA)

At this juncture, she sought the permission of the meeting to allow her attend to other urgent assignment and directed Director, Agro-Processing and Marketing Engr. O. B. Jatto to stand in for her after the speech from Representative of JICA.

3.0 **Speech by the Representative of JICA**

Mr. Tetsuo Seki, Chief Representative JICA Nigeria Office in his speech thanked the Permanent Secretary and Government of Nigeria for the cooperation they are receiving from them. He expressed his gratitude to the Permanent Secretaries from Nasarawa and Niger States for sparing their time to attend the meeting. He congratulated the Counterpart Personnel of Federal Ministry of Agriculture and Rural Development and the ADPs of Nasarawa and Niger states fortheir commitment towards the project. He reminded the meeting that approximately 14 months remain c before the completion of the RIPMAPP project in both Nasarawa/Niger States. He advised that the project should expand beyond Nasarawa and Niger States to ensure sustainability. He went on to say that the target groups of RIPMAPP are willing to embrace the new technologies introduced by

RIPMAPP especially the parboiling equipment and the incubation plant. In view of the importance of rice in Agricultural Transformation Agenda (ATA) he advised that the Ministry should take the bull by the horn to ensure the expansion and sustainability of the project.

On the Mid-term Review of the project, he said it was conducted in November, 2013 but emphasized that most of the challenges have not been adequately addressed especially the payment of counterpart funds to the Counterpart Personnel of Federal Ministry of Agriculture. He therefore pleaded that the challenges be addressed.

The Permanent Secretary in her reaction said that she was not aware that there were challenges in paying the counterparts funds of the Counterpart Personnel from the Ministry and promised to look into that critical area for the successful implementation of the project. She said, she is glad that the Representative of Federal Ministry of Finance is present at the meeting as some of these issues are handled by them. As for expansion of the project, she said they will do their best on that. Finally before she left, she said she will personally feel very sad to have a problem of this nature and it allows it to die after a while, and for this singular reason, she assured the meeting that the project will be sustained.

4.0 Signing of the Minutes of 4th JCC Meeting:

Engr. O. B. Jatto who stood in for the Permanent Secretary said that the 4th JCC Meeting was presided over by the Director, Fertilizer, Mr. Osho and advised those present to sign their portion while the minutes will be taken to Mr. Osho for his signature after the meeting.

5.0 Progress Report after the 4th JCC Meeting:

The progress report was given by Engr. O. B. Jatto who doubled as Director, Agro-Processing and Marketing, as well as acting Chairman. He informed the meeting that a lot of progress has been made particularly the commissioning of the incubation plant in Lafia, Nasarawa State. He said that the commissioned incubation plant will be used for training purposes and said that the first training was scheduled to hold on 10th June, 2014 for ADPs, millers and participants from Lagos, Benue, Kogi and Kano States. Another achievement is the completion of incubation house in Bida, Niger

States by JICA. He gave assurance that the incubation plant will be installed soon. He went on to say that RIPMAPP has also made a mark in the area of rice grading standard for small scale millers. The grading standard proposed by RIPMAPP was actually presented to the Honorable Minister of Agriculture who was of the opinion that Rice Value Chain (RVC) should make an input towards the proposal. He also informed the meeting that the bidding for machineries and equipment meant for Bida in Niger State is in progress.

6.0 **Presentation and approval of proposed project Design Matrix (PDM, Ver.3: revised version of PDM ver.2):**

Presentation of the PDM was done by Mr. Yamamoto, Chief Advisor of RIPMAPP. In his presentation, he pointed out that the difference in the revision is highlighted in red with slight changes such as APM instead of NFRA. The project Director is now the Permanent Secretary of Federal Ministry of Agriculture and Rural Development, while Post-Harvest loss is no longer part of the project purpose.

7.0 **Presentation and approval of work plan and Plan of Operation (PO) for the period from May, 2014 – August, 2015.**

This presentation was made by Mr. Furuichi, Deputy Chief Advisor of RIPMAPP. He guided the members through the work plan and plan of operation for the remaining period of the project (May, 2014 – August, 2015). The work plan of operation presented by Mr. Furuichi was unanimously approved for implementation by the members.

8.0 **Operation of incubation plant:**

On the mode of operation of the incubation plant already installed in Lafia, Nasarawa State, a question was raised on how it will be put to use in addition to training purposes. It was agreed that both APM and Nasarawa State Government should discuss on the mode of operation of the incubation plant in Nasarawa State and make appropriate recommendations for ratification at the next JCC meeting. It was also suggested that rice millers should have easy access to the incubation plant and fees should be charged by the ADP for such services for the maintenance of the incubation plant.

The need to incorporate all aspects towards the sustenance of the project was again emphasized.

9.0 **Other Discussions:**

Other discussions included:

- The need to continue to include millers as stakeholders in all trainings and other related activities.
- The project should be sustained to continue to add value to our locally milled rice,
- The need to design questionnaires after the training at the incubation plant to evaluate the quality of the training. The purpose is to know whether the incubation plant meets the demands of the training participants for their business purpose.
- There is a need to have polished rice to take care of malnutrition in children,
- Quality seed should always be provided to rice farmers operating under RIPMAPP to ensure quality processing.
- Project (RIPMAPP) should be scaled up to include States such as Ebonyi and areas with reputable milling ability.

10.0 **Closing Remarks:**

The Chairman in his closing remarks said that the issue of counterpart funding mentioned will receive urgent attention by the Permanent Secretary, while the plan to scale up the project will receive the attention of the Ministry. He thanked all the members for their fruitful deliberations and wished everybody journey mercies to their various destinations.

11.0 **Date of Next Meeting:**

The next JCC Meeting was tentatively fixed for March, 2015

12.0 **Closing:**

In the absence of any other deliberations, the meeting came to a close with prayer offered by Mr. Ikhadeuna A. Andrew at about 12:12 pm.

Engr. O.B. Jatto
Director
Agribusiness and Marketing Department
Federal Ministry of Agriculture and Rural Development

Mr. Ikuo YAMAMOTO
Chief Advisor
RIPMAPP

Dr Jide Olumeko
For Permanent Secretary
Federal Ministry of Agriculture and Rural Development
(Chairperson)

Mr. Hirotaka NAKAMURA
Chief Representative
JICA Nigeria Office

MINUTES OF THE 6TH JOINT COORDINATING COMMITTEE (JCC) MEETING ON RICE POST- HARVEST PROCESSING AND MARKETING PILOT PROJECT (RIPMAPP) IN NASARAWA AND NIGER STATES HELD ON 27th MAY 2015 AT THE MINISTER CONFERENCE, AREA 11 , GARKI – ABUJA

1.0 Attendance

S/N	NAME	ORGANZATION	POSTION
1	Dr. O. Olumeko	FMARD	Director
2	Engr. O. B. Jatto	FMARD	Director (ABM)
3	Napthtali J. Dachor	MAWR, LAFIA	Permanent Secretary
4	Stephen G. Kpama	NASARAWA ADIP LAFIA	Ag. Programme Manager
5	Muhammedu D. Ibrahim	MARD, MINNA	Permanent Secretary
6	Baba Kutigi Madugu	NAMDA	Managing Director
7	Mohammed Musa Isah	NAMDA	Director, PME
8	Engr. Amon O. Afowowe	FMARD	Deputy Director (ABM)
9	Dr. Victor E. Onyeneke	FDA/FMARD	DD (Cereals & FC) Desk Officer RVC
10	Dadet, John Mundi	FMARD	Asst. Director (ABM)
11	Akiva Kamidohzoho	JICA HQS	Terminal Eva Team

12	Satoshi Nagashina	ICONS	Terminal Eva Team	[redacted]
13	Hirotaka Nakamura	JICA	Chief Representative	
14	Yurshi Nishida	JICA HQS	Terminal Eva Team	
15	Ikuo Yamamoto	RIPMAPP	Chief Admin	
16	Shingo Furuichi	RIPMAPP	Post-Harvest/PB	
17	Kinhyang Ku	"	Project Coordinator	
18	Halima Ahmed	JICA Nigeria	Consultant	
19	Engr. Isah M. Mohammed	ABM/ FMARD	PAE (ABM/RIPMAPP)	
20	Hiroshi Kodama	JICA	Senior Representative	

2.0 **Opening Prayer:**

The meeting was declared open with prayer offered by the Permanent Secretary Nasarawa State Ministry of Agriculture and Natural Resources at about 10.15 am. This was immediately followed by self-introduction.

3.0 **Opening Remarks by the Chairman:**

The meeting was presided over by the Acting Permanent Secretary, Dr O. Olumeko, the Director Strategic Grains Reserve Department. In his opening remarks he welcomed participants to the meeting, and highlighted the successes recorded by the Agricultural Transformation Agenda (ATA) in reducing the

demand gap of milled rice in the country to 300,000 MT by the end of 2014, as against the projected 900,000 MT during the same period. He was also pleased with the success of RIPMAPP in improving the quality of locally processed rice by small-scale millers, and he reiterated that this would further boost the self sufficiency of locally processed rice in the country.

4.0 **Speech by the Representative of JICA**:

Mr. Hirotaka Nakamura, Chief Representative of JICA Nigeria Office in his speech thanked the Acting Permanent Secretary, the two Permanent Secretaries from the pilot States and the people of Nigeria for the cooperation received from them during the period of the project. He informed the meeting that RIPMAPP is currently on-going and will terminate by September this year. He reiterated that substantial investment in both time and resources has been made in RIPMAPP. The overall purpose of the project he stated was to improve the quality of locally processed rice by small scale millers in the target areas. He stated that since substantial success has been achieved in the project there will be need for the Government of Nigeria to scale-up the project within the pilot States and to other States of the Federation. He informed the meeting that some donor agencies have shown interest in the technologies developed/introduced under this project and discussion on possible collaborative activities is ongoing among ABM, these agencies and JICA.

He then touched upon the issue of counterpart funding. He emphasized that FMARD counterpart funding during this pilot phase has not been encouraging and counterpart funding of FMARD through the Department of Agribusiness and Marketing is crucial in the implementation of the remaining pilot and scale-up phases. The problem stalling this area should be solved at the earliest time. He reiterated that due to the positive outcome of the project, JICA will continue to support Nigeria to reap the gains of the project.

The Acting Permanent Secretary responded on the issue of the counterpart funding and informed the meeting that the issue is from both the Federal Government Level and the two pilot States. He also promised to discuss the issue of counterpart staff allowance with the Permanent Secretary. He advised that the project should be scaled up beyond Nasarawa and Niger States to ensure

sustainability. He went on to say that the target groups of RIPMAPP are willing to embrace the new technologies introduced by RIPMAPP, especially the parboiling equipment and the incubation plant. In view of the importance of rice in ATA, he advised that the Ministry should ensure the sustenance of the project.

Finally, he informed the delegates that the end of the project by September 2015 will not ensure the achievement of the project purpose especially in Nasarawa State, therefore it is necessary to extend the project period for another six months or 1 year.

The Permanent Secretary (PS), Niger State Ministry of Agriculture informed the meeting that counterpart funding has been requested and is awaiting the approval of the next Administration. There is need to extend the project between 1 and 3 years. The PS Nasarawa State said that there is need for Government commitment towards the project, as well as scale up process to other areas. For the 2015 budget, ADP had budgeted N15 million for counterpart funding and more dialogue should be put in place with the State Government.

Engr. O. B. Jatto, Director (ABM) thanked the delegates for taking time and resources for the project and advised that the scale up process of the project to any states should involve counterpart funding modalities. This should be worked out by the Departments of ABM, Extension and FDA.

Mr. Furuchi, Japanese Expert on Post-harvest explained the differences of quality of rice from Doko and that of Lafia and background for the difference although quality of both was drastically changed by RIPMAPP parboiling technology. According to him there are some reasons; (1) producers' consciousness on quality is different and Doko women is more quality conscious than Lafia, (2) handling of amount of paddy for parboiling is different and Doko women handles less than 100kg with traditional pot meanwhile Lafia producers handle 600 kg at once. Furuichi ; thus, conducted experiment for lafia to further improve quality by increasing washing time of paddy and reducing handling amount of paddy during parboiling. As results, quality has been further improved. Therefore, quality of rice in Lafia can be also improved further in the near future. He also showed sample of 25kg-packaged parboiled rice produced Doko women and sample of improved parboiled rice by RIPMAPP technology.

5. **Signing of the Minutes of the 5th JCC Meeting:**

The minutes of the 5th JCC meeting, which was held on the 5th of June, 2014 was read by the National Coordinator of the project. The Acting PS requested members that were present to raise either issues or omissions in the minutes. The Acting PS observed that counterpart funding is very crucial both at Federal and State Levels. He requested comments from the PS Niger state, who informed the meeting that the current Administration has prepared a budget on RIPMAPP counterpart funding which is contained in the handing-over note to the new administration. He informed the meeting that the incoming Governor has a passion for agriculture and rice in particular. The PS of Nasarawa State however has reservations in case of his State, and stated that there would be need to dialogue with the State to solve this crucial issue of counterpart funding.

Dr. Victor Onyeneke, Deputy Director Rice Value Chain from FMARD suggested that there is need to source counterpart funding from FMARD through the Rice Value Chain. The Acting PS stated that it is not feasible to deduct counterpart funds at source from States and therefore States have to key-in to source counterpart funds from their budgets. The move to accept the minutes of the 5th JCC meeting was raised by Alhaji Shuaibu of ABM and seconded by participants. The minutes were then signed by all relevant representatives of the required organizations.

6.0 **Progress of RIPMAPP after 5the JCC Meeting:**

This was presented by the National Coordinator, who informed the meeting of the various activities that had taken place since the 5th JCC meeting. This includes the following:

- The completion of the incubation (milling plant) plant building in Bida, Niger State including the installation of the mill
- Market survey to locate market outlets for milled rice from Bida
- Production of packaging bags for rice produced in both Niger and Nasarawa States
- On-going training of both beneficiaries and ADP staff of both States

- Supply of milled rice from Bida to some stores in Abuja and participated in exhibition at the State House
- Started discussing with donor agencies on scaling up of project activities and technologies
- Training of FCT ADP staff

7.0 **Presentation and approval of the Joint Terminal Evaluation Report:**

The presentation was done by the Japanese Evaluation Team while the Nigerian Counterparts were not able to confirm the report due to their absence. The team presented their findings based on their interviews with various stakeholders and field visits to both Niger and Nasarawa states. The project was assessed in line with the five evaluation criteria of relevance, effectiveness, efficiency, impact and sustainability.

All four outputs of the project were achieved according to the review, however, the indicators for the project purpose are only likely to be achieved in Niger state but not Nasarawa.

The team presented five key recommendations as follows:

- Extension of the project period in order to observe the result of the technical transfer to beneficiaries after the coming harvest season and re-enforce their capacities.
- Allocation of sufficient budget to pay the allowances of counterparts of ABM
- Adjustment of the RIPMAPP grading standard in order to align with SON draft grading standards, particularly on the issue of percentage of broken grains
- Timely decision on the management and operation of the two incubation plants established by the project
- Devising an alternative indicator to measure the Overall Goal, given the difficulty in obtaining accurate data

During the discussion, it was noted that extension of the project is two-fold: extension within the two pilot states, and extension beyond the pilot states. In

this regard, it was suggested to develop a dissemination roadmap for the technologies introduced by the project. This should be done by a working group consisting of representation from ABM, Federal Department of Extension, Rice Value Chain and JICA.

The signing of Joint Terminal Evaluation Report was done by the Acting Permanent Secretary and the Japanese Evaluation Team Leader.

8.0 **Closing Remarks:**

The Chairman in his closing remarks said that the issue of counterpart funding mentioned will receive the urgent attention of the PS while the plan to scale up the project will receive the attention of the Ministry. He thanked all the members for their fruitful deliberations and wished everybody journey mercies to their various destinations.

9.0 **Closing Prayer:**

The meeting was declared close with prayers offered by Alhaji I. Shaibu at 1.30 pm.

Engr. C.B Jalto

Director
Agribusiness and Marketing Department
Federal Ministry of Agriculture and Rural Development

Mr. Ikuo YAMAMOTO
Chief Advisor
RIPMAPP

Dr. O. Ohimexo

Permanent Secretary
Federal Ministry of Agriculture and
Rural Development
(Chairman)

Mr. Hirotaka NAKAMURA
Chief Representative
JICA Nigeria Office

MINUTES OF MEETINGS
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
THE AUTHORITIES CONCERNED
OF
THE FEDERAL GOVERNMENT OF THE REPUBLIC OF NIGERIA
ON
THE RICE POST-HARVEST PROCESSING AND MARKETING PILOT PROJECT
IN NASARAWA AND NIGER STATES

The Joint Terminal Evaluation Team (hereinafter referred to as "the Team"), which consists of three members from the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Dr. Akira Kamidohzono and two members from the Government of Nigeria headed by Mr. Sunday Ojochonu Ali, was organized and jointly reviewed the achievement on "Rice Post-harvest Processing and Marketing Pilot Project in Nasarawa and Niger States" (hereinafter referred to as "the Project") from May 11th to May 27th , 2015.

After intensive study and analysis of the activities and achievements of the Project, the Team prepared the Joint Terminal Evaluation Report (hereinafter referred to as "the Report"), presented at the 6th Joint Coordinating Committee (hereinafter referred to as "JCC") which was held on May 27th, 2015, and the both sides agreed on the matters referred to in the document attached hereto.

Abuja, May 27th, 2015

Dr. Akira Kamidohzono	Dr. Jide Olumeko
Leader	Director
Terminal Evaluation Team	Food and Strategic Reserve
Japan International Cooperation Agency	Acting Permament Secretary
	Federal Ministry of Agriculture and Rural Development

Attached Document

I. Presentation of the Report

The Team presented the Report to JCC, and attendants of JCC confirmed the achievement of the Project with respect to project performance using five evaluation criteria. The Report is in APPENDIX.

II. Discussion Points of Major Issues Concerned of the Project

(1) Extension of the project period

There are some difficulties in Nasarawa State and it is likely not to achieve indicators of the Project Purpose. In addition, even indicators of the Project Purpose have been achieved in Niger State, beneficiaries still need some supports from the Project to conduct their operations independently. To reinforce the capacity level of the beneficiaries in both states, it is necessary to have more experience to produce high quality milled rice. However, paddy is not available sustainably in the target areas except during the rice harvest season and that is a bottleneck for technical transfer. If the Project will terminate in September 2015 as planned, it is impossible to conduct technical transfer during the next harvest season (from November to March). Therefore it is recommended to extend the project period to observe the result of the technical transfer until the next harvest season to reinforce the capacity of beneficiaries further.

(2) Payment of travel expense for C/Ps of ABM

During the project period, C/Ps of ABM sometime had difficulties of travel expenses to visit target sites and it was an inhibiting factor to transfer the techniques to C/Ps of ABM. When Nigerian government will disseminate the project activities to other states, C/Ps of ABM will be the main actors and technical transfers to C/Ps of ABM are quite important. It is necessary to allocate adequate budget for travel expenses by Nigerian side and it is also recommended to execute it in timely manner.

(3) Adjustment of RIPMAPP rice grading standard to SON's one

To create quality consciousness of small scale processors for their day-to-day rice business and to create price difference based on degree of rice quality, a color grading chart with different brightness levels of rice was developed and improved by the Project. However, Standards Organization of Nigeris(SON) is currently developing rice grading standard. There is some difference between SON grading standard and RIPMAPP grading standard such as SON grading standard does not include color standard of parboiled rice, difference of percentage of broken grain ratio etc. Although grading standard of the Project fulfills the grading standard of SON, it is recommended to adjust RIPMAPP grading standard on percentage of broken grain to meet SON grading standard in the future.

(4) Deciding the operation and management body for the incubation plants

In the Project, incubation plants on rice processing were constructed and equipped by the effort of target states and JICA for training purpose. To utilizing the plants effectively, Nigerian side is considering entrusting the operation and management to a private body who is interested in carrying out rice milling business by using the facility. It is necessary to decide the operation and management body for the incubation plants before the end of the Project through appropriate procedure.

(5) Re-considering the indicator for Overall Goal

For the indicator of the Overall Goal, "At least 2.5% of rice traders in the target states handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project" was set. However, it is considered that obtaining the data is technically difficult since there is no such official statistics available. Therefore, it is recommended to set alternative indicator for Overall Goal for future ex-post evaluation.

(6) Preparation of a roadmap and materials to disseminate the project activities to whole target states

To achieve the Overall Goal, it is necessary to diffuse the technologies to whole target states. However, according to the interview at the state level, ADP or NAMDA intend to disseminate the technologies to the whole target states but there is no concrete plan or mechanism. It is necessary to prepare a roadmap for each state and define that actions will be taken "when", "where", "how much budget should be prepared and where is the financial source" and "who" to disseminate the activities. In addition, it is necessary to develop effective tools (such as posters, video material etc.) by utilizing the accumulated knowledge of the Project and also prepare human resource list in each area to utilize the trained persons effectively.

APPENDIX: Joint Terminal Evaluation Report

Joint Terminal Evaluation Report

on

"The Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States" in the Federal Republic of Nigeria

Abuja, 27th May 2015

Joint Evaluation Team

TABLE OF CONTENTS

ANNEXES:

Annex 1: Project Design Matrix
Annex 2: Plan of Operation
Annex 3: Evaluation Grid
Annex 4: Summary of Inputs
Annex 5: List of Seminars and Trainings

TABLES :

Table 1: Result of evaluation for C/Ps of ABM, ADP and NAMDA on the capacity of training operation

Table 2: Result of evaluation for C/Ps of ABM, ADP and NAMDA on implementing capacity of diffusion activities for supporting innovators after trainings

Table 3: Average score and target scores of post-test after trainings on post-harvest technology and business management

Table 4: Number of rice traders who produce rice which is more than Grade A level of rice in the target group which attended the trainings

Abbreviations

ABM	Agri-Business and Marketing Department
ADP	Nasarawa State Agricultural Development Program
CARD	Coalition for Africa Rice Development
CARI	Competitive African Rice Initiative
C/P	Counterpart
FDAE	Federal Department of Agricultural Extension
FMARD	Federal Ministry of Agriculture and Rural Development
GIZ	Deutsche Gesellschaft fur Internationale Zusammenarbeit (German Society for International Cooperation)
IRM	Integrated Rice Mill
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
JY	Japanese Yen
IFAD	International Fund for Agricultural Development
MM	Man Month
M/M	Minutes of Meeting
MOU	Minute of Understanding
NAMDA	Niger State Agricultural and Mechanization Development Authority
NPC	National Planning Commission
NRDS	National Rice Development Strategy
PDM	Project Design Matrix
PO	Plan of Operation
R/D	Record of Discussions
RIPMAPP	Rice Post-harvest and Marketing Pilot Project in Nasarawa and Niger States
SON	Standards Organization of Nigeria
TICAD	Tokyo International Conference on African Development

1. Outline of the Evaluation

1-1 Background of the Evaluation

Demand for rice is increasing in Nigeria due to the recent population increase and change in people's diet as a result of urbanization. However, while the annual consumption of rice is five million tons, the domestic production of rice is around 3 million tons. A report stated that it would be necessary to import 1.5 to 2 million tons of rice annually. Thus the Nigerian government decided to increase the self-sufficiency ratio of rice, especially in view of the recent experience of surging grain prices around the world and of ensuring food security.

Although Nigeria is one of the biggest rice producers in Africa, neither farmers nor processors in the country have adequate knowledge and techniques on post-harvest processing. As a result, the overall quality of rice is low with a high percentage of broken grains due to inappropriate drying and milling and the inability to remove stones in the milling process that are mixed during harvest and drying. Moreover, the price of domestic rice is low, which discourages farmers from expanding rice production. The post-harvest loss rate of rice is 15 to 20 %, preventing the improvement of income of the farmers and other people in rural areas who are involved in rice production and processing. Raising the competitiveness of domestic rice against imported one through the improvement of quality and processing ability by enhancing rice milling technology, commercializing rice products that suit the consumer's taste, and creating domestic rice brand will contribute to the expansion of domestics production of rice and to the reduction of poverty while improving the self-sufficiency ratio, food security, and income of rice-growing farmers.

Based on the understanding that the biggest bottleneck in domestic rice production expansion is post-harvest processing, the Nigerian government has officially requested the Japanese government to implement the "Rice Post-harvest and Marketing Pilot Project in Nasarawa and Niger States (hereinafter referred to as "the Project" or "RIPMAPP") for human resource development focusing on post-harvest processing and marketing toward the officials of Agri-Business and Marketing Department (hereinafter referred to as "ABM") of Federal Ministry of Agriculture and Rural Development (hereinafter referred to as "FMARD"), Nasarawa State Agricultural Development Program (hereinafter referred to as "ADP") and Niger State Agricultural and Mechanization Development Authority (hereinafter referred to as "NAMDA"). The Project is to be done through various training programs for relevant people of the ADP and NAMDA, producers and processors.

1-2 Purpose of the Evaluation

The evaluation activities were performed as follows:

(1) To collect necessary information and confirm the progress of inputs, activities and implementation process on the basis of Project Design Matrix (PDM) and Plan of Operation (PO) of RIPMAPP.

(2) To assess the achievement of Outputs, Project Purpose and Overall Goal

(3) To analyze and evaluate the overall effect of the Project by the five evaluation criteria (Relevance, Effectiveness, Efficiency, Impact and Sustainability)

(4) To make recommendation based on the results of evaluation and identify lessons learnt that will be useful for new projects and/or other ongoing projects

1-3 Outline of the Project

(1) Summary of the Project

The Project design is drawn in the PDM (attached as Annex 1). Its summary is as follows:

i) Overall Goal

Quality of domestic rice is improved in the target states.

ii) Project Purpose

Quality of domestic rice is improved in the target areas.

iii) Outputs

a) Measures to promote distribution of high quality domestic rice are identified.

b) Rice grading standards for domestic rice is developed and improved.

c) Capacity of ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced.

d) Capacity of small-scale rice millers, parboilers, rice farmers and traders on post-harvest, marketing and business management is enhanced.

(2) Duration of the Project

July 2011 to September 2015 (four years and two months)

(3) Implementing Agency of the Project

Agri-Business and Marketing Department, FMARD (ABM)

Nasarawa State Agricultural Development Program (ADP)

Niger State Agricultural and Mechanization Development Authority (NAMDA)

(4) Target Areas of the Project

Lafia in Nasarawa State and Bida in Niger State

1-4 Members of the Terminal Evaluation Team

The Joint Terminal Evaluation Team (hereinafter referred to as "the Team") consists of the following members;

(1) Nigerian members

Name	Title	Position in the Team
Mr. Sunday Ojochonu Ali	Senior Agricultural Officer Federal Department of Agricultural Extension (FDAE), FMARD	Team Leader
Mr. Muhammad N. Alfa	Senior Planning Officer National Planning Commission (NPC)	Member

(2) JICA mission members

Name	Title	Position in the Team
Dr. Akira KAMIDOHZONO	Visiting Senior Advisor, JICA	Team Leader
Mr. Satoshi NAGASHIMA	Senior Consultant, ICONS Inc.	Evaluation Analysis
Mr. Yuichi NISHIDA	Deputy Director, Agricultural and Rural Development Group 2, Rural Development Department, JICA	Survey Management

(3) Member from International Fund for Agricultural Development (herein after referred to as "IFAD")

Name	Title	Position in the Team
Mr. Nurudeen Mohammed Lawal	Planning, Monitoring and Evaluation Specialist Value Chain Development Programme / IFAD	Observer

1-5 Evaluation Schedule

The schedule of the mission is indicated as below;

Date	**Day**	**Japanese Team**	**Nigerian Team**
11th May	Mon	Kick-off meeting	
		Meeting and interview with C/Ps of ABM	
12th May	Tue	Interview with Rice Value Chain Interview with C/Ps of ABM Interview with IFAD	
13th May	Wed	Site visit to Niger State Interview with C/Ps in NAMDA Minna headquarter in Niger state	
14th May	Thu	Interview with beneficiaries in Doko and Bida	

15th May	Fri	Interview with C/Ps of NAMDA Bida in Niger State	
16th May	Sat	Collation and preparation of draft report	
17th May	Sun	Site visit to Nasarawa State Interview with beneficiaries in Lafia	
18th May	Mon	Interview with C/Ps of ADP headquarter in Nasarawa State	
19th May	Tue	Interview with GIZ Meeting with C/Ps of ABM	
20th May	Wed	Field visit of Niger State	
21st May	Thu	Meeting with FDAE, FMARD Courtesy call to Permanent Secretary, FMARD	
22nd May	Fri	Discussion of the contents of the draft evaluation report	
23rd May	Sat	Modification of the report	
24th May	Sun	Preparation of draft Minute of Meeting	
25th May	Mon	Finalize modification and sign the evaluation report Review of contents of report to C/Ps members and Japanese expert	
26th May	Tue	Discussion with Director of ABM on M/M Present the summary of evaluation result to Acting Permanent Secretary of FMARD	
27th May	Wed	Joint Coordination Committee (hereafter referred to as "JCC")	

1-6 Methodology of the Evaluation

The Project was evaluated by the Team. The Team was composed of three (3) members from Japanese side and two (2) members (and one observer) from Nigerian side. The Team visited the Project sites and carried out series of interviews and discussions with C/Ps of ABM, ADP and NAMDA and beneficiaries. The evaluation was designed to verify the following aspects based on the PDM and PO:

1) Achievements of the Project on the basis of indicators of PDM (Annex 1) and Evaluation Grid (Annex 3);
2) Process of the Project implementation; and
3) The five evaluation criteria.

Definitions of the five criteria are as follows:

Relevance	Relevance of the plan for the Project has been reviewed in terms of validity of the Project Purpose and Overall Goal, in connection with the development policy of the Government of Nigeria, the Foreign Assistance policy of the Government of Japan, the needs of beneficiaries, and the logical coherence of the Project.
Effectiveness	Effectiveness is considered by assessing the extent of achievement of the Project objective and the clarification of the relationship between the Project purpose and the outputs.
Efficiency	Efficiency of the implementation of the Project is analyzed with focus on the relationship between outputs and inputs in terms of time, quality and quantity of inputs.
Impact	Impact of the Project is evaluated on the basis of direct or indirect, positive or negative, intended or unintended influences generated by the Project.
Sustainability	Sustainability of the Project is evaluated on the political, institutional, financial and technical aspects for examining how the achievements of the Project would be sustainable after the period of the Project.

2. Achievements and Implementation Processes

2-1 Records of Inputs

(1) Input from Nigerian side

1) Assignment of C/Ps

Fifty nine persons in total (as of April 2015) have been assigned as C/Ps of the Project.

2) Facilities and utilities

Project offices (ABM, Nasarawa State, Niger State) were provided.

3) Operational cost

ABM has executed N21 million, ADP has executed N80 million and NAMDA has executed N 11 million as the operational cost. See "Annex 4: Summary of Inputs" for the detail.

(2) Input from Japanese side

1) Japanese experts

Eleven (11) members have been dispatched and the total MM is 91.51MM (as of March 2015). See "Annex 4: Summary of Inputs" for the detail.

2) Machinery and Equipment

Equipment such as office equipment, de-stoners, rice millers, parboiling tank, test equipment etc. was provided. The cost was approximately JY28 million. See "Annex 4: Summary of Inputs" for the detail.

3) Trainings in Japan

Twelve (12) members have attended the trainings in Japan. See "Annex 4: Summary of Inputs" for the detail.

4) Operational cost

JY76 million (as of March 2015) has been spent as the operational cost of the Project. See "Annex 4: Summary of Inputs" for the detail.

2-2 Achievements of the Outputs

Output 1:
Measures to promote distribution of high quality domestic rice are identified.

Output 1 has been achieved. Planned activities have been conducted accordingly, a study on the rice distribution system in six states in Nigeria was conducted and the report (Rice Distribution System in Kano, Kaduna, Niger, Nasarawa, Benue and Ebonyi States in Nigeria) was prepared.

(1) Progress of the activities for Output 1

The progress of the activities for Output 1 is as follows.

Activity 1-1 "Study distribution channels, quality and price trends"	A study on the rice distribution system in six states in Nigeria was conducted and the report (Rice Distribution System in Kano, Kaduna, Niger, Nasarawa, Benue and Ebonyi States in Nigeria) was prepared in the first year (July 2011-April 2013).
Activity 1-2 "Examine market demands including potentials for high quality domestic rice"	C/Ps and Japanese experts interviewed small-scale rice millers, parboilers, rice farmers and traders at their work sites and market needs were grasped in the first year.
Activity 1-3 "Identify challenges of small-scale rice millers, parboilers and rice farmers"	Based on the information gathered in the Activity 1-2, C/Ps and Japanese experts analyzed the problems on the quality of domestic rice and the causes which occurred at the stakeholder's work sites in the value chain of rice in the first year.
Activity 1-4 "Design collection, processing and marketing measures to distribute high quality domestic rice and reduce post-harvest loss"	Various measures were examined to improve post-harvest technology and marketing by C/Ps and Japanese experts and discussions were made with stakeholders. Through the activities, a technology package was developed to improve the quality of rice in the first year.

Activity 1-5 "Collect information on financial institutions and service"	Surveys were conducted for financial institutions to research available funding method for beneficiaries and funding methods were discussed with beneficiaries in the first year.

(2) Indicator 1-1: Problems, causes and solutions are specified and reported

VI[1] 1-1 has been achieved. In the first year, a study on the rice distribution system in six states in Nigeria was conducted and the report (Rice Distribution System in Kano, Kaduna, Niger, Nasarawa, Benue and Ebonyi States in Nigeria) was prepared as Activity 1-1.

(3) Indicator 1-2: Specifications for machinery and equipment to be introduced are produced

VI 1-2 has been achieved. In the first year, implementing trainings and the necessary equipment were examined based on the technology package prepared in Activity 1-4 and the specifications for machinery and equipment to be introduced were produced. The equipment has been already procured.

Output 2: Rice grading standards for domestic rice is developed and improved.

Output 2 has been achieved. Planned activities have been conducted accordingly, and a color grading chart with different brightness levels of rice was developed and improved by the Project.

(1) Progress of the activities for Output 2

The progress of the activities for Output 2 is as follows.

Activity 2-1 "Study grading standards used by large-scale rice"	C/Ps of ABM conducted grading standards in large scale rice millers. As the result, although there is difference by companies, it was found in the first year that the rice which has light color and low percentage of broken grain has generally high market value.
Activity 2-2 "Study rice consumers' taste and quality standards of rice retailers"	Sub-contracted survey for rice consumer's taste was conducted. As the result, consumers prioritized "taste" as the top factor for both imported and domestic rice. As the second reasons, it was found out in the first year that "stone-free" was for imported rice and "aroma" for domestic rice.
Activity 2-3 "Develop and test	The project developed a color grading chart with different

[1] Verifiable Indicator

grading standards for parboiled milled rice suitable for small-scale rice milling"	brightness levels of rice. The grading chart has been improved continuously.

(2) Indicator 2-1: The report of the present situation and challenges is made

VI 2-1 has been achieved. To improve appearance of parboiled rice which was obviously not as good as the imported rice, a color grading chart with different brightness levels of rice was developed for the first time in Nigeria and improved by the Project. Two versions of the grading chart have been approved in JCC. This chart has been still improved and the version three is likely to be approved in JCC which is planned to organize during the Terminal Evaluation.

Currently, Standards Organization of Nigeria (hereinafter referred to as "SON") is developing rice grading standard which was not existed in Nigeria in the beginning of the Project. However there is some difference between SON grading standard and RIPMAPP grading standard such as; 1) SON grading standard does not include color standard of parboiled rice, 2) grading standards of percentage of broken grain of SON are 5%, 15% and 25% but the one in RIPMAPP is 10% and 30% in visual sample. According to the experiment of the RIPMAPP team, grading standard of RIPMAPP fulfills the grading standard of SON. However, it is planned to adjust RIPMAPP grading standard on percentage of broken grain to meet SON grading standard in the future.

Output 3: Capacity of ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced.

Output 3 has been achieved. Though some activities were delay, planned activities have been conducted accordingly and average score of capacity level of ABM, ADP and NAMDA became more than set level.

(1) Progress of the activities for Output 3

The progress of the activities for Output 3 is as follows.

Activity 3-1 "Develop training plan for ADP staff"	During the ADP training C/Ps of ABM became principal lecturers for training and developed a plan with assistance of Japanese experts.
Activity 3-2 "Prepare the curriculums and materials for ADP"	"Training Manual for ADP staff on RIPMAPP" was developed. In addition, training materials were developed based on the current situation of target area and the need of C/Ps of ABM and Japanese expert of each area by utilizing the result of survey stage. It is planned to revise

	the manual for adjusting actual situation and adding some information such as economic efficiency of improved technologies by the end of the Project.
Activity 3-3 "Set up an incubation plant with machinery and equipment in Nasarawa State"	Construction of building of incubation plant in Nasarawa was completed in August 2013. In addition, generators, rice milling machine and improved processing equipment for parboiling were installed and installation works for small scale rice milling plant were completed in November 2013.
Activity 3-4 "Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Nasarawa State"	C/Ps of ABM and Japanese experts became the lecturers and practices were carried out for ADP of Nasarawa State.
Activity 3-5 "Identify the outcome of training for ADP staff of Nasarawa State and modify training plan for the subsequent training"	The lectures were evaluated by all participants through the 10 evaluation items. In addition, each participant carried out self-evaluation by using recorded video of lectures. Training implementing team conducted same contents of lectures several times and trainings and the capacity of teaching were also improved.
Activity 3-6 "Set up an incubation plant with machinery and equipment in Niger State"	Construction of an incubation plant in Niger States was completed in March 2014 and small-scale rice millers, small-scale de-stoner, improved parboiling equipment were also procured. A small-scale rice milling plant was also installed in August 2014.
Activity 3-7 "Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Niger State"	C/Ps of ABM became lectures and practices were carried out for staff of NAMDA in Niger State.
Activity 3-8 "Identify the outcome of training for ADP staff of Niger State and modify training plan for the subsequent training"	Results of trainings for ADP staff were checked through beneficiary trainings. If there were points to be improved during meetings for reviewing after the trainings, the points were shared with lectures of training team.

(2) Indicator 3-1: Average score of capacity level of ABM and ADP staff of the both target ADPs evaluated by use of evaluation sheet is more than 3

VI 3-1 has been already achieved on the capacity of training operation. However, there are some problems on the capacity of innovator (beneficiaries who are interested to introduce the improved technology earlier) support. The Output 3 is "Capacity of ADP staff regarding training implementation on marketing post-harvest and business management is enhanced". However, based on the activities of the Project, innovator support was also regarded as an important factor and capacity development on "innovator support" is also evaluated in the Terminal Evaluation.

The indicator is based on the result of qualitative evaluation by Japanese experts on the capacity of C/P in ABM, ADP and NAMDA.

According to the capacity improvement evaluation result in April 2015 which is the latest evaluation, percentages of more than level three (3.0) of the capacity on training operation evaluation result are 87.5% for C/Ps of ABM, 100.0% for C/Ps of ADP and 100.0% for C/Ps of NAMDA. The averages of the capacity improvement evaluation result are 3.53, 4.34 and 4.11 respectively and they are more than three.

The percentages of more than level three (3.0) of the evaluation result is 41.2%, 50.0% and 52.9% respectively on implementing capacity of diffusion activities mainly for supporting innovators after trainings for C/Ps of ABM, ADP and NAMDA. The average of evaluation is 2.5, 2.8 and 2.7 respectively and it does not achieve the indicator.

According to the result of the capacity improvement evaluation, it is found out that 1) improvement is seen on the capacity of training operation for all C/Ps, 2) it is necessary to assist continuously on the capacity development of the innovator support and 3) improvement of C/Ps in ABM is relatively lower than the one of C/Ps in ADP and NAMDA at the target states. One of the reasons is that travel expense for the business trips has not been provided sufficiently and they could not visit sites frequently. Therefore Japanese experts could not transfer the techniques sufficiently during the activities in target states.

Table 1: Result of evaluation for C/Ps of ABM, ADP and NAMDA on the capacity of training operation

	ABM		ADP			NAMDA	
	2012	2015	2012	2013	2015	2013	2015
Average of the result of capacity improvement evaluation	2.73	3.53	2.94	3.98	4.34	2.64	4.11

Source: Documents provided by RIPMAPP team

Table 2: Result of evaluation for C/Ps of ABM, ADP and NAMDA on implementing capacity of diffusion activities for supporting innovators after trainings

	ABM	ADP	NAMDA

Average of the result of capacity improvement evaluation	2.5	2.8	2.7

Source: Documents provided by RIPMAPP team

Output 4: Capacity of small-scale rice millers, parboilers, rice farmers and traders on post-harvest, marketing and business management is enhanced.

Output 4 has been achieved. Planned activities have been conducted accordingly and each average score of post-test for beneficiaries became more than target score, more than 10% of the participants took actions to adopt introduced technologies and more than 2.5% of the participants have adopted introduced technologies in Niger State but not in Nasarawa State.

(1) Progress of the activities for Output 4

The progress of the activities for Output 4 is as follows.

Activity 4-1 "Develop training plan for small-scale rice millers, parboilers, rice farmer and traders"	Discussions were made between C/Ps of ADP or NAMDA and Japanese experts, and items of trainings, participants per a training, selection of participant etc. In addition, lecturers of trainings were selected considering the knowledge, techniques and attitude from ADP or NAMDA staff who have received ABM trainings.
Activity 4-2 "Prepare the curriculums and materials on the training programs"	Hand written figures such as posters for trainings were prepared and utilized.
Activity 4-3 "Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Lafia"	Trainings were carried out for "marketing and management" and "post-harvest technology" in Lafia, Nasarawa State by management of C/Ps of ADP from October 2012 to March 2013. Trainings for small-scale rice millers utilizing incubation plant[2] were conducted in the third year (May 2014 –September 2015).
Activity 4-4 "Support innovators in terms of technology, information on financial service and business management in Lafia"	Based on the result of questionnaire for the participants of beneficiary trainings on interests of employing the new techniques, analysis of personal information and interviews, candidates for innovators were selected, and some activities have been carried out such as rental of improved parboiling tanks or de-stoner, support of purchasing these equipment.
Activity 4-5 "Conduct	Trainings on marketing and management, parboiling technology

[2] This facility was constructed for training purpose of rice millers. Rice milling machine and other rice processing equipment were installed in the plant.

training for small-scale rice millers, parboilers, rice farmers and traders of Bida"	and post-harvest technology were carried out from February 2014 to April 2014. Trainings for small-scale rice millers utilizing incubation plant were conducted in the third year (October –November 2014).
Activity 4-6 "Support innovators in terms of technology, information on financial service and business management in Bida"	Selection of innovators for lending de-stoner was completed and the innovators have already started their activities.

(2) Indicator 4-1: Each average score of post-test of small-scale millers, parboilers, rice farmers and traders after training is more than target score which is set for the each beneficiary group VI 4-1 has been achieved. Average scores of post-test after trainings at target states were mostly more than target score which was set for the each beneficiary.

Table 3: Average score and target scores of post-test after trainings on post-harvest technology and business management

		Number of participants	Target score	Average score	Achievement level
Nasarawa State	Milling technology	48 (number of respondents is 47)	60.0	73.6	Achieved
	Parboiling technology Assakio type	19	60.0	70.0	Achieved
	Threshing and Winnowing for farmers	92 (number of respondents is 89)	80.0	91.3	Achieved
	Lafia type parboiling technology	60	70.0	60.4	Not achieved
	Marketing and business management	177 (number of respondents is 172)	60.0	73.7	Achieved
Niger State	Parboiling technology training for parboilers	380 (number of respondent is 376)	80.0	98.0	Achieved
	Milling technology training for millers	80	80.0	100.0	Achieved

	Milling technology training for millers of Taimako Association	100	80.0	100.0	Achieved
	Marketing and business management training for traders	85 (number of respondent is 84)	80.0	95.7	Achieved
	Marketing and business management training for parboilers	380 (number of respondent is 376)	80.0	98.0	Achieved

Source: Documents provided by RIPMAPP team

(3) Indicator 4-2: 10% of the participants take actions to adopt introduced technologies

VI 4-2 has been achieved in Niger State. However, it is not likely to achieve the indicator in Nasarawa State. "Taking actions to adopt introduced techniques" are defined as 1) surveying possibility of funding on improved technology (inquiring to financial institutions), 2) inquiring to suppliers who can produce equipment which is able to improve the technology (especially improved parboiling technology) and 3) inquiring to C/P organization on the price or procuring method voluntarily.

In Niger State, number of persons who inquire to extension workers of NAMDA on the price or procuring method was 200. Number of participant of training in Niger State was 565 and the percentage of the participants who took actions to adopt introduced techniques was 35.3%. On the other hand, seven parboilers in Nasarawa State inquired on the price to suppliers who can produce equipment. Number of participant of training in Nasarawa State was 217 and the percentage of the participants who took actions to adopt introduced techniques was 3.2%. Although there is a possibility to improve the percentage by the end of the Project, the possibility to achieve the indicator is not high.

(4) Indicator 4-3: 2.5%[3] of the participants adopt introduced technologies

Regarding the VI 4-3, improved parboiling technique has been accepted and achieved the indicator. Adoption rate of de-stoner and improved parboiling technology has not attained the set value slightly in Nasarawa State.

[3] This value is taken from "Diffusion of Innovatioin Theory (Rogers, E.M. (1995). *Diffusion of innovations (4th edition)*. The Free Press. New York.)". According to the theory, diffusion of technology starts if percentage of innovator reaches that level.

Percentage of beneficiaries who have introduced improved parboiling technique which is an important technique for quality improvement is 17.5% (38 persons out of 217) in Nasarawa State and 6.3% (36 persons out of 565) in Niger State.

To produce grade A level rice, it is necessary to introduce improved parboiling technology and de-stoner. Percentage of beneficiaries who have introduced these technologies is 1.4% (3 persons[4] out of 217) in Nasarawa State and 6.3% (21 persons[5] out of 565) in Niger State.

If "participants who adopted the introduced technologies" are defined by the RIPMAPP project team as "beneficiaries who employ producing technology system of packaged rice (improved parboiled technology, utilization of de-stoner, measuring of 25kg bushel can, sewing by machine and packaging)", the number became 21 in Niger State and zero in Nasarawa State. Number of training participants was 565 in Niger State and 217 in Nasarawa State. The percentage in Niger State becomes 3.7% and it has achieved the indicator. However the percentage in Nasarawa State become 0 % and it has not achieved the indicator. Although there are possibilities of increasing the percentage in Nasarawa State by the end of the Project, the possibility to achieve the indicator is not glaring.

2-3 Prospects for Achieving the Project Purpose

Project purpose:
Quality of domestic rice is improved in the target areas.

Indicators of Project Purpose are likely to be achieved partly. More than 2.5% of rice traders of the target groups in the target areas have handled quality domestic rice, satisfying Grade A level of Rice Grade Standard developed by the Project. While more than 2.5% of amount of Grade A level quality domestic rice has been handled by the traders in the target groups in Niger State and it is not likely to achieve the indicators in Nasarawa State.

(1) Indicator 1: At least 2.5% of rice traders of the target groups in the target areas handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project.

VI 1 is likely to achieve partly by the end of the Project. According to the materials provided by RIPMAPP team, 217 persons in Nasarawa State and 565 persons in Niger State attended the trainings. At the time of the Terminal Evaluation, 21 rice traders have produced rice which is more than Grade A level of packaged rice in Niger State and the percentage is 3.7 %. Therefore, the indicator has been achieved and even surpassed. However, it was found out through the

[4] However, it should be consider that there are secondary beneficiaries (parboilers etc.) and number of beneficiaries must be more than the value.

[5] However, 20 out of 21 are members of a female group.

project activities that inputs were not sufficient, trainings were only conducted to achieve the indicator. Therefore, innovator supports such as subsidizing the cost of de-stoners and providing transport means to sell their products etc. were carried out in addition to the original activities of the Project as there were no such activities in original PDM. Since beginning of the activities was relatively delay, beneficiaries have not reached the level to carry out the activities independently and it is necessary to continue the support for future independence.

On the other hand, in Nasarawa State, improvement of quality of rice is still insufficient and there is no rice traders who produce rice which is more than Grade A level of packaged rice. The reasons are 1) quality improvement has not been sufficient by using technology of large parboiling tanks utilized in a target area, Lafia, 2) peak of paddy transaction finished and it is difficult to obtain good quality paddy and 3) high priority is given to the quantity of rice produced rather than quality. Therefore the production activities have been also stopped. If the Project will terminate in September 2015 as planned, obtaining the paddy as a raw material will be difficult and it is not likely to achieve the indicator. Furthermore, technical improvement is made by C/Ps at the time of the Terminal Evaluation, number of traders who produce rice which is more than Grade A level may increase if paddy is available. In addition, in Nasarawa State, the products which improved parboiling technique and de-stoners are utilized by three innovators though it is not packaged rice. Therefore, it is considered that number of traders who handle Grade A Level of rice is actually not zero.

Table 4: Number of rice traders who produce rice which is more than Grade A level of rice in the target group which attended the trainings

	Nasarawa State	Niger State
Number of person who attended trainings and beneficiaries of innovator support	217	565
Number of rice traders who produce rice which is more than Grade A level	N/A*	21
Percentage of rice traders who produce rice which is more than Grade A level against total beneficiaries	N/A	3.7%

Source: Documents provided by RIPMAPP team

*Originally, RIPMAPP team regarded that only packaged rice was "high quality rice" and data of distributed packaged rice was prepared. However, during the survey period of the Terminal Evaluation, it was found out that milled rice by improved technology without packaging can also regard as "high quality rice" Therefore it was difficult to prepare the data during the Terminal Evaluation.

(2) Indicator 2: At least 2.5% of amount of Grade A level quality domestic rice is handled by the traders in the target groups.

VI 2 is likely to achieve partly by the end of the Project.

According to the sample survey conducted by RIPMAPP team for rice traders in Bida, Niger State, a percentage of average annual distribution of Grade A level quality rice in the quantity of annual rice distribution per person is 2.8%, showing the achievement of the indicator. However, as mentioned in the indicator 2, beneficiaries have not yet reached the level to carry out the activities independently and it is necessary to continue the support for future independence. In addition, one of the innovators in Bida produces Grade A level of rice which is not packaged. Therefore it is considered that the amount of distribution is bigger than the value of the indicator. However, there is no data for amount of distribution.

On the other hand, the percentages of average annual distribution of Grade A level quality rice in Nasarawa State and in rural area of Niger State are 0% and 0.3% respectively, falling below the indicator level.

As the reason that the indicator has not been achieved at the rural areas in Niger State, it is analyzed that it is difficult to obtain good quality paddy as mentioned in section of VI 1 and producers could not produce and trade the rice even though they have capacity to produce Grade A level quality rice. Transporting cost is currently also high and it is necessary to increase the transporting quantity per one time by increasing productivity. If it is possible to find the solution by the end of the Project, it may be possible to increase the quantity of production of Grade A level quality rice.

In addition, as the reasons that the indicator has not been achieved to produce Grade A level quality rice in Nasarawa State, it is considered that 1) obtaining of paddy is difficult same as other area, 2) quality improvement has not been succeeded sufficiently since quantity of parboiling per once is still important and number of rice milling is twice (that is smaller than other areas), 3) low awareness of quality improvement since there are still a tendency of efficiency-oriented since before. Concerning the quality improvement, effort to improve is continued even at the time of the Terminal Evaluation, it may be possible to increase the quantity of production of Grade A level quality rice, if good quality paddy is available. In addition, rice has been processed and sold by methods of using improved parboiling techniques and de-stoners by three innovators though it is not packaged. Therefore it is considered that the actual amount of distribution is not zero. However, there is no data for amount of distribution.

2-4 Prospects for Achieving the Overall Goal

Overall Goal:
Quality of domestic rice is improved in the target states.

It is difficult to foresee the probability of achieving the Overall Goal at the time of the Terminal Evaluation.

(1) Indicator 1: At least 2.5% of rice traders in the target states handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project.

It is difficult to foresee the probability of achieving the indicator at the time of the Terminal Evaluation.

Several sign of diffusion of transferred techniques of RIPMAPP have been seen in the target states since female parboilers have accepted improved parboiling techniques and buyers have appreciated the quality in Niger State. In addition, 1) there were requests for trainings on post-harvest technologies at some localities in Niger State and 2) IFAD showed interest on the technologies of the Project and may possibly employ or adopt the technologies in other areas in Niger State, being one of the pilot states for on-going project "Value Chain Development Programme". On the other hand, there is almost zero record to sell high quality rice in Nasarawa State due to difficulty in obtaining good quality paddy and emphasis on quantity rather than quality. It is difficult into predict diffusion of the improved techniques in Nasarawa State at the time of the Terminal Evaluation (Not so difficult as the people have shown keen interest in embracing the new technologies, despite the few challenges faced).

In addition, for achieving the indicator, it is necessary 1) to secure the system to implement diffusion activities such as trainings outside of the target area of the Project by ADP and NAMDA in the target states, 2) to recognize the grading standard of RIPMAPP in all areas of the target states and 3) to establish an innovator support system that participants of the trainings start the business among others. To establish these systems, it is necessary that ADP and NAMDA prepare a diffusion plan or a road map. However, these plans were yet to be in place as at the time of the Terminal Evaluation of the Project.

Furthermore, it is difficult to grasp the condition of distribution of rice which is more than Grade A level even at the target area. It is extremely difficult to grasp the condition of distribution of rice in the whole target states as the indicator. Therefore, it is necessary to consider how the data should be surveyed during the implementation period of the Project. In this light, it is recommended to set additional indicator which is relatively easy to obtain the data.

2-5 Implementation Process of the Project

There are some problems in the implementation process.

(1) Project Management System

Sufficient technical transfer has been conducted for C/Ps in Nawarawa and Niger States. However, sufficient technical transfer has not been carried out for C/Ps of ABM for the reasons of being occupied with other works and delay of payment of travel expenses was stuck to go business trip.

JCC has been conducted without delay. Although contents of the discussion in JCC were recorded in the M/M, requests on improving the situation of travel expenses for the C/Ps of ABM have not put into action and there is a problem on a part of the function.

Japanese experts could not visit the target sites due to the problem of security. As a result, the means of communication was limited.

No particular problem has been observed for system of command chain and demarcated structure among Japanese experts and Nigerian side in the State level. However, involvement of a part of ABM for the Project has been less since the Project started the activities in the target sites and command chain and clear demarcated structure have not functioned perfectly.

(2) Factors affecting the implementation process

It is sometime difficult to have a permission of business trip to the target sites for Japanese experts due to the security situation in the country and it has hampered greatly the progress of the Project.

3. Results of the Evaluation based on the Five Criteria

3-1 Relevance

Relevance of the Project is high due to the following reasons.

(1) Consistency with policy in Nigeria

The Overall Goal and the Project Purpose are consistent with the National Development Plan, Sector development plan in Nigeria.

In the Nigeria's development strategy "Nigeria Vision 20:2020" prepared in 2009, it is mentioned that "Consciously promoting national sufficiency in key agricultural commodities (including rice etc.) currently imported into Nigeria at high foreign exchange costs".

Nigerian government prepared National Rice Development Strategy (hereinafter referred to as "NRDS") in 2009 and aimed to increase production of rice from 3.4 million ton in 2007 to 12.85 million ton in 2018. NRDS prioritize post-harvest technology and marketing as one of the priority issues.

(2) Needs

The Project is corresponded with the needs of target groups in Nigeria.

Nigeria is a country which the production of rice is the highest in Sub-Saharan Africa. However, recognition and techniques on post-harvest technologies are insufficient by the target groups such as small-scale rice millers, parboilers and rice producers and the quality of domestic rice is lower than imported rice. Therefore, the price of the domestic rice is lower and rice producers lose interest to expand rice production. This is a bottleneck in the expansion of rice production in Nigeria. For solving the problems, it is necessary to improve post-harvest technology of rice through supporting ADP or NAMDA in the states, rice producers and rice processors etc.

(3) Consistency with policy of Japan

Japan has made it a goal to double the production of rice in Sub-Saharan Africa in the next ten years, in the framework of the Coalition for Africa Rice Development (CARD) launched at the Fourth Tokyo International Conference on African Development (TICAD IV) in May 2008. Nigeria was included in the First Group of the target countries. Japan is committed to the initiative of the CARD, and RIPMAPP is Japan's core project in Nigeria.

According to the "Cooperation developing plan for the Federal Republic of Nigeria" prepared in 2014, the Project is included in a cooperation program "Program for poverty reduction in rural area" in the development issue 3-1 "Achievement of development benefited for everyone" and it is one of the priority area of the cooperation of Japan in Nigeria.

3-2 Effectiveness

Effectiveness of the Project is relatively high due to the following reasons.

(1) Achievement level of Project Purpose

There is a possibility not to achieve a part of the Project Purpose if the Project will terminate in September 2015 as planned.

In the Project, technical transfer has been carried out on post-harvest technology and marketing in the target area of Nasarawa and Niger Satates and the capacities have been already settled to produce rice of more that Grade A level. In addition, through the technical transfer to ADP and NAMDA in the target states, the structure to diffuse the transferred techniques in the Project to other area in the states is about to be settled.

In addition, though some technologies were developed in the Project, especially improved parboiling technology, there are some cases that not only beneficiaries in the target areas but also in other areas have introduced, and other donors are considering to introduce the technologies. Therefore there are great achievements and it is considered that quality of domestic rice in the target areas is gradually been improved due to intervention of the Project

though all products by target rice processors have not achieved the quality of Grade A level which was set in the Project.

However, the Project is supposed to terminate in September 2015 which is before November 2015 that good quality paddy in 2015 will be available since the harvesting season of rice starts. It is difficult to obtain the ingredients to produce (good quality paddy) and to practice transferred techniques especially in Nasarawa State during non-harvest season. Therefore, it is considered that it is difficult to achieve the indicators of the Project Purpose by the end of the Project.

(2) Contributing factors and inhibiting factors

There are (were) some negative or positive factors to achieve the Project Purpose.

(2)-1 Contributing factors

1) According to the original plan, only conducting training was included in the project design as the means for technical dissemination. However, movement of employing new techniques did not appear after the beneficiary trainings in Nasarawa State during the first year, and it were found out that follow-up was necessary after the trainings. In the second year, support of innovators was included in the activities and sign of technical diffusion was appeared.
2) Large number of beneficiaries in Niger State (especially rice producers and parboilers) is scattered in rural areas, and caravan type trainings which training team transport equipment to rural area and carry out trainings were organized. In the consequence of this, women in the rural area can attend the trainings easily.

(2)-2 Inhibiting factors

1) Small scale rice processors in the target states have difficulties in obtaining the paddy except during harvesting season. The reasons are a) price of the paddy increases after harvesting season but they cannot increase the price of milled rice (there is a competition with imported rice) and they cannot buy paddy, b) financial capacity is limited and there is no capacity to buy large quantity of paddy and stock during harvesting season, c) in the target states, local variety which resist flood and draught is mainly cultivated by farmers and it is difficult to purchase improved variety of paddy which is popular in the market though paddy of local variety is available even after harvest season. Since paddy is not available, production activities based on the introduced technologies are limited due to lack of transaction of paddy. In addition, it is difficult to introduce new technology since beneficiaries cannot feel the effect of improved technology due to difficulty of drying paddy during the rainy season. Therefore, the activities of the technical transfer for beneficiaries are limited during the off-season of rice.

2) Beneficiaries run their businesses with limited capital and some beneficiaries tend to hesitate on the introduction of the new technologies due to financial constraints even though they appreciate the improved technologies.
3) Rice millers hesitate to introduce new technologies due to: a) they have not had any experience to sell high quality rice at high price and are skeptical that they can increase the selling price if they sell the quality rice. Therefore, they have anxiety not being able to recover the invested cost, b) even they do not target the market where demand of high quality rice is high such as Abuja. they could sell their product in the local market with appropriate price even though quality is not less than aiming of the Project. Therefore they hesitate about new investment.

3-3 Efficiency

Efficiency of the Project is relatively high due to the following reasons.

(1) Contribution of Activities

To achieve the Outputs, sufficient activities were conducted as planned.

Most of the activities have been already conducted for Output 1 "Measure to promote distribution" and Output 2 "Rice grading standards for domestic rice" and sufficient result has been already obtained. Concerning the Output 3, constructions of incubation plants in Nasarawa and Niger States were included in the activities. However, the constructions were delayed and activities such as trainings to utilize the incubation plants were also delayed. Concerning the Output 4, activities for supporting innovators were mainly conducted at the time of the Terminal Evaluation and it is likely that enhancement of capacity of beneficiaries on post-harvest, marketing and business management will be achieved.

(2) Appropriateness of Inputs

1) Dispatch of Japanese experts

There is no particular problem on number of dispatch and the expertise for Japanese experts. However, though activities of the Project is consisted with grasping current situation, confirming the technical improvement methods and the trainings in the original plan, it was found out at the end of the first year that it was difficult to fix the trained methods and to achieve the Project Purpose as quality improvement if there is no following up activities of the trainings. Therefore the project team proposed to conduct innovator support which was not included in the framework of the original plan and additional period was approved. Due to limited dispatch period, multiple operations of each expert were made to cover the shortage of the dispatched period. However the dispatch period is not sufficient under circumstance such as not able to visit the target sites due to security reasons.

2) Procurement of Equipment

For equipment which has been procured by Japanese side. there is no problem on specification, type, amount and timing of procurement.

However, concerning the rice milling plant in the incubation plant constructed in Nasarawa State, it was larger than the original specification which was proposed by Japanese experts considering technical and financial situation of small scale beneficiaries in rice value chain due to strong request from ABM. The specification exceeds the investment capacity of the target group and the specification was relatively excessive.

3) Assignment of Counterparts

Number, position and competency of C/Ps are appropriate in the target states. However, concerning the ABM, though there is no problem on the number, all C/Ps have multiple tasks other than the Project, and a C/P in charge of training operation was belonging in local office which is located in no target area and it was difficult to make sufficient technical transfer.

4) Local cost supported by Nigerian side

States government in Nasarawa State executed the budget for the Project as planned. Niger State executed the cost for beneficiary trainings but could not secure the cost for construction of the building of incubation plant. A Part of travel expense for C/Ps which was supposed to be borne by FMARD has not prepared on time.

3-4 Impacts

Impact of the Project is expected as relatively high due to the following reasons.

(1) Probability of Achievement of Overall Goal

It is difficult to foresee the probability of achieving the indicator at the time of the Terminal Evaluation.

For achieving the Overall Goal, it is necessary to establish a system to diffuse the activities by ADP and NAMDA in the target states. At the time of the Terminal Evaluation, there are some actions to diffuse the technologies of the Project by utilizing funding source from other donors etc. in Niger State. However, there is no concrete activity for preparing a diffusing plan or road maps in the target area.

(2) Causal relationship

There is no significant gap between the Overall Goal and the Project Purpose but the diffusion mechanism is necessary to achieve the Overall Goal.

Quality of domestic rice distributed in the target areas is aimed to be improved in the Project Purpose and quality of domestic rice distributed in the target states is aimed to be improved in the Overall Goal. Technical transfer has been conducted for ADP in Nasarawa State and NAMDA in Niger State who are supposed to transfer the technology to beneficiaries, and dissemination of the technology in these states is possible. However, activities to establish a system to diffuse the technologies to whole states is not clearly mentioned in the PDM. Therefore it is difficult to promote the diffusion of the techniques to whole states only by the input in PDM of the Project and is necessary to establish a diffusion system in the target states level.

(2) Unexpected positive effect

In the Project, there are some unexpected positive effects.

1) Improved technologies developed by the Project are appreciated by other donors such as GIZ and IFAD. In December 2014, Competitive African Rice Initiative (herein after referred to as "CARI") of GIZ funded one day study tour to visit RIPMAPP target site for representatives from six states and some development partners. Currently, JICA Nigeria Office and CARI/GIZ is discussing on the dissemination of RIPMAPP technologies to Cross Rivers State. In addition, concrete actions are observed between JICA Nigeria Office and IFAD towards dissemination of the activities to six states (Niger, Ogun, Taraba, Benue, Ebonyi and Anambra States) in the currently implemented project "Value Chain Development Program".
2) Twenty seven of de-stoners are planned to be donated to ADP of Nasarawa State through a Grass Roots Grant Aid Scheme of Embassy of Japan in Nigeria.

3-5 Sustainability

Sustainability is moderate due to the following reasons.

(1) Political and Institutional Aspect

Currently the Nigerian government is aiming to improve the quality of domestic rice. Therefore there is a policy to support small scale rice processors. On the other hand, concrete actions to support the small scale rice processors are relatively limited.

At the time of the Terminal Evaluation, any system (Policy, Strategy, law etc.) to disseminate the activities of pilot sites has not prepared yet.

(2) Organizational Aspect

For other areas in two target states, C/Ps of the two states have a capability to implement trainings by their own. However, the means (financial source, transport mean etc.) to diffuse to the other area are limited. On the other hand, concerning dissemination of other states by ABM

that is out of scope of PDM in the Project, there are some challenges such as 1) ABM staff did not have an opportunity on coordination before the trainings, preparation and operation of the trainings during the project period although there are technical ability to work as lecturers of training, 2) the person in charge of trainings is not assigned in the headquarter at Abuja despite belonging in the organization.

In Nasarawa and Niger States, rice miller's associations do not have organizational capacity to conduct quality control thoroughly within the associations. It may become a bottleneck to accumulate the quantity and form a production center.

(3) Financial Aspect

There are some results for securing budget such as the building of incubation plant was constructed by the budget of State in Nasarawa State and the budget was secured for leveling the land for construction of incubation plan in Niger State. On the other hand, according to the C/Ps of state level, they mentioned that it is difficult to secure the State budget after the Project. Concerning ABM, the problem of travel expense has not been solved yet even at the time of the Terminal Evaluation and it is difficult to mention that possibility to secure the budget is high after the Project.

(4) Technical Aspect

The C/Ps of targeted two states have contacted with beneficiaries at the site and transferred the techniques. Therefore transferred techniques will be sustained if there is no personnel change.

The C/Ps of ABM have capacities to work as lecturers in the trainings with following prepared procedure and manuals. However, they mostly have not collaborated with Japanese experts in the site level activities due to non-payment of travel expense and sufficient technical transfer has not made. Therefore it is difficult to judge whether C/Ps of ABM can manage trainings independently.

It is considered to be accepted the improved parboiling technology by the beneficiaries of the target area. However, there is a tendency to hesitate about accepting techniques such as introduction of de-stoner etc. due to high requirement of financial capacity, and further effort is necessary to diffuse the technology.

Concerning the diffusion within the states by ADP and NAMDA, the C/P organizations in the two states have a capacity to improve and to manage trainings. However, a system utilizing trained C/Ps as lecturers in the other area has not established and the diffusion plan has not prepared yet. In addition, it is also necessary to procure minimum required equipment for the diffusion. Further, technical adoption by business owners is mainly caused by individual

investment or interest for economic activities and it is difficult to achieve only through the diffusion activities. However it is necessary to establish support system of innovators etc.
Concerning the nationwide diffusion by ABM, it is out of scope of PDM framework and support activities have not specially carried out for establishing the system or preparing the implementation plan in the Project. Therefore, the mechanism for diffusion has not established.

4. Conclusion

Planned activities have been conducted accordingly in the Project. As the result, measures to promote distribution of high quality domestic rice were identified (Output 1), rice grading standards for domestic rice was developed (Output 2), capacity of ABM, ADP and NAMDA staff regarding training implementation have been enhanced (Output 3) and capacity of beneficiaries has been also enhanced (Output 4). Achievements of these Outputs have contributed to achieve the Project Purpose "Quality of domestic rice is improved in the target areas" in the target area of Niger State. However, there are some difficulties in Nasarawa State such as 1) obtaining of paddy is difficult, 2) quality improvement has not been succeeded sufficiently, 3) low awareness of quality improvement and it is likely not to achieve a part of indicators of the Project Purpose. Under the circumstance, some technologies developed in the Project, especially improved parboiling technology is widely accepted by beneficiaries and the Project has contributed to improve quality of domestic rice in the target areas gradually. Therefore the efficiency of the Project is relatively high.
Concerning the impact of the Project, the diffusion mechanism is not included in the project framework and it is difficult to foresee the achievement of Overall Goal. However, some donors are interested in the technologies of the Project and they may integrate and diffuse the activities of the Project not only in the target States but also other states. Therefore the impact of the Project is relatively high.
Concerning the sustainability of the Project, it is moderate since there is no concrete mechanism to disseminate the activities to whole state, and it is also necessary to make effort continuously for securing financial support for the Project by Nigerian side.
To enhance the sustainability of the Project, some recommendations will be made by the Terminal Evaluation Team in following chapter.

5. Recommendations and Lessons Learnt

5-1 Recommendations

The evaluation team recommends the following points:

Recommendations during the project period

(1) Extension of the project period

As mentioned in the conclusion, there are some difficulties in Nasarawa State and it is likely not to achieve indicators of the Project Purpose. In addition, even indicators of the Project Purpose have been achieved in Niger State, beneficiaries still need some supports from the Project to conduct their operations independently. To reinforce the capacity level of the beneficiaries in both states, it is necessary to have more experience to produce high quality milled rice. However, paddy is not available sustainably in the target areas except during the rice harvest season and that is a bottleneck for technical transfer. If the Project will terminate in September 2015 as planned, it is impossible to conduct technical transfer during the next harvest season (from November to March). Therefore it is recommended to extend the project period to observe the result of the technical transfer until the next harvest season to reinforce the capacity of beneficiaries further.

(2) Payment of travel expense for C/Ps of ABM

During the project period, C/Ps of ABM sometime had difficulties of travel expenses to visit target sites and it was an inhibiting factor to transfer the techniques to C/Ps of ABM. When Nigerian government will disseminate the project activities to other states, C/Ps of ABM will be the main actors and technical transfers to C/Ps of ABM are quite important. It is necessary to allocate adequate budget for travel expenses by Nigerian side and it is also recommended to execute it in timely manner.

(3) Adjustment of RIPMAPP rice grading standard to SON's one

To create quality consciousness of small scale processors for their day-to-day rice business and to create price difference based on degree of rice quality, a color grading chart with different brightness levels of rice was developed and improved by the Project. However, SON is currently developing rice grading standard. There is some difference between SON grading standard and RIPMAPP grading standard such as SON grading standard does not include color standard of parboiled rice, difference of percentage of broken grain ratio etc. Although grading standard of the Project fulfills the grading standard of SON, it is recommended to adjust RIPMAPP grading standard on percentage of broken grain to meet SON grading standard.

(4) Deciding the operation and management body for the incubation plants

In the Project, incubation plants on rice processing were constructed and equipped by the effort of target states and JICA for training purpose. To utilizing the plants effectively, Nigerian side is considering entrusting the operation and management to a private body who is interested in carrying out rice milling business by using the facility. It is necessary to decide the operation

and management body for the incubation plants before the end of the Project through appropriate procedure.

(5) Re-considering the indicator for Overall Goal

For the indicator of the Overall Goal, "At least 2.5% of rice traders in the target states handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project" was set. However, it is considered that obtaining the data is technically difficult since there is no such official statistics available. Therefore, it is recommended to set alternative indicator for Overall Goal for future ex-post evaluation.

Recommendation after the project period

(6) Preparation of a roadmap and materials to disseminate the project activities to whole target states

To achieve the Overall Goal, it is necessary to diffuse the technologies to whole target states. However, according to the interview at the state level, ADP or NAMDA intend to disseminate the technologies to the whole target states but there is no concrete plan or mechanism. It is necessary to prepare a roadmap for each state and define that actions will be taken "when", "where", "how much budget should be prepared and where is the financial source" and "who" to disseminate the activities. In addition, it is necessary to develop effective tools (such as posters, video material etc.) by utilizing the accumulated knowledge of the Project and also prepare human resource list in each area to utilize the trained persons effectively.

5-2 Lessons Learnt

(1) Importance of innovator support

In the original plan of the Project, it was only planned to conduct trainings and diffuse the improved technologies. However, since financial capacity of beneficiaries is limited and they are keen in economic feasibility of introduced technologies, it was difficult to convince beneficiaries to introduce improved technologies only by the trainings. To solve the problem, the Project has introduced "innovator support" such as borrowing equipment or subsidized to purchase the equipment etc. and it contributes the achievement of the Project Purpose. To intervene in economic activities, only carrying out trainings is not sufficient to disseminate the technologies and innovator support should be included in the activities from the beginning of the Project.

(2) Difficulty to focus only on activities of rice processors

This Project mainly focuses on the post- harvest activities of rice processors (parboilers and rice millers) to improve the quality of milled rice. However, the factor of improving quality of rice is not only depending on rice processors but improvement of quality of paddy is also an important factor. In addition, availability of necessary variety of paddy is also an important factor to meet the demand of the market. Since the Project mainly focused on improvement of technologies of rice processors, there are many problems not to able to solve through the project activities such as quality of paddy as mentioned in the Important Assumption of PDM "Sufficient quantity of quality rice seeds are provided to farmers". To intervene in rice value chain to improve the quality of milled rice, it is difficult to achieve the Project Purpose perfectly only by intervening rice processors for in the environment which is difficult to obtain the good quality paddy easily.

(3) Development of appropriate techniques

In the Project, use of false bottom and lid for parboiling pot has been developed and introduced just to fit existing parboiling tanks to improve small scale parboiling technology. The introduction cost of false bottom and lid is not too expensive and beneficiaries tend to accept the technology gradually. Normally, small scale beneficiaries do not have enough capital to invest high cost equipment and it is necessary to introduce appropriate technology that beneficiaries can invest easily.

Fin

Annex-1 PDM Ver. 3

Project Design Matrix (PDM)

Project Title: Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States Ver.3

Target Areas: Lafia, Nasarawa State and Bida, Niger State **Target Group:** Small-scale Rice millers, Parboilers, Rice farmers, and Traders Date: 26 May 2014

Project Period: 4 years from September 2011 to August 2015

Narrative Summary	Objectively Verifiable Indicator	Mean of Verification	Important Assumption
< Overall Goals > Quality of domestic rice is improved in the target States.	At least 2.5% of rice traders in the target States handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project.	Survey of traders	
< Project Purpose > Quality of domestic rice is improved in the target areas.	- At least 2.5% of rice traders of the target groups in the target areas handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project. - At least 2.5% of total quantity of rice handled by rice traders of the target groups in the target areas is Grade A level of Rice Grade Standard developed by the Project.	Survey of traders	ADPs conduct post-harvest processing and marketing training given by the Project.
< Outputs >			
1 Measures to promote distribution of high quality domestic rice are identified.	1-1 Problems, causes and solutions are specified and reported.	Project Report	Price of imported rice does not drop drastically.
	1-2 Specifications for machinery and equipment to be introduced are produced.	Project Report	
2 Rice grading standards for domestic rice is developed and improved.	2-1 Proposed grading standard for parboiled milled rice is accepted at the JCC meeting.	JCC minutes	
3 Capacity of APM and ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced.	3-1 Average score of capacity level of APM and ADP staff of the both target ADPs evaluated by use of evaluation sheet is more than 3.	Results of capacity assessment by use of evaluation sheet	Natural disasters and economic shocks that significantly affect rice distribution in and around target areas do not occur.
4 Capacity of small-scale rice millers, parboilers, rice farmers and traders on post-harvest, marketing and business management is enhanced.	4-1 Each average score of post-test of small-scale millers, parboilers, rice farmers and traders after training is more than target score which is set for the each beneficiary group.	Results of pre-test and post-test	
	4-2 10% of the participants take actions to adopt introduced technologies.	Monitoring	
	4-3 2.5% of the participants adopt introduced technologies.	Monitoring	

Annex-1 PDM Ver. 3

Project Design Matrix (PDM)

Project Title: Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States | **Ver.3**

Target Areas: Lafia, Nasarawa State and Bida, Niger State | **Target Group:** Small-scale Rice millers, Parboilers, Rice farmers, and Traders | **Date: 26 May 2014**

Project Period: 4 years from September 2011 to August 2015

< Activities >	< Input > Japan side	Nigeria side	
1-1 Study distribution channels, quality and price trends of rice.			Sufficient quantity of quality rice seeds are provided to farmers.
1-2 Examine market demands including potentials for high quality domestic rice.	1) Experts	1) Personnel	
1-3 Identify challenges of small-scale rice millers, parboilers and rice farmers.	- Chief Advisor	- Project Director (Permanent Secretary, FMARD)	
1-4 Design collection, processing and marketing measures to distribute high quality domestic rice.	- Post-harvest technology/Parboiling technology	- Project Manager (Director, Agro-processing and Marketing, APM)	Natural disasters such as droughts and floods, diseases, animal attacks, and insect attacks which substantially affect rice production do not occur in target areas.
1-5 Collect information on financial institutions and service.	- Rice marketing	- State Coordinators (Programme Managers, ADP Nasarawa and Niger States)	
2-1 Study grading standards used by large-scale rice millers.	- Farmer organization/Training	- Counterparts	
2-2 Study rice consumers' taste and quality standards of rice retailers.	- Coordinator/Training assistant	- APM staff (Post-harvest Technology, Rice Value Chain and Marketing, International Relations and Collaboration)	
2-3 Develop and test grading standards for parboiled milled rice suitable for small-scale rice milling.	2) Equipment	- ADP staff (Planning, Post-harvest Technology, Rice Value Chain and Marketing, Farmer Organization)	Prices of rice in domestic market do not drop drastically.
3-1 Develop training plan for ADP staff.	- Machinery and equipment for training	2) Buildings and facilities	
3-2 Prepare the curriculums and materials for ADP staff.	- Office equipment	- Office space and necessary facilities in APM and in the target ADP	No major political disorder that affects economic activities and security of target areas occurs.
3-3 Set up an incubation plant with machinery and equipment in Nasarawa State.	3) Counterpart Training	- Training venues in the target sites	
3-4 Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Nasarawa State.	- Training in Japan and/or in the third country for a few persons	- Land and buildings for rice milling and storage of equipment	
3-5 Identify the outcome of training for ADP staff of Nasarawa State and modify training plan for the subsequent training.	4) Local costs		
3-6 Set up an incubation plant with machinery and equipment in Niger State.	- Local project support staff	3) Local costs and recurring costs	
3-7 Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Niger State.	- Hiring of project vehicles	- Domestic transportation, operation and maintenance of provided machinery and any other equipment.	
3-8 Identify the outcome of training for ADP staff of Niger State and modify training plan for the subsequent training.	- Office supplies and other minor expenses	- Travel fee of Nigerian counterparts	
4-1 Develop training plan for small-scale rice millers, parboilers, rice farmer and traders.		- Assignment of supporting staffs	
4-2 Prepare the curriculums and materials on the training programms.		- Running expenses for training of small-scale rice millers, parboilers, and rice farmers.	
4-3 Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Lafia.			< Pre-condition > No major political disorder that affects economic activities and security of target areas occurs.
4-4 Support innovators in terms of technology, information on financial service and business management in Lafia.			
4-5 Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Bida.			
4-6 Support innovators in terms of technology, information on financial service and business management in Bida.			

Annex-1 PDM Ver. 3

Project Design Matrix (PDM)

Project Title: Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States | **Ver.3**

Target Areas: Lafia, Nasarawa State and Bida, Niger State | **Target Group:** Small-scale Rice millers, Parbollers, Rice farmers, and Traders | **Date:** 26 May 2014

Project Period: 4 years from September 2011 to August 2015

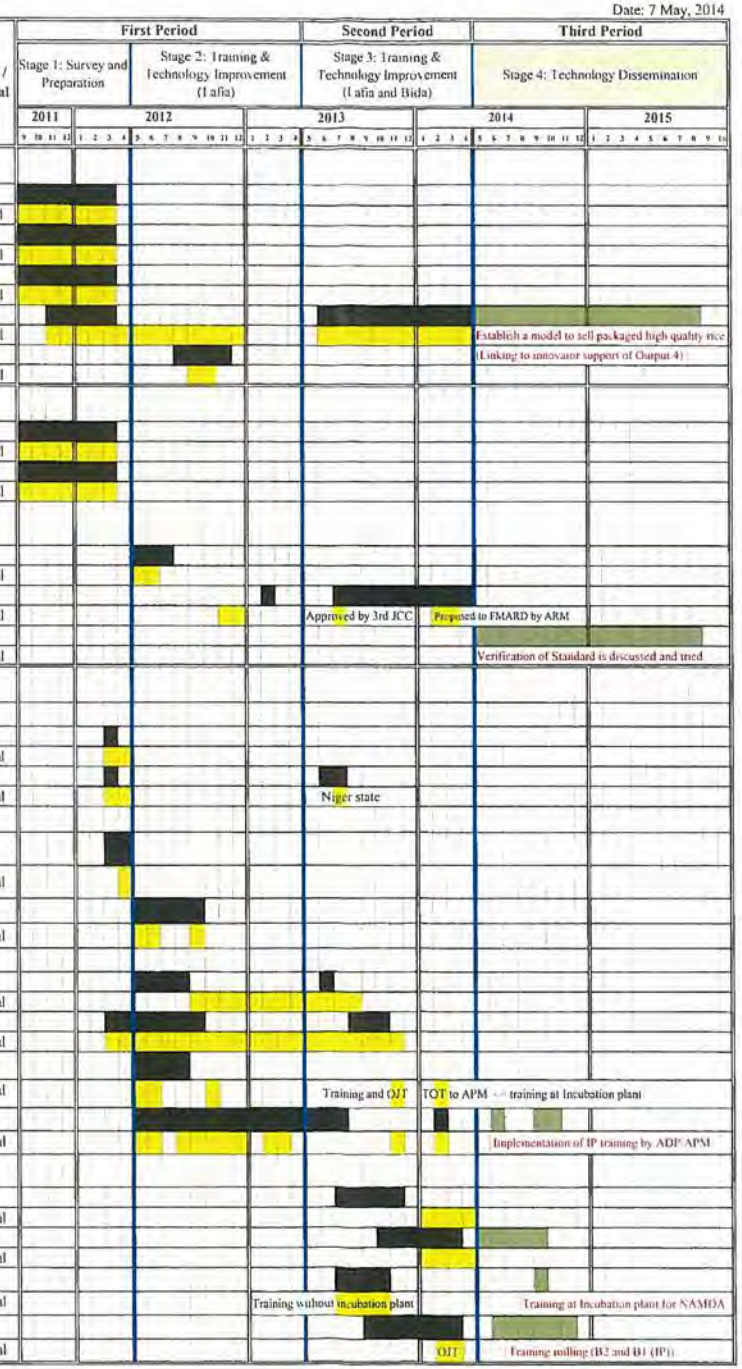
Note: Indicator 3-1: The evaluation sheet lists up category of capacity which is composed of some sub categories which are to be evaluated by the given ranking according to the five (5) grade evaluation system from 1 to 5, in order to measure capacity of ADP for Output 3.

Annex-2 Plan of Operation

Project Title: Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States

Date: 7 May, 2014

Activity of the Project/ Term of Cooperation		Products	Responsibility		Plan / Actual
			Japanese Expert	Nigerian Counterpart	
Output 1	**Measures to promote distribution of high quality domestic rice are identified.**				
1-1	Study distribution channels, quality and price trends of rice.	Study report	Koyama	APM PMD Div.	Plan Actual
1-2	Examine market demands including potentials for high quality domestic rice.	Study report	Koyama	APM PMD Div.	Plan Actual
1-3	Identify challenges of small-scale rice millers, parboilers and rice farmers.	Summary table Study report	Furuichi/Koyama	APM PMD & CI Div	Plan Actual
1-4	Design collection, processing and marketing measures to distribute high quality domestic rice.	Summary table	Furuichi/Koyama	APM CI & PMD Div	Plan Actual
1-5	Collect information on financial institutions and service.	Study report	Wakisaka	APM PMD Div.	Plan Actual
Output 2	**Rice grading standards for domestic rice is developed and improved.**				
2-1	Study grading standards used by large-scale rice millers.	Study report	Koyama/Furuichi	APM QC & PMD Div	Plan Actual
2-2	Study rice consumers' taste and quality standards of rice retailers.	Study report	Furuichi/Koyama	APM QC & PMD Div	Plan Actual
2-3	Develop and test grading standards for parboiled milled rice suitable for small-scale rice milling.	Grading standards			
2-3-1	Prepare of draft grading standards for domestic rice.		Furuichi/Koyama	APM QC & PMD Div	Plan Actual
2-3-2	Review the grading standards for domestic rice.		Furuichi/Koyama	APM QC & PMD Div	Plan Actual
2-3-3	Review the grading standards for domestic rice.		Furuichi/Koyama	APM QC & PMD Div	Plan Actual
Output 3	**Capacity of APM and ADP staff regarding training implementation on marketing, post-harvest and business management is enhanced.**				
3-1	Develop training plan for ADP staff.	Training Plan for ADP staff			
3-1-1	Discuss the framework of training for ADP staff .		Ku/Inada	APM	Plan Actual
3-1-2	Prepare training plan (draft) for ADP staff.		Ku/Inada	APM	Plan Actual
3-2	Prepare the curriculums and materials for ADP staff.				
3-2-1	Create training implementation manual for APM staff.	ADP staff training implementation manual for APM	Ku/Inada	APM	Plan Actual
3-2-2	Prepare curriculums on post harvest technology, rice value chain, marketing and institutional development for ADP staff.	ADP staff training curriculums	Furuichi/Koyama/Inada	APM PMD Div.	Plan Actual
3-3	Set up an incubation plant with machinery and equipment in Nasarawa State				
3-3-1	Construct a building for Incubation plant in Lafia.	Building	Furuichi	APM ADP	Plan Actual
3-3-2	Procure machinery and equipment, and install them.	Machinery and equipment	Furuichi/Ku	APM ADP	Plan Actual
3-4	Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Nasarawa State.		Furuichi/Koyama/Inada/Ku	AMP	Plan Actual
3-5	Identify the outcome of training for ADP staff of Nasarawa State and modify training plan for the subsequent training.		Each	Each	Plan Actual
3-6	Set up an incubation plant with machinery and equipment in Niger State.				
3-6-1	Construct a building for Incubation plant in Bida.	Building	Furuichi	APM PM-ADP	Plan Actual
3-6-2	Procure machinery and equipment, and install them.	Machinery and equipment	Furuichi/ Ku/Takayama	APM PM-ADP	Plan Actual
3-7	Conduct training on post-harvest technology, rice value chain, marketing and institutional development for ADP Staff of Niger State.		Furuichi/Koyama/Inada/Ku	APM	Plan Actual
3-8	Identify the outcome of training for ADP staff of Niger State and modify training plan for the subsequent training.		Each	Each	Plan Actual



Activity of the Project/ Term of Cooperation		Products	Responsibility		Plan / Actual	First Period										Second Period				Third Period									
						Stage 1: Survey and Preparation				Stage 2: Training & Technology Improvement (Lafia)								Stage 3: Training & Technology Improvement (Lafia and Bida)				Stage 4: Technology Dissemination									
			Japanese Expert	Nigerian Counterpart		2011				2012								2013				2014				2015					
						9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10
Output 4	**Capacity of small-scale rice millers, parboilers, rice farmers and traders on post-harvest, marketing and business management is enhanced.**																																								
4-1	Develop training plan for small-scale rice millers, parboilers, rice farmer and traders.																																							
4-1-1	Discuss of the framework of training for direct beneficiaries.		Ku/Inada	APM ADP HR.	Plan																																			
					Actual																																			
4-1-2	Prepare of training plan (draft) for millers, parboilers, and rice farmers		Ku/Inada	APM ADP HR.	Plan																																			
					Actual																					Niger state							Planning B1									
4-2	Prepare the curriculums and materials on the training programms.																																							
4-2-1	Create training implementation manual for ADP staff.	Direct beneficiary training implementation manual for ADP staff	Ku/Inada	APM ADP HR.	Plan																																			
					Actual																																			
4-2-2	Prepare curriculums on marketing for small-scale rice millers, parboilers, rice farmers and traders.	Direct beneficiary training curriculums	Furuichi/Koyama	APM, ADP RI Suleiman(NaHQ), PME Ishaq(B)	Plan																																			
					Actual																																			
4-3	Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Lafia.																																							
4-3-1	Conduct Training for small-scale millers, parboilers, rice farmers and rdaers of Lafia			APM ADP Dir HR	Plan																																			
					Actual																																			
4-3-2	Evaluate the training of Lafia		Takayama/Ku	APM ADP Dir HR	Plan																																			
					Actual																																			
4-3-3	Identify the outcome of training for millers, parboilers, and rice farmers and modify training plan for the following period of Lafia		Takayama/Ku	APM ADP Dir HR	Plan																																			
					Actual																																			
4-4	Support innovators in terms of technology, information on financial service and business management in Lafia.		Each	Each	Plan																																			
					Actual																																		Establish a model to sell packaged high quality rice			
4-5	Conduct training for small-scale rice millers, parboilers, rice farmers and traders of Bida.																																							
4-5-1	Conduct Training for small-scale millers, parboilers, rice farmers and rdaers of Bida		Takayama/Ku	APM ADP HR.	Plan																																			
					Actual																																		Training B2 and B1		
4-5-2	Evaluate the training of Bida.		Takayama/Ku	APM ADP HR.	Plan																																			
					Actual																																			
4-5-3	Identify the outcome of training for millers, parboilers, and rice farmers and modify training plan for the following period of Bida.		Takayama/Ku	APM ADP HR.	Plan																																			
					Actual																																			
4-6	Support innovators in terms of technology, information on financial service and business management in Bida.		Each	Each	Plan																																			
					Actual																																		Establish a model to sell packaged high quality rice		
Output 5	**Training programs for non-targeted ADP staff regarding post-harvest, marketing and business management are commenced.**																																							
5-1	Develop training plan for staff of non-targeted ADPs.		Ku/Inada	APM	Plan																																			
					Actual																																			
5-2	Prepare the curriculums and materials for non-targeted ADPs.		Each	Each	Plan																																			
					Actual																																			
5-3	Conduct training for staff of non-targeted ADPs.		Each	Each	Plan																																			
					Actual																																			
	Operational activities																																							
O-1	Preparation and consultation of the Draft Work Plan for the First Period (JCC)																																							
O-2	Agreement on the Work Plan for the First Period (JCC)																																							
O-3	Mid-term review of the project (JCC)																																							
O-4	Preparation of project progress report																																							
O-5	Agreement on the Work Plan for the Second Period (JCC)																																							
O-6	Preparation of project progress report																																							
O-7	Agreement on the Work Plan for the Third Period (JCC)																																							
O-8	Terminal evaluation of the project (JCC)																																							
O-9	Preparation of project completion report																																							

Niger state
Niger state
Niger state
5th JCC
6th JCC

Annex-3: Evaluation Grid

Rice Post-Harvest Processing and Marketing Pilot Project in Nasarawa and Niger States in Federal Republic of Nigeria

Verification of Achievement Level

Items of Evaluation		Evaluation Question	Necessary Data	Source	Acquisition Means
Input provided	Japanese side 1. Dispatch of Japanese Experts 2. Equipment 3. Training in Japan 4. Financial support for local cost	Are the quantity, quality and timing of input as planned?	Quantity, quality and timing of input	- Project reports - Result of questionnaire survey and interviews with Japanese experts	- Document survey - Interview - Questionnaire survey
	Nigerian side 1. Counterpart (C/P) 2. Facilities and utilities provided 3. Financial support				
Achievement level of Outputs	Output 1: Measures to promote distribution of high quality domestic rice are identified.	Is VI[1] 1-1 "Problems, causes and solutions are specified and reported." likely to be achieved?	Reports which mention problems, causes and solutions for distribution of high quality domestic rice	- Project reports - Result of questionnaire survey and interviews with Japanese experts	- Document survey - Interview - Questionnaire survey
		Is VI 1-2 "Specifications for machinery and equipment to be introduced are produced." likely to be achieved?	Specifications for machinery and equipment to be introduced		
	Output 2: Rice grading standards for domestic rice is developed and improved.	Is VI 2-1 "Proposed grading standard for parboiled milled rice is accepted at the JCC meeting." likely to be achieved?	Whether proposed grading standard for parboiled milled rice is accepted at the JCC meeting or not.	- Project reports - Result of questionnaire survey and interviews with Japanese experts	- Document survey - Interview - Questionnaire survey
	Output 3 : Capacity of ADP staff regarding training implementation on marketing post-harvest	Is VI 3-1 "Average score of capacity level of ABM and ADP staff of the both target ADPs evaluated by use of evaluation sheet is more than 3." likely to be achieved?	Result of average score of capacity level of staff in Department of Agro-Business and Marketing (hereinafter referred to as "ABM"), Agricultural Development	- Project reports - Result of questionnaire survey and interviews with Japanese experts	- Document survey - Interview - Questionnaire survey

[1] VI: Verifiable Indicator

	and business management is enhanced.		Programme in Nasarawa State (hereinafter referred to as "ADP") and Agricultural and Mechanization Development Authority in Niger State (hereinafter referred to as "AMDA")		
	Output 4: Capacity of small-scale rice millers, parboilers and rice farmers and traders on post-harvest, marketing and business management is enhanced.	Is VI 4-1 "Each average score of post-test of small-scale millers, parboilers rice farmers and traders after training is more than target score which is set for the each beneficiary." likely to be achieved?	Result of each average score of post-test of small-scale millers, parboilers rice farmers and traders after training	- Project reports - Result of questionnaire survey and interviews with Japanese experts	- Document survey - Interview - Questionnaire survey
		Is VI 4-2 "10% of the participants take actions to adopt introduced techniques." likely to be achieved?	Percentage of the participants who have taken actions to adopt introduced techniques		
		Is VI 4-3 "2.5% of the participants adopt introduced technologies." likely to be achieved?	Percentage of the participants who have adopted introduced technologies		
Achievement level of Project Purpose	Quality of domestic rice is improved in the target areas.	Is VI 1 "At least 2.5% of rice traders of the target groups in the target areas handle quality domestic rice satisfying Grade A Level of Rice Grade Standard developed by the Project" likely to be achieved?	Percentage of rice traders of the target groups in the target areas who handle quality domestic rice satisfying Grade A Level of Rice Grade Standard developed by the Project	- Project reports - Result of questionnaire survey and interviews with Japanese experts	- Document survey - Interview - Questionnaire survey
		Is VI 2 "At least 2.5% of amount of Grade A level quality domestic rice is handled by the traders in the target groups." likely to be achieved?	Amount of Grade A level quality domestic rice which has been handled by the traders in the target groups		
Achievement level of Overall Goal	Quality of domestic rice is improved in the target States	Is VI 1"At least 2.5% of rice traders in the target States handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project" likely to be achieved?	Percentage of rice traders in the target States who handle quality domestic rice satisfying Grade A level of Rice Grade Standard developed by the Project	- Project reports - Result of questionnaire survey and interviews with Japanese experts	- Document survey - Interview - Questionnaire survey
Precondition		No major political disorder that affects economic activities and security of target areas occurs.	Whether there has been major political disorder that affects economic activities and security of target areas.	- Project reports - Result of questionnaire survey and interviews with Japanese experts	- Document survey - Interview - Questionnaire survey

Verification of Implementation Process

Items of Evaluation	Evaluation Question	Necessary Data	Source	Acquisition Means
Method of technical transfer	Has the technical transfer properly been made to C/Ps?	Result of activities Opinion from stakeholders	- Project reports - Result of questionnaire survey and interviews with Japanese experts, the project manager of Nigerian side and C/Ps of ABM, ADP and AMDA	- Document survey - Interview - Questionnaire survey
Relation between stakeholders	Have regular meetings between the Nigerian C/Ps and Japanese Experts sufficiently contributed to solving problems that occurred in the implementation process?	Opinion from stakeholders	- Result of questionnaire survey and interviews with Japanese experts, the project manager of Nigerian side and C/Ps of ABM, ADP and AMDA	- Document survey - Interview - Questionnaire survey
	Have the Nigerian C/Ps and Japanese Experts adequately communicated with each other to share information regarding the project management and activities?			
	Are proper system of command chain and clear demarcated structure established for the project management?			
Ownership of the Project	Have the Nigerian staffs (C/Ps) adequately participated in project management and activities?	Result of activities Opinion from stakeholders	- Project reports - Result of questionnaire survey and interviews with Japanese experts, the project manager of Nigerian side and C/Ps of ABM, ADP and AMDA	- Document survey - Interview - Questionnaire survey
	Has the Nigerian implementing organization (ABM, ADP an AMDA) allocated and spent sufficient budget for the Project activities?	Financial condition Opinion from stakeholders	- Project reports - Related documents - Result of questionnaire survey and interviews with Japanese experts, the project manager of Nigerian side and C/Ps of ABM, ADP and AMDA	- Document survey - Interview - Questionnaire survey
	Does the Nigerian Government (Ministry of Agriculture and Rural Development, Nasawara State and Niger State) understand the contents of the Project well?	Level of understanding on the contents of the Project by stakeholders of the Project	- Result of interviews with stakeholders of Ministry of Agriculture and Rural Development, Nasawara State and Niger State	- Interview
Collaboration with Other	Has the Project adequately collaborated with	Contents of collaboration with other	- Project reports	- Document survey

Projects	other projects implemented either by JICA or other donors?	donors Opinion from stakeholders	- Result of questionnaire survey and interviews with Japanese experts and the project manager of Nigerian side - Result of questionnaire survey and interviews with C/Ps of ABM, ADP and AMDA	- Interview - Questionnaire survey
Factors affecting the Implementation Process	Have restructuring of implementing organizations or reshuffling of the Project Manager and C/Ps affected the implementation of the Project?	Opinion from stakeholders	- Project reports - Result of questionnaire survey and interviews with Japanese experts, the project manager of Nigerian side and C/Ps of ABM, ADP and AMDA	- Document survey - Interview - Questionnaire survey
	Are there unpredictable factors which have adversely affected the Project implementation process?			

Evaluation based on Five Evaluation Criteria					
Items of Evaluation		**Evaluation Question**	**Necessary Data**	**Source**	**Acquisition Means**
Relevance	Necessity	Is the Project Purpose and the needs of Nigerian side (target group) corresponded?	Development plan Related documents Opinion from stakeholders	- Project reports - Related documents - Result of questionnaire survey and interviews with Japanese experts and the project manager of Nigerian side	- Document survey - Interview - Questionnaire survey
		Is the Project Purpose corresponded with the needs of target area and social situation?	Sector development plan Opinion from stakeholders		
	Priority	Are the Overall Goal and the Project Purpose consistent with the National Development Plan, Sector development plan, other relevant policies?	Documents concerning the policy of the sector Opinion from stakeholders		
		Is the project objective consistent with Japan's aid policy and country cooperation plan of JICA?	Aid policy of Japan	- Japan's aid policy	- Document survey
	Suitability as a Means	Is the Project's approach was appropriate.	Result of project activities Result of project implemented by other donors Opinion from stakeholders	- Result of questionnaire survey and interviews with Japanese experts	- Interview - Questionnaire survey
		What kind of synergy has been with other donors?			
		Is the selection of target groups appropriate?	Opinion from stakeholders		
		Does the effect of the project spread other than target groups now or is there possibility to spread in the future?	Result of project activities		
		Is the benefit of the effect or the burden of	Result of project activities		

		the cost distributed fairly?	Opinion from stakeholders		
		Is the experience of technical cooperation projects of JICA utilized?	Experience of similar project Opinion from stakeholders		
		Is the experience of Japan utilized?	Advantage of Japan's experience Opinion from stakeholders		
	Others	Is there any change on the environment (policy, economy and society) surrounding the project?	Opinion from stakeholders		
Effectiveness	Achievement level of Project Purpose (Forecast)	Is the Project Purpose likely to be achieved?	Project reports Opinion from stakeholders	- Project reports - Related documents - Result of questionnaire survey and interviews with Japanese experts	- Document survey - Interview - Questionnaire survey
		Is the setting up of indicators of Project Purpose appropriate?			
	Causal Relations	Are outputs of the project contributed to achieve the project objective? (Achievement of project outputs has been caused by the Outputs.)	Project reports Opinion from stakeholders		
		Is there other necessary matter to achieve the objective of the project?	Project reports Opinion from stakeholders		
		【Important assumption】 Prices of imported rice does not drop drastically.			
		【Important assumption】 Natural disasters and economic shocks that significantly affect rice distribution in and around target areas do not occur.			
		Is there other important assumption?			
		What are the inhibiting or contributing factors to achieve the Project Purpose?			
Efficiency	Achievement of output	Is the Output likely to be achieved as planned by adequate activities? If not, what is the inhibiting factor?	Achievement level and time of the Output Opinion from stakeholders	- Project reports - Result of questionnaire survey and interviews with Japanese experts - Result of interviews with the project manager of Nigerian side and C/Ps of ABM, ADP and AMDA	- Document survey - Interview - Questionnaire survey
		If the indicators for each Output level appropriate?	Achievement level Causal relation with Project Purpose		
	Appropriateness of Inputs	Has dispatch of Japanese experts been appropriate in terms of number, expertise,	Result of dispatch of Japanese experts	- Project reports - Result of questionnaire	- Document survey - Interview

	length and timing of their assignment?		Opinion from stakeholders	survey and interviews with Japanese experts, the project manager of Nigerian side and C/Ps of ABM, ADP and AMDA	- Questionnaire survey
	Has the provision of equipment from Japanese side been appropriate in terms of types, quantity and timing of procurement?		List of procured equipment Opinion from stakeholders		
	Has the training of C/Ps in Japan appropriately undertaken in terms of number of trainees, contents (relevancy to the project activities), length and timing of dispatch?		Result of Trainings Opinion from stakeholders		
	Has the local cost support by the Japanese side been appropriate in terms of amount, use, and timing of disbursement?		Situation of C/P assignment Opinion from stakeholders		
	Has the assignment of C/P been appropriate in terms of number, position and competency?		Result of local cost Opinion from stakeholders		
	Has the local cost supported by the Nigerian implementing organization been appropriate in terms of amount, use, and timing of disbursement?		Result of local cost Opinion from stakeholders		
Cost	Comparing to the similar projects (cooperation conducted by the JICA project and other donors), the Output and the Project Purpose are commensurate with the input costs?		Project budget Budget of similar project Opinion from stakeholders	- Project reports - Related documents - Result of questionnaire survey and interviews with Japanese experts	- Document survey - Interview - Questionnaire survey
	Were the local resources utilized effectively?	Were the existing organizations or facilities utilized effectively?	Project reports Opinion from stakeholders	- Project reports - Related documents - Result of questionnaire survey and interviews with Japanese experts	- Document survey - Interview - Questionnaire survey
		Were the results of previous similar projects utilized effectively?			
Factors which affect the effectiveness of implementing process of the Project	Were there any causes which obstruct the effectiveness of the project				

Impact	The Prospect of the Overall Goal Achievement	Is the Overall Goal expected to be achieved?	Opinion from stakeholders of stakeholders of the Project	- Project reports - Related documents - Result of questionnaire survey and interviews with Japanese experts and the project manager of Nigerian side	- Document survey - Interview - Questionnaire survey
		Is the achievement of the Overall Goal expected to influence the development policy of the sector?			
		[Important assumption]ADPs conduct post-harvest processing and marketing training given by the Project.	Opinion from stakeholders of the Project		
		Is there other factor to inhibit the achievement of the Overall Goal?	Existence of inhibiting factors		
	Causal relationship	Isn't there significant gap between the Overall Goal and the Project purpose? Does the achievement of the Project purpose contribute the achievement of the Overall Goal?	Existence of gap between the Overall Goal and the Project purpose		
	Ripple effect	Is there other positive or negative effect except the Overall Goal?	Opinion from stakeholders		
Sustainability (prospect)	Policy, Institutional Aspect	Will current policy of Nigerian government continue after termination of the cooperation?	Policy, Strategy, law and Ministerial order	- Project reports - Related documents - Result of questionnaire survey and interviews with Japanese experts, the project manager of Nigerian side	- Document survey - Interview - Questionnaire survey
		Do the activities of pilot sites include a system (Policy, Strategy, law etc.) to disseminate after the completion of the Project?	Plan of Nigerian government		
	Organizational Aspect	Are there organizational capacities likely to disseminate the output and the activities to other area (appropriate number of staff assignment and capacities of staff) after the technical cooperation terminates?	Organizational structure Opinion from stakeholders of stakeholders of the Project	- Project reports - Related documents - Result of questionnaire survey and interviews with Japanese experts and the project manager of Nigerian side - Result of questionnaire survey and interviews with C/Ps of ABM, ADP, AMDA and beneficiaries	
	Financial Aspect	Is necessary financial source likely to be secured to continue project activities?	Financial condition Opinion from stakeholders of stakeholders of the Project such as implementing organizations and beneficiaries		
	Technical Aspect	Will transferred technics be sustained by C/Ps?	Opinion from stakeholders of the Project such as implementing organizations and beneficiary groups	- Project reports - Related documents - Result of questionnaire survey and interviews with	
		Is the transferred technique suitable to	Opinion from stakeholders of the		

		disseminate to other areas?	Project	Japanese experts and the project manager of Nigerian side - Result of questionnaire survey and interviews with C/Ps of ABM, ADP, AMDA and beneficiaries	
		Is the mechanism to disseminate the transferred technique to other area included in the Project?	Opinion from stakeholders of the Project		
	Social, Cultural and Environmental Aspect	Is there any factor to inhibit the sustainability on Social, Cultural and Environmental aspects?	Opinion from stakeholders of the Project		

Annex-4: Summary of Inputs

1. Japan Side

(1) List and Assignment Terms of Japanese Experts

1) First year (July 2011-April 2013)

	Name	Field in Charge	Duration		M/M
			From	To	
1	Ikuo YAMAMOTO	Chief Advisor	3rd Sep 2011	14th Sep 2011	4.5
			26th Nov 2011	21st Dec 2011	
			10th Mar 2012	15th Apr 2012	
			20th Nov 2012	17th Dec 2012	
			16th Feb 2013	19th Mar 2013	
2	Shingo FURUICHI	Deputy Chief Advisor / Post-harvest technology	17th Sep 2011	9th Oct 2011	8.07
			4th Feb 2012	25th Mar 2012	
			26th May 2012	24th Jul 2012	
			19th Sep 2012	28th Nov 2012	
			3rd Feb 2013	11th Mar 2013	
3	Atsushi KOYAMA	Rice Marketing	10th Sep 2011	27th Sep 2011	8.57
			28th Nov 2011	21st Dec 2011	
			23rd Feb 2012	27th Mar 2012	
			14th May 2012	22nd Jun 2012	
			2nd Aug 2012	10th Sep 2012	
			2nd Nov 2012	17th Dec 2012	
			16th Jan 2013	11th Mar 2013	
4	Tomonori WAKISAKA	Rural Finance	29th Sep 2012	26th Oct 2012	0.93
5	Naoko INADA	Farmer organization / Training / Rural Finance	3rd Sep 2011	5th Nov 2011	9.8
			18th Feb 2012	22nd Apr 2012	
			13th Aug 2012	15th Nov 2012	
			9th Jan 2013	19th Mar 2013	
6	Naoki ITO	Coordinator / Training Assistant 1	9th Oct 2011	21st Dec 2011	8.6
			4th Feb 2012	27th Apr 2012	
			2nd July 2012	24th Aug 2012	
			11th Oct 2012	25th Nov 2012	
7	Hideki MURAKAMI	Coordinator / Training Assistant 2	3rd Sep 2011	17th Oct 2011	7.67
8	Kwihyan KU		14th May 2012	7th Jul 2012	
			20th Aug 2012	18th Oct 2012	
			9th Jan 2013	19th Mar 2013	
Total M/M					**48.14**

2) Second year (May 2013-April 2014)

	Name	Field in Charge	Duration		M/M
			From	To	
1	Ikuo YAMAMOTO	Chief Advisor	7th Jul 2013	21st Jul 2013	1.00

			16th Nov 2013	30th Nov 2013	
2	Shingo FURUICHI	Deputy Chief Advisor / Post-harvest technology / Parboiling	21st Jun 2013	10th Aug 2013	4.83
			6th Sep 2013	9th Oct 2013	
			8th Nov 2013	7th Dec 2013	
			4th Feb 2014	5th Mar 2014	
3	Shingo FURUICHI	Construction Management	6th Mar 2014	9th Mar 2014	0.14
4	Atsushi KOYAMA	Management / Marketing	4th Jun 2013	10th Jul 2013	4.8
			29th Jul 2013	10th Sep 2013	
			26th Oct 2013	28th Nov 2013	
			24th Jan 2014	21st Feb 2014	
5	Naoko INADA	Rural Finance / Organization Strengthening / Training Planning	4th Jun 2013	13th Jul 2013	4.67
			4th Oct 2013	4th Nov 2013	
			15th Jan 2014	23rd Mar 2014	
6	Budi Santuso	Construction Management 1	7th Sep 2013	3rd Nov 2013	1.93
7	Puguh Prastiyo	Construction Management 2	7th Sep 2013	3rd Nov 2013	1.93
8	Kwihyan KU	Training Management / Coordinator 1	6th Jul 2013	29th Aug 2013	4.83
			28th Sep 2013	6th Dec 2013	
			9th Mar 2014	28th Mar 2014	
9	Takuma TAKAYAMA	Coordinator 2 / Training Assistant	17th Aug 2013	5th Oct 2013	2.67
			4th Feb 2014	5th Mar 2014	
Total M/M					**26.80**

3) Third year (May 2014- August 2015) (As of March 2015)

	Name	Field in Charge	Duration		M/M
			From	To	
1	Ikuo YAMAMOTO	Chief Advisor	24th May 2014	7th Jun 2014	1.07
			7th Jan 2015	23rd Jan 2015	
2	Shingo FURUICHI	Deputy Chief Advisor / Post-harvest technology / Parboiling	10th May 2014	15th Jun 2014	2.37
			16th Sep 2014	18th Oct 2014	
3	Atsushi KOYAMA	Management / Marketing	30th Jul 2014	31st Aug 2014	4.03
			13th Oct 2014	14th Nov 2014	
			2nd Dec 2014	22nd Dec 2014	
			25th Feb 2015	31st Mar 2015	
4	Naoko INADA	Rural Finance / Organization Strengthening / Training Planning	10th Aug 2014	7th Sep 2014	4.40
			19th Nov 2014	19th Dec 2014	
			18th Jan 2015	8th Feb 2015	
			2nd Mar 2015	20th Mar 2015	
5	Kwihyan KU	Training Management / Coordinator 1	10th May 2014	15th Jun 2014	4.80
			18th Jul 2014	17th Aug 2014	
			16th Sep 2014	24th Sep 2014	
			5th Oct 2014	9th Nov 2014	
6	Takuma	Coordinator 2 / Training			

	TAKAYAMA	Assistant			
			Total M/M		16.67

(2) List of Equipment Provided for the Project

Year	Item	Qty.	Value	Value (JPY)	Location
First year	Moisture Meter	1		25,200	ABM office, Abuja
	Grain Counter	1		3,400	ABM office, Abuja
	Magnifier	1		5,700	ABM office, Abuja
	Sample Pan (20pcs)	1		8,000	ABM office, Abuja
	Grain Shape Tester	1		48,000	ABM office, Abuja
	Rice Husker	1		6,000	ABM office, Abuja
	Grain scope	1		20,000	ABM office, Abuja
	Hardness Tester	1		178,500	ABM office, Abuja
	Projector	1	NGN90,000	44,100	ADP Office, Lafia
	Desktop PC	1	NGN112,000	54,880	ABM Office Abuja
	Desktop PC	1	NGN112,000	54,880	ADP Office, Lafia
	Testing Grader	1		386,000	ABM Office, Abuja
	Testing Mill	1		974,000	ABM Office, Abuja
	Testing Husker	1		651,000	ABM Office, Abuja
	Octagonal Cylinder	1		77,100	ABM Office, Abuja
	Octagonal Cylinder	1		175,000	ABM Office, Abuja
	Sample Divider	1		175,000	ABM Office, Abuja
	150kg Scale	1	NGN115,000	56,350	ABM Office, Abuja
	Fax	1	NGN280,000	137,200	ABM Office, Abuja
	Small Destoner	1	USD3,000	241,846	ADP Premis, Lafia
	House-use Destoner	1	USD2,000	161,231	Incubation Plant, Lafia
	Parboiling Tank	1	NGN350,000	171,500	Incubation Plant, Lafia
	Photocopying Machine	1	NGN1,390,000	714,877	Incubation Plnat, Lafia
	Generator	1	NGN240,000	117,600	ABM Office, Abuja
	Laptop PC	1	NGN153,000	74,970	ABM Office, Abuja
	Winnowing Machine	1		28,400	Incubation Plant, Lafia
	Foot Pedal Thresher	1		37,200	Incubation Plant, Lafia
	Paddy Thresher	1		330,000	Incubation Plant, Lafia
	Impulse Sealer	1	USD800	62,355	Incubation Plant, Lafia
	Stand-alone Rice miller	1	USD4,500	350,749	ADP Premis, Lafia
	Reaper	1	USD8,500	662,526	Incubation Plant, Lafia
	Project car	1	NGN11,450,940	5,610,960	ABM Office
	Stand-alone Rice miller	1	USD4,500	415,612	NAMDA Office Bida
	Small Destoner	1	USD3,500	323,254	Incubation Plant, Lafia
	Parboiling Tank	1	NGN1,200,000	588,000	Incubation Plant, Lafia, Bida
	Winnowing Machine	1	NGN70,000	34,300	NAMDA Office, Bida
	Foot Pedal Thresher	1	NGN80,000	39,200	NAMDA Office, Bida
	Paddy Thresher	1	NGN800,000	392,000	NAMDA Office, Bida
	Photocopying Machine	1	NGN80,000	39,200	ABM Office, Abuja
	Photocopying Machine	1	NGN40,000	19,600	ABM Office, Abuja
	Flatbed-type paddy dryer for experiment	1	NGN520,000	254,800	Incubation Plant, Lafia
Second year	Whiteness tester	1		357,210	APM Office Abuja
	Small Destoner	2	USD7000	718,698	Lafia Association
	Generator	1	NGN128,000	79,382	NAMDA Office, Bida
	Color Photocopying	1	NGN80,000	48,165	APM Office Abuja

	Machine				
	Black and White Photocopying Machine	1	NGN40,000	24,082	NAMDA Office, Mina
	Generator	1	NGN2,163,000	1,297,800	Lafia Association
	Milling Machine	1	USD90,093.15	9,249,967	Incubation Plant, Bida
	Rice Moisture Test Meter	1	USD350	35,556	NAMDA Office, Mina
Third year	Small Destoner	2	USD7,000	826,000	NAMDA Office, Bida Lafia Association
	Small Destoner	4	USD14,000	1,652,000	NAMDA Office, Bida Doko, Niger Taimako, Niger
Total			**JPY28,039,350**		

(3) List of participants for trainings in Japan

	Name	Position	Organition
1	Jatto Ohiare Badams	Director	ABM
2	Dachor Naphtali Jarumi	Former Programme Manager	ADP, Nasarawa
3	Balarabe Abubakar Sadeeq	Former Acting Programme Manager	AMDA, Niger (Minna)
4	Suleiman Hussani Kpange	Higher Technical Officer, Agro-Processing	AMDA, Niger (Minna)
5	B. Usman	Senior Agricultural Engineer, Quality control	ABM
6	Awal Umaru	Agro-Processing Officer, Technical Service	ADP, Nasarawa
7	Suleiman Anyu	Chief Marketing Officer	ADP, Nasarawa
8	Maimunat Tijjani Usman	Block Extension Agent	ADP, Nasarawa
9	Alanana M. Emmanuel	Director, Extension	ADP, Nasarawa
10	Engr. Abubakar Abdullahi	Senior Agricultural Engineer, Engineering Service	AMDA, Niger (Minna)
11	Mr. Ishaq Alh. Muhammad	Field Supervisor, Planning Monitoring & Evaluation	AMDA, Niger (Bida)
12	Mr. Mohammed Isah Musa	Director, Planning Monitoring & Evaluation	AMDA, Niger (Minna)

(4) Financial Support for Local Expense (as of March 2015)

Expenditure Item	First	Second	Third
Local Staff	1,231,734	585,177	16,692
Facility Management	92,809	1,1157,009	253,378
Building Maintenance	93,620		
Consumable goods	2,733,621	1,904,455	981,634
Travel Fee and Transportation	20,000	1,671,734	1,418,377
Communication	1,665,088	1,304,579	353,818
Documentation	27,054	451,191	79,032

Rental Car Charge (Car related Expenditure)	7,928,949	11,021,256	7,233,806
Conference, Workshop	3,106,693	673,207	3,340,613
Miscellaneous	646,749	2,260,646	1,215,646
Insurance	1,675,000	0	0
Report with bookbinding	0	0	0
Local Consultant	11,261,000	5,915,463	0
Training by Country in Japan	382,000	0	0
Other Expense	1,607,961	1,472,913	296,866
Total (JPY)	32,472,278	28,417,630	15,189,892
		76,079,800	

3.1.2 Nigerian Side

(1) Assignment of Counterpart Officers (as of April 2015)

	Name	Position & Affiliation	Duration	
			From	To
1	Engr. M.A.A.Adewuyi	Former Director, ABM	Sep 2011	June 2012
2	Engr. O.B. Jatto	Director, ABM	Sep 2011	Present
3	Engr. I.U. Nwanko	Cottage Industries, ABM	Sep 2011	Present
4	Engr. Gagare N.	Cottage Industries, ABM	Sep 2011	Present
5	Dr. O.A. Adebiyi	Quality Control, ABM	Sep 2011	Present
6	Mr. B. Usman	Quality Control, ABM	Sep 2011	Present
7	Mrs. K.I. Babangida	Product & Market Development, ABM	Sep 2011	June 2012
8	Mr. J.M. Dadet	Product & Market Development, ABM	Sep 2011	Present
9	Mr. Igoji G. I.	Product & Market Development, ABM	Sep 2011	Present
10	Mrs. Sugra T. Mahmood	Product & Market Development, ABM	Sep 2011	June 2012
11	Mr. Shuaibu I.	Product & Market Development, ABM	Sep 2011	Present
12	Mr. Odeyemi O.	Product & Market Development, ABM	Sep 2011	Present
13	Mr. Suleiman S. Aliyu	Export Conditioning Centres, ABM	Sep 2012	Present
14	Engr. O.M. Ogunbiyi	Cottage industries, ABM	Sep 2011	Present
15	Mr. Suleiman Majeed Ovijima	Quality Control, ABM	Sep 2011	Present
16	Mr. Aliyu M. M.	Export Conditioning Centres, ABM	Sep 2011	Present
17	Engr. Isah Mohammed	Agro-Industrial Parks, ABM	Sep 2011	Present
18	Engr. Ajenifuja Maruf Olalekan	Principal Agricultural Engineer, ABM	Sep 2012	Present
19	Mr. Naphtali J. Dachor	Former Programme Manager, ADP	Sep 2011	Jan 2014
20	Mr. Stephen G. Kpama	Programme Manager, ADP	Sep 2011	Present
21	Mr. Yunusa Muhammed	Post-Harvest Technology, ADP	Aug 2012	Present

	Name	Position & Affiliation	Duration	
			From	To
22	Mr. Ahmed Tanko	Post-Harvest Technology, ADP	Sep 2011	Present
23	Mr. Awal Umar A.	Post-Harvest Technology, ADP	Sep 2012	Present
24	Ms. Salome Sabo	Block Extension Supervisor, ADP	Oct 2012	Present
25	Ms. Maimunat T. Tijjani Usman	Block Extension Agent, ADP	Oct 2012	Present
26	Ms. Patricia A. W.Jika	Evaluation Statistical Officer, Planning, Monitoring & Evaluation, ADP	Oct 2012	Present
27	Mr. Paul Alogala	Block Extension Supervisor, ADP	Oct 2012	Present
28	Mr. Yakubu I. ohammed	Area Extension Officer, ADP	Oct 2012	Present
29	Mr. Zakari D. Usman	Block Extension Supervisor, ADP	Oct 2012	Present
30	Mr. James S. Egwa	Zonal Extension Officer, ADP	Oct 2012	Present
31	Mr. Suleiman Anyu	Rice Value Chain and Marketing, ADP	Sep 2011	Present
32	Mr. Emmanuel M. Alanana	Farmer Organization, ADP	Sep 2011	Present
33	Mr. Benjamin Awajoh Yusuf	Rice Production, ADP	Sep 2011	Present
34	Mr. Elayo Maji	Director, PM&E, ADP	Jan 2014	Present
35	Mr. Zakari Sidi Yahaya	Former Managing Director, AMDA (Minna)	Sep 2011	Aug 2012
36	Mr. Baba Kutigi Madugu	Managing Director, AMDA (Minna)	Feb 2013	Present
37	Mr. Abubakar Balarabe Sedeeq	Engineering, AMDA (Minn)	Aug 2012	Feb 2014
38	Mr. Mohammed Isah Musa	Planning, AMDA (Minna)	Feb 2013	Present
39	Mr. Sulaiman A. Rijau	Extension, AMDA (Minna)	Feb 2013	Present
40	Mr. Adamu Bala Idris	Rural Enterprise Development, AMDA (Minna)	Feb 2013	Present
41	Mr. Idris Bala Ango	Marketing, ADMA (Minna)	Sep 2011	Present
42	Mr. M.A. Kwatachi	Planning, AMDA (Minna)	Sep 2011	Present
43	Engr. Suleiman Hussaini Kpange	Agro-processing, AMDA (Minna)	Sep 2011	Present
44	Mr. Zubairu I. Ketta	Extension, AMDA (Minna)	Sep 2011	Present
45	Mr. Mustapha Ahmed	Engineering, AMDA (Minna)	Feb 2013	Present
46	Mr. Abubakar Abdullahi	Engineering, AMDA (Minna)	Feb 2013	Present
47	Mr. Silas Keta Yisa	AMDA (Minna)	Sep 2011	Present
48	Mr. Matthew Ahmed	Former Zonal Programme Manager, AMDA (Minna)	Feb 2013	Aug 2014
49	Mr. Ibrahin A	AMDA (Minna)	Sep 2011	Present

	Name	Position & Affiliation	Duration	
			From	To
	Abdurrahim			
50	Mr. Nathaniel Gana Yisa	Zonal Extension Officer, AMDA (Bida)	Sep 2011	Present
51	Mr. Ibrahim U. Isah	AMDA (Bida)	Sep 2011	Present
52	Mrs. Confort Ahmed	Women in Agriculture, AMDA (Bida)	Sep 2011	Present
53	Mr. Raimi Alao	Engineering, AMDA (Bida)	Sep 2011	Present
54	Mr. Ishaq Alh. Muhammad	Monitoring & Evaluation, AMDA (Bida)	Sep 2011	Present
55	Mr. Mohammed Suleiman Ahmed	Rural Enterprise Development, AMDA (Bida)	Sep 2011	Present
56	Mr. Mohammad Danjuma Yakubu	Extension, AMDA (Bida)	Aug 2013	Present
57	Mr. Sayyedi Shehu	Engineer, AMDA (Bida)	Aug 2013	Present
58	Mrs. Ariza Aisha Garba	Extension, AMDA (Bida)	Aug 2013	Present
59	Mr. Danasebe Shehu	Extension, AMDA (Bida)	Aug 2013	Present

(2) Financial Support for Local Expense (as of March 2015)

1) ABM (Unit: Nigeria Naira)

Expenditure Item	First	Second	Third
Facility Management	8,640,000	0	0
Running Cost	180,000	156,000	180,000
Travel allowance	2,500,000	6,585,000	1,730,000
Miscellaneous	906,074	0	0
Total	12,226,074	6,741,000	1,910,000
		20,877,074	

2) Nasarawa ADP (Unit: Nigeria Naira)

Expenditure Item	First	Second	Third
Facility Management	474,000	65,000,001	1,183,500
Running Cost	365,750	303,900	614,600
Travel allowance	4,097,350	553,500	3,388,949
Miscellaneous	1,535,450	1,053,000	1,130,000
Total	6,472,550	66,910,401	6,317,049
		79,700,000	

3) Niger AMDA (Unit: Nigeria Naira)

Expenditure Item	First	Second	Third
Facility Management	286,400	3,695,660	1,665,370
Running Cost	0	0	2,800
Travel allowance	0	944,906	4,357,951

Miscellaneous	0	38.350	164.000
	286.100	4.678.916	6.190.121
Total		**11,155,437**	

Annex 5: List of Seminars and trainings

1. Open seminars and workshops

(1) First year

1) Trainings for ADP

Name of Seminar or training	Date		Number of participants	Target beneficiary
	From	To		
Marketing (Market needs of rice and current situation)	30th May 2012	30th May 2012	26	➢ ADP Nasarawa
Marketing (Rice grading standards)	30th May 2012	30th May 2012	26	➢ ADP Nasarawa
Marketing (Branding and marketing)	30th May 2012 25th June 2012	30th May 2012 25th June 2012	26 14	➢ ADP Nasarawa
Marketing (Rice distribution patterns)	31st May 2012	31st May 2012	28	➢ ADP Nasarawa
Marketing (Incentive for quality improvement by actor)	31st May 2012	31st May 2012	28	➢ ADP Nasarawa
Management (Profit and loss calculation)	31st May 2012	31st May 2012	28	➢ ADP Nasarawa
Management (Investment and recovery)	31st May 2012 1st June 2012	31st May 2012 1st June 2012	28 26	➢ ADP Nasarawa
Post-harvest technology (Current situation and issues of post-harvest technology)	30th May 2012	30th May 2012	26	➢ ADP Nasarawa
Post-harvest technology (Quality of rice and skill of rice quality test)	18th June 2012	19th June 2012	11, 10	➢ ADP Nasarawa
Post-harvest technology (Harvesting, threshing, winnowing, drying and storage)	26th June 2012	26th June 2012	12	➢ ADP Nasarawa
Post-harvest technology (Parboiling technology)	26th June 2012	26th June 2012	12	➢ ADP Nasarawa
Post-harvest technology (Milling techniques)	27th June 2012	28th June 2012	15	➢ ADP Nasarawa
Diffusion (Diffusion of innovation)	4th October 2012	4th October 2012	29	➢ ADP Nasarawa
Diffusion (Technology transfer and intervention method of RIPMAPP)	4th October 2012	4th October 2012	29	➢ ADP Nasarawa
Diffusion (Farmers' organization)	4th October 2012	4th October 2012	29	➢ ADP Nasarawa
Training management (Training cycle management)	4th October 2012	4th October 2012	29	➢ ADP Nasarawa

Name of Seminar or training	Date		Number of participants	Target beneficiary
	From	To		
Training management (Position of ADP in RIPMAPP)	10th October 2012	12th October 2012	22, 22, 13	ADP Nasarawa
Training management (Required skills for beneficiary training instructor)	10th October 2012	12th October 2012	22, 22, 13	ADP Nasarawa
Training management (Teaching method)	10th October 2012	12th October 2012	22, 22, 13	ADP Nasarawa

2) Trainings for beneficiary in Nasarawa

Name of Seminar or training	Date		Number of participants	Target beneficiary
	From	To		
Marketing and Management	31st January 2013 5th February 2013 7th February 2013 12th February 2013 14th February 2013 21st February 2013 14th March 2013	31st January 2013 5th February 2013 7th February 2013 12th February 2013 14th February 2013 21st February 2013 14th March 2013	207	Lafia rice milling and distribution association, Asakio association, parboilers and parboiler association etc.
Post-harvest technology (Post-harvest technology for farmers)	19th November 2012 26th November 2012 28th November 2012 3rd December 2012 5th December 2012 10th December 2012 12th December 2012	19th November 2012 26th November 2012 28th November 2012 3rd December 2012 5th December 2012 10th December 2012 12th December 2012	92	Farmers
Post-harvest technology (Parboil processing techniques for 200 L drum)	8th November 2012 14th November 2012 29th January 2013	8th November 2012 14th November 2012 29th January 2013	29	Asakio female group
Post-harvest technology (Parboil processing techniques for 1,300 l drum)	28th February 2013 5th March 2013 12th March 2013	28th February 2013 5th March 2013 12th March 2013	60	Lafia rice milling and distribution association
Post-harvest technology (Milling techniques)	22nd October 2012 12th November 2012 16th January 2013 22nd January 2013 23rd January 2013	22nd October 2012 12th November 2012 16th January 2013 22nd January 2013 23rd January 2013	49	Rice millers. Member of Lafia rice milling and distribution association

(2) Second year

1) Trainings for AMDA

Name of Seminar or training	Date		Number of participants	Target beneficiary
	From	To		
Marketing and management (Summary	13th August 2013	15th August 2013	59	AMDA Niger

Name of Seminar or training	Date		Number of participants	Target beneficiary
	From	To		
of RIPMAPP)				
Marketing and management (Stakeholder analysis)	13th August 2013	15th August 2013	59	➢ AMDA Niger
Marketing and management (Quality improvement step of rice by stakeholders)	13th August 2013	15th August 2013	59	➢ AMDA Niger
Marketing and management (Quality of paddy and weight trading)	13th August 2013	15th August 2013	59	➢ AMDA Niger
Marketing and management (Packaging)	13th August 2013	15th August 2013	59	➢ AMDA Niger
Marketing and management (Calculation of investment recovery through profit)	13th August 2013	15th August 2013	59	➢ AMDA Niger
Marketing and management (Possibility of funding method)	13th August 2013	15th August 2013	59	➢ AMDA Niger
Post-harvest technology (Current situation and issues of post-harvest technology)	30th July 2013	30th July 2013	23	➢ AMDA Niger
Post-harvest technology (Harvesting, threshing, winnowing, drying and storage)	30th July 2013	30th July 2013	23	➢ AMDA Niger
Post-harvest technology (Parboiling technology)	30th July 2013	30th July 2013	23	➢ AMDA Niger
Post-harvest technology (Harvesting, threshing, winnowing, drying and storage)	26th November 2013	26th November 2013	15	➢ AMDA Niger
Post-harvest technology (Quality of rice and skills of rice quality test)	31st July 2013	31st July 2013	7	➢ AMDA Niger
Post-harvest technology (Milling techniques)	19th September 2013	19th September 2013	7	➢ AMDA Niger
Diffusion (Diffusion of innovation)	20th August 2013	22nd August 2013	61	➢ AMDA Niger
Diffusion (Technical transfer and intervention method of RIPMAPP)	20th August 2013	22nd August 2013	61	➢ AMDA Niger
Diffusion (Farmers' organization)	20th August 2013	22nd August 2013	61	➢ AMDA Niger
Training management (Operation and management of trainings)	28th October 2013	28th October 2013	33	➢ AMDA Niger
Training management (Techniques of	28th October 2013	28th October 2013	33	➢ AMDA Niger

Name of Seminar or training	Date		Number of participants	Target beneficiary
	From	To		
instructors)				

2) Trainings for beneficiary in Niger

Name of Seminar or training	Date		Number of participants	Target beneficiary
	From	To		
Marketing and Management	11th February 2014 17th February 2014 24th February 2014 3rd March 2014	11th February 2014 17th February 2014 24th February 2014 3rd March 2014	85	➢ Distributors and rice millers in Taimako association
Marketing and parboil processing techniques	13th February 2014 19th February 2014 27th February 2014 6th March 2014 11th March 2014 13th March 2014 17th March 2014 19th March 2014 25th March 2014 27th March 2014 1st April 2014 3rd April 2014 8th April 2014 10th April 2014 13rd April 2014 15th April 2014 17th April 2014 22nd April 2014 24th April 2014 29th April 2014	13th February 2014 19th February 2014 27th February 2014 6th March 2014 11th March 2014 13th March 2014 17th March 2014 19th March 2014 25th March 2014 27th March 2014 1st April 2014 3rd April 2014 8th April 2014 10th April 2014 13rd April 2014 15th April 2014 17th April 2014 22nd April 2014 24th April 2014 29th April 2014	380	➢ Distributors and parboil processors in rural area
Demonstration of post-harvest technology for farmers	13th February 2014 19th February 2014 27th February 2014 6th March 2014 11th March 2014 13th March 2014 17th March 2014 19th March 2014 25th March 2014 27th March 2014 1st April 2014 3rd April 2014 8th April 2014 10th April 2014 15th April 2014 17th April 2014 22nd April 2014 24th April 2014 29th April 2014	13th February 2014 19th February 2014 27th February 2014 6th March 2014 11th March 2014 13th March 2014 17th March 2014 19th March 2014 25th March 2014 27th March 2014 1st April 2014 3rd April 2014 8th April 2014 10th April 2014 15th April 2014 17th April 2014 22nd April 2014 24th April 2014 29th April 2014	380	➢ Farmers who sell paddy to distributors above
Demonstration of Milling Technology for Millers in rural areas	20th May 2014 22nd May 2014 27th May 2014	20th May 2014 22nd May 2014 27th May 2014	85	➢ Millers in rural areas

Name of Seminar or training	Date		Number of participants	Target beneficiary
	From	To		
	3rd June 2014 5th June 2014 10th June 2014 17th June 2014 19th June 2014 26th June 2014	3rd June 2014 5th June 2014 10th June 2014 17th June 2014 19th June 2014 26th June 2014		
Demonstration of Milling Technology for Millers of Taimako Association	1st July 2014 3rd July 2014 8th July 2014 10th July 2014 15th July 2014 17th July 2014 22nd July 2014 24th July 2014 29th July 2014 31st July 2014	1st July 2014 3rd July 2014 8th July 2014 10th July 2014 15th July 2014 17th July 2014 22nd July 2014 24th July 2014 29th July 2014 31st July 2014	100	➢ Millers of Taimako Association

(3) Training at Incubation Plant

1) Nasarawa State

Name of Seminar or training	Date		Number of participants	Target beneficiary
	From	To		
Operation Training	29th October 2013	30th October 2013	3	➢ ADP staff and related personel
Plant demonstration	10th June 2014	10th June 2014	50	➢ Rice processing business managers of national rice miller association member
Plant demonstration	January 2015	January 2015	15	➢ Parboilers of the Lafia Association

2) Niger State

Name of Seminar or training	Date		Number of participants	Target beneficiary
	From	To		
Operation Training	24th October 2014	24th October 2014	4	➢ NAMDA staff
Plant demonstration	23rd October 2014 24th October 2014 29th October 2014 30th October 2014 5th November 2014 6th November 2014	23rd October 2014 24th October 2014 29th October 2014 30th October 2014 5th November 2014 6th November 2014	85	➢ Millers of Taimako Association

MINUTES OF THE SEVENTH (7TH) JOINT COORDINATING COMMITTEE (JCC) MEETING ON RICE POST HARVEST PROCESSING AND MARKETING PILOT PROJECT (RIPMAPP) IN NASARAWA AND NIGER STATES HELD ON 23RD FEBRUARY 2016 AT THE FEDERAL MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT CONFERENCE ROOM B, AREA 11

1.0 ATTENDANCE

NO	NAME	INSTITUTION	POSITION	[redacted]
1	Alh. M.O.Azeez	FMARD	Director (ABM)	
2	Dr. Victor Onyeneke	FDA/FMARD	DD (Rice Value Chain	
3	Dadet J. M.	FMARD	National Coordinator	
4	Stephen G. Kpama	Nasarawa ADP	Ag. Programme Manager	
5	B. K. Madugu	NAMDA	MD	
6	Moh'd Musa Isa	NAMDA	DPME	
7	Aliyu A. Agwai	Min of Agric. & Water Resources Nasarawa State	Permanent Secretary	
8	Anthony Momoh	FMARD	DD (Collab. & Partnership)	
9	Bello A. O.	FMARD	AD (Multilateral)	
10	Hirotaka Nakamura	JICA	Chief Representative	
11	Hiroshi Kodama	JICA	Senior Representative	
12	Takayuki Ohira	JICA	Project Formulation Adviser	
13	Chikara Yoshimura	Embassy of Japan	First Secretary	
14	Ikuo Yamamoto	RIPMAPP	Chief Admin	
15	Atsushi Koyama	RIPMAPP	Marketing	

16	Igoji, G. I.	ABM(FAMRD)	CAS (Marketing)	[redacted]
17	Shaibu Ishaka	ABM(FAMRD)	ACAS (Marketing)	
18	Engr. Usman M. B	ABM(FAMRD)	ABM(FARMD)	
19	Kwihyang KU	RIPMAPP	Training Coordinator	

2.0 Opening

The meeting was declared open with prayer said by Mr. J. M. Dadet at about 12:13pm. This was followed by self-introduction by the participants.

3.0 Opening Remarks by the Chairman

Alhaji. M.O Azeez , The Director of Agribusiness and Marketing Department (ABM) informed the meeting that the Chairman of the JCC who is also the Permanent Secretary, Federal Ministry of Agriculture and Rural Development (FMARD) was having an official engagement meeting with the Committee on Agriculture from the National Assembly, had directed him to chair the JCC on his behalf. He apologised for the conspicuous absence of the Permanent Secretary at the meeting which he saying was beyond his control.

The sit-in Chairman welcomed the entire participants to the 7th JCC with special thanks to JICA for their technical assistance to Nigeria which has significantly improved the quality of rice in the target areas. He went on to say that the expansion of the project to other states will be quite necessary.

4.0 Signing of the Minutes of the 6th JCC

On the Signing of the minutes of the 6th JCC, the sit-in Chairman who read the minutes personally requested the concerned members to append their signatures. He however observed that the requested Engineer (Dr) Jide Olumeko, the former Director Strategic Grain Reserve (SGR) who represented the Permanent Secretary at the meeting, has retired. He therefore directed that the document will be sent to him for his signature while those present should sign the document as appropriate.

5.0 Matters arising from the previous minutes (6th JCC)

i. **Efforts to scale up the RIPMAPP project in the two (2) states of (Nasarawa and Niger)**

On the efforts to scale up the project in Nasarawa and Niger states, both states agreed on scaling up the project to other areas in their states. This was exhaustively discussed at the workshop held on the achievement of RIPMAPP at Chida Hotel, Abuja on 22nd February 2016.

ii. **Disseminations made by other donor agencies. The dissemination of technologies developed/introduced under RIPMAPP (RIPMAPP technologies) are currently conducted by:**

(a) German International Cooperation (GIZ) and

(b) International Fund for Agricultural Development/Value Chain Development Programme involved in promoting false bottoms in Six (6) states.

iii. **Interest on RIPMAPP technologies shown by other donor agencies and an NGO. The donor agencies and an NGO that have shown interest include:**

(a) World Bank/Fadama III Additional Financing (FADAMAIII/AF)

(b) World Bank/The West Africa Agricultural Productivity Project

(c) Sasakawa Africa Association

iv. **Counterpart funding**

Dr Victor Onyeneke from the Federal Department of Agriculture (Rice Value Chain: RVC) was requested to put up a memo to seek an approval for counterpart funding through the RVC budget in view of the importance of the RIPMAPP in relation to rice value addition.

v. **Need for extension of the project for another 6 months**

The RIPMAPP was extended from September 2015 to March 2016 as requested by the Ministry.

vi. **Confirmation of the Technical Report by FMARD**

The representative of FMARD confirmed the genuine of the Technical Report on RIPMAPP conducted by the JICA experts

vii. **Adjustment of the RIPMAPP grading standard to align with the Standard Organization of Nigeria (SON)**

The adjustment of the RIPMAPP grading standard to confirm with the SON was conducted.

6.0. Speech by the Representative of JICA

Mr. Hirotaka Nakamura, Chief Representative of the JICA Nigeria, thanked the Nigerian Government especially the staff of the FMARD, the counterpart personnel of Nasarawa and Niger states for their contribution towards the success recorded in the completion of the RIPMAPP project and urged the 3 agents to work towards the up-scaling of the project in their respective areas.

He further stated that Nigeria is importing a lot of rice into the country and hope that the country will be self-sufficient in rice production by 2018. He also emphasised that quality improvement starts by encouraging farmers to produce quality paddy and welcomed the establishment of Grain Aggregation Centres (GACs).

He informed the participants that the project will be concluded by March, 2016 and stressed that effort by Nigerian Government should be intensified on the discussion of the dissemination plan and the implementation with the relevant stakeholders. He opined that in order to improve the quality of rice, there should be affordable technologies on parboiling, milling, and packaging as it is used in RIPMAPP. This will create improvement in the activities of rice millers, and traders and they will earn more money in return.

7.0 Progress report on the RIPMAPP after the 6th JCC

Mr. J. M. Dadet, National Coordinator of the RIPMAPP, informed the meeting that the report was presented during the workshop. He however highlighted some of key areas. He informed that the project was to terminate in September 2015, but was extended for another period of 6 months from September 2015 – March 2016. He further informed the meeting that one of the challenges faced during the implementation of the Project was the non- payment of the travelling allowances of the counterpart personnel by the Ministry. He urged the Ministry has to find ways and means of solving the problems.

On the rice grading standard with the SON, he informed the meeting that JICA and the Ministry have had workshop twice on the National Grading Standard. He further gave the details on the utilizations of the incubation plant in Nasarawa and Niger States. He explained that the idea is to seek for investors who will operate the milling as well as to use the plant for training purposes.

On the preparation of the roadmaps for the dissemination of the RIPMAPP technologies to other states, other than Nasarawa and Niger States, the National Coordinator of the project stated that

the plan is to intensify efforts in states where there are a lot of rice mill clusters in training and sourcing of raw materials.

8.0 Scaling up of RIPMAPP activities in Nasarawa and Niger state

8.1 Nasarawa ADP highlighted Implementation activities for 2016- 2018 for scaling up of the RIPMAPP

The Program Manager (Mr Stephen. G. Kpama) thanked the RIPMAPP experts for the technologies introduced in the state to the beneficiaries that assisted in developing the idea of improvement through the technology acquired. He further briefed the meeting that the ADP has already selected some viable target local government areas in three (3) zones of the State (southern Zone with Doma, Awe Assakio and Ashangwa) (Central Zone Nasarawa Eggon, and Garaku) (Western Zone include, Toto and Loko) and that Assakio was one of the initial target areas of the RIPMAPP but due to the crisis that erupted in the area, Assakio was stepped down.

He said that target beneficiaries are small scale rice farmers, processors and traders and implementing structure is the ADP but to be supervised by the State Ministry of Agriculture and Water Resource. He said that there are presently 6 C/P which include the Programme manager, as (Coordinator) Director Extension (training Management) Director Planning (planning and monitoring), Director Rural Institutional Development (Marketing) Principal technical officer (Post-harvest processing) and Agro-Processing officer (Post-harvest processing)

He also agreed that the RIPMAPP guideline will be used as a guide for Training of Trainers (TOT), market surveys on milled rice, rice flow channel from the target areas, selection of potential innovators and stakeholders.

The funds for procurement and fabrication of drums, false bottoms will be sourced by the State Government and that the expected 27 de-stoners from the Japanese Embassy through Grant Assistance for Grassroots Project (GGP) will go a long way in helping to disseminate the RIPMAPP technology.

He also emphasized the necessity to continue the de-stoner loan scheme to beneficiaries in Lafia Rice Millers Association. However, the repayment by the beneficiaries are much lower than planned. The meeting concluded that this loaning scheme should be stopped.

8.2. Niger AMDA highlighted Implementation activities for RIPMAPP scale-up for 2016- 2019

Alh. Muhammed .M. Isha from the Niger state Agricultural Mechanization Development Agency (NAMDA) introduced the implementation plan and scaling up activities in Niger state. In his briefing, he thanked JICA, RIMPAPP Experts and FMARD for a job done and explained that the plan for scaling up the RIMPAPP activities in Niger state includes the following; That the plan is aimed at improving on the situation of the post- harvest loss of domestic rice in the entire rice growing areas of the belt of thirteen (13) Local Government Areas (LGA) of the state, that target areas are rice growing belt of the state in Agai, Lapai, Larvun, Bida, Katcha, gbako, Edati, mokwa, wushishi, gurara, Borgu, Kotangora and Pikoro LGAs, that target beneficiaries are small scale farmers, par boilers, rice millers, and traders, that the target beneficiaries will be organized into various group made up of recognised Cooperative groups of maximum of 100 groups / per LGA which will give a total of 1,300 groups with membership of 10 -30 /group, that the groups will be formed into economic interest of rice framers, parboilers, rice millers, and traders, that scaling up of the RIMPAPP activities will be implemented with similar implementation strategy and institutional arrangement used for the implementation of the RIPMAPP under the NAMDA, that it will be sponsored by the state Ministry of Agriculture and Rural Development, that RIPMAPP scaling up activities will be implemented by both state and three zonal technical RIMAPP counterparts headed by the Managing Director, that the component of capacity building will be funded by the State Government while the adoption of RIPMAPP technologies will be finance by the potential cooperative groups through credit sources.

9.0 Other Discussion

On the utilization of the incubation plant in the two (2) pilot states, the Director of the ABM advised that they should source for reputable manager who can manage the mill in order to avoid the plant wasting.

Mr. Kodama, the JICA Nigeria office, reminded Nasarawa and Niger States that loan/transfer plans should be submitted to the JICA and FMARD when loan/transfer of de-stoners and/or incubation plants by the states have been ready.

On the material for dissemination of the project nationwide, the national coordinator, (Mr .J.M. Dadet) said that the interested states apart from Nasarawa and Niger will be required to procure their material while FMARD will make uses of the materials to be handed over by JICA. He further informed the meeting that some states are already willing to carry out the project and that as soon as the list are made available, the ministry will give a directive on the mode of operation.

Ms. Ku informed the meeting that the plan for the handing over of the equipment to Nasarawa, Niger and ABM is on-going and that certificate shall be issued and endorsed by the management of the states and the ABM before 22nd of March for terminating the project officially. She stated that the equipment is for training and further dissemination of the RIPMAPP technologies, and JICA Nigeria office can make use of equipment for those purposes as well as for paddy grading at free of charge whenever the need arises.

10.0 Resolutions

After a thorough deliberation, the following resolutions were reached

- That the utilization of recovered money in Nasarawa and Niger states should be reported to post project implementation meetings.
- That the Ministry should be up dated from time to time on the progress made by Nasarawa and Niger states
- That as a matter of urgency efforts should be made to ensure that approval is given for counterpart fund to be sourced from the RVC as an arrangement will be put in place to capture it in the regular budget
- That a post project implementation meeting be held once a year to enable the Nasarawa and Niger states to provide report on their RIPMAPP Scaling up activities
- That collaboration efforts with other donor agencies be intensified for possible dissemination of the RIPMAPP technologies
- That handing over of the RIPMAPP equipment in Nasarawa, Niger states and the ABM by 22nd March, 2016
- That RIPMAPP Roadmap Committee be constituted with Terms of Reference (TOR) to include, upscale, disseminate source of funding and strategies to be adopted during the next meeting. In addition to the ABM, Department of Agricultural Extension, Rice Value Chain, Planning Department will join the committee. The JICA Nigeria office will participate in the committee as an observer.

11.0 Closing Remarks

In closing remarks, the sit-in chairman thanked the Permanent Secretary for releasing him to attend and chair this important meeting. He thanked everybody for their commitment and hard work that led to this wonderful and successful deliberation.

12.0 Date of next meeting

Next meeting was tentatively scheduled to hold on July or August 2016 to address further progress made on the RIPMAPP scale-up activities

13.0 Closing In the absence of any other deliberation, the meeting come to a close at 14:09 pm

Alhaji. M.O. Azeez
Director
Agribusiness and Marketing Department
Federal Ministry of Agriculture and Rural Development

Mr. Ikuo YAMAMOTO
Chief Advisor
RIPMAPP

Alhaji. M.O. Azeez
For Permanent Secretary
Federal Ministry of Agriculture and Rural Development
(Chairperson)

Mr. Hirotaka NAKAMURA
Chief Representative
JICA Nigeria Office