

Ministry of Food and Agriculture,
Republic of Ghana

**TECHNICAL COOPERATION PROJECT FOR
THE SUSTAINABLE DEVELOPMENT OF
RAIN-FED LOWLAND RICE PRODUCTION PHASE II
JOINT TERMINAL EVALUATION REPORT**

October 2020

**JOINT TERMINAL EVALUATION TEAM
JAPAN INTERNATIONAL COOPERATION
AGENCY
(JICA)**

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ANNEXES

1. The current PDM (version 2 as of December 2019)
2. The current PO (attached in the Monitoring Sheet ver.8, February 2020)
3. Evaluation Grid
4. Proposed PDM (Version 3)

Note 1: The Joint Terminal Evaluation Study was conducted six months before the completion of the Project.

Note 2: The exchange rates of GHS, JPY, and USD are as follows:

(JICA Exchange rate September 2020)

1GHS=18.258100JPY, 1 USD=105.378000 円

LIST OF ABBREVIATIONS

AEA	Agricultural Extension Agent
CAADP	Comprehensive African Agricultural Development Programme
CARD	The Coalition of African Rice Development
C/P	Counterpart
DAD	District Agricultural Department
DCS	Directorate of Crop Services, MoFA
GDP	Gross Domestic Product
GOG	Government of Ghana
GOJ	Government of Japan
JCC	Joint Coordination Committee
JICA	Japan International Cooperation Agency
MIS	Management and Information System
MoF	Ministry of Finance
MoFA	Ministry of Food and Agriculture
M/M	Minutes of Meeting
MMDA	Metropolitan, Municipal, District Assembly
NRDS	National Rice Development Strategy
OVI	Objectively Verifiable Indicators
PDM	Project Design Matrix
PCU	Project Coordination Unit
PO	Plan of Operation
PPP	Public Private Partnership
RAD	Regional Agriculture Department
RCC	Regional Coordinating Council
RCD	Regional Coordinating Director
R/D	Records of Discussion
SC	Steering Committee
TC	Technical Committee
TOT	Training of Trainers
WIAD	Women In Agriculture Development Officer
WS	Workshop

Chapter 1. Outline of the Terminal Evaluation

1-1 Background of the Project

Rice has become one of the most important staple crops in Ghana, and domestic paddy production increased to 242,000 and 570,000 metric tons between 2004 and 2013. However, because of population growth, urbanization, and change in consumer habits, estimated annual per capita consumption increased from about 15.4kg in 2000 to about 37.5kg in 2010. The total rice available for consumption in 2013 was estimated to be around 1,037,300 metric tons, which means that rice production does not meet the consumption. Ghana depends on 50% of imported rice to make up the deficit in domestic rice supply. It is vital for stakeholders in the food and agriculture sector to ensure increased and sustained domestic production of good quality rice for food security, import substitution, and foreign exchange savings.

In Ghana, rain-fed rice production occupies 90% of the total rice production. Therefore, the harvest is largely affected by the climatic condition, which causes low productivity. While domestic rice production increases, most rice producers are small scale farmers that cultivate less than 2ha. Rice yield is one of the most critical challenges for these farmers for better nutrition and higher income. In the continuous effort to tackle the issue, JICA contributed to the improvement of rain-fed rice cultivation in Ashanti and Northern areas applicable for small scale farmers by implementing the Project for Sustainable Development of Rain-fed Lowland Rice Production (hereinafter, the Phase I Project), aiming at the improvement of farming and extension through appropriate cultivation technique, technical transfer to extension agents and farmers, and development of the Extension Guideline. The Government of Ghana (GoG), with a high acknowledgment to the achievement of the Phase I Project, requested the Technical Cooperation Project for the Sustainable Development of Rain-fed Lowland Rice Production Phase II (hereinafter referred to as “the Project”), aiming at increasing rice production by improving extension services through the continuous promotion of an Extension Guideline.

1-2 Summary of the Project

Table 1-1 Summary of the Project

(PDM Ver.2 dated on December 2019)

Overall Goal	Domestic rice production is increased.
Project Purpose	The rice cultivation practice based on the Extension Guideline developed in Phase 1 is disseminated in 35 MMDAs of Ashanti and Northern Regions.
Output 1	Target MMDAs increase the capacity to develop their District Rice Extension Plan and to estimate needed budget for its implementation.
Output 2	Using the extension guidelines, the trainings are conducted in target MMDAs.
Output 3	The capacity of RAD and DAD regarding monitoring and evaluation is increased.
Output 4	The Extension Guideline is fine-tuned.
Activity 1-1	To study the planning process and the decision making done by target MMDAs respectively

Activity 1-2	To present the Project Framework and the output produced by Phase 1 to the members of MMDAs and officials (DCD, DDA and other Agriculture Sub-Committee members)
Activity 1-3	To conduct trainings of needs analysis, resource analysis, planning, budgeting and monitoring for the member of MMDA and officials (DCD, DDA and other Agriculture Sub-Committee members)
Activity 1-4	To support each District Assembly in target MMDAs to make District Rice Extension Plan and a budget estimation
Activity 1-5	To strengthen the linkages between MMDAs and Central Government (MoFA and MoLRD) through periodical reporting and meeting
Activity 1-6	To review the progress of the plan and financial management
Activity 1-7	To renew District Rice Extension Plan and budget estimation based on the performance of the previous year.
Activity 2-1	To study natural condition of potential valleys for implementing the Project
Activity 2-2	To select target communities and farmers, and then to sensitize and group them
Activity 2-3	To set up demonstration plots
Activity 2-4	To conduct a baseline survey about land holdings, farm management, market, post-harvest processing, gender and so on
Activity 2-5	To conduct trainings for RAD staff, DAD staff and farmers in line with the Extension Guideline
Activity 3-1	To conduct monitoring activities of the Extension Guideline, using existing monitoring system via MoFA MIS and/or MoLRD (“monitoring system” means the structure, methodology and data formats)
Activity 3-2	To review and assess the effectiveness and efficiency of existing monitoring system and tools
Activity 3-3	To improve monitoring/reporting structure from field level to national level
Activity 3-4	To improve a set of monitoring/reporting formats (qualitative and quantitative data) and tools
Activity 3-5	To conduct trainings of monitoring and evaluation practices for RAD staff and DAD staff
Activity 4-1	Through monitoring the extension activities, to identify the techniques that farmers found difficulties to apply
Activity 4-2	To assess the reasons why the difficulties occur
Activity 4-3	To examine if each skill in Extension Guideline needs to be modified (i.e. for women specification)
Activity 4-4	To develop more appropriate skills through learning by doing process
Activity 4-5	To revise the Extension Guideline and training materials
Activity 4-6	To arrange dissemination workshops and public relation activities for the other MMDAs

Activity 4-7	To support MoFA's effort to mainstreams the Extension Guideline in national rice policies
Input (Japanese Side)	<p>(a) Dispatch of Experts Chief Advisor/Monitoring Evaluation System, 2)Vice Chief Advisor/Rice Development Planning & Local Governance 1, 3)Cultivation, 4)Rice Development Planning & Local Governance 2/Extension 1, 5)Cultivation 2/Nutrition Improvement 1, and 6) Extension 2/Nutrition Improvement 2</p> <p>(b) Training Counterpart training in Japan and/or third countries</p> <p>(c) Provision of machinery and equipment</p>
Input (Ghanaian Side)	<p>Services of DCS/MoFA's counterpart personnel and administrative personnel; Suitable office space with necessary equipment; Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts, and any other materials necessary for the implementation of the Project other than the equipment provided by JICA; Information as well as support in obtaining medical service; Multiple Visa; Available data (including maps and photographs) and information related to the Project; Counterpart Fund necessary for the implementation of the Project; Expenses necessary for transportation within Ghana of the equipment as well as for the installation, operation, and maintenance thereof</p>

Chapter 2. Purpose of Terminal Evaluation

2-1 Objective of the Terminal Evaluation

With the assumption that the Project would complete by the end of February 2021 as planned, Joint Terminal Evaluation Team (hereinafter the Team) was organized in Tokyo and Accra in September 2020. The purpose of the Team was first to confirm the achievements of project activities, Outputs, and Project Purpose since the commencement of the Project in April 2016. The Team made the conclusion, recommendations, and lessons learned based on five evaluation criteria (Relevance, Effectiveness, Efficiency, Impacts, and Sustainability) for more effective project implementation in the remaining project period.

2-2 Members of the Team

The Terminal Evaluation Members are shown in Table 2-1 and 2-2.

Table 2-1 Members of the Japanese side

Name	Position	Organization
Mr. Minoru Matsunoshita	Team Leader	JICA Headquarters
Ms. Megumi Shuto	Cooperation Planning	JICA Headquarters
Ms. Kazuko Shirai	Evaluation Analysis1	Kaihatsu Management Consulting, Inc.
Mr. Kodai Yugeta	Evaluation Analysis2	Kaihatsu Management Consulting, Inc.

Table 2-2 Members of the Ghanaian side

Name	Position	Organization
Mr. Godfred Antwi	Agricultural Economist	Project Coordination Unit, Policy, Planning, Monitoring and Evaluation Directorate, Ministry of Food and Agriculture
Mr. Kennedy Donyong	Agricultural Officer	Monitoring & Evaluation Unit, Policy, Planning, Monitoring and Evaluation Directorate, Ministry of Food and Agriculture

2-3 Schedule of the Terminal Evaluation

The Joint Terminal Evaluation was conducted from September 16 to October 9, 2020. The detailed schedule of the Joint Terminal Evaluation is shown in Table 2-3.

Table 2-3 Detailed Schedule of Terminal Evaluation

		* Green = Tensui2, Blue = MASAPS-KIS, Red = Both		As of 5 October, 2020
Date		Activities	Memo	
16-Sep	Wed	Kick Off Meeting	(Study Team & JICA related offices)	
17-Sep	Thu	17:30(G08:30) 1st Meeting with Tensui 2 C/Ps (Explanation of the Study) AR: Rev. John Manu (RDA) and Mrs. Yaa Pokuaa (PCU Schedule Officer: SO, NR: (Ms. Hawa Musah (RDA), Mr. Dauda Salam(PCU SO))	Both 2 projects + Ghanaian Evaluation Team (MoFA PP MED2, GIDA Planning Dep.	
18-Sep	Fri	18:00(G09:00) Ghanaian Evaluation Team 19:00(G10:00) 1st Meeting with KIS-MASAPS C/Ps	Mr.Eric, GIDA Director, Planning & Coordination Mr.Chris, Director of Scheme Oversight, GIDA	
19-Sep	Sat			
20-Sep	Sun			
21-Sep	Mon			
22-Sep	Tue			
23-Sep	Wed	11:00: Meeting with Tensui 2 Expert Team		
24-Sep	Thu	17:00(G08:00) Meeting with RAD of Ashanti 19:00 DAD(s) & AEA s	Interview with Target Farmers in Ashanti (by Local Consultant)	
25-Sep	Fri	17:00(G08:00) Meeting with RAD of Northern 19:00 DAD(s) & AEA s	Interview with Target Farmers in Northern (by Local Consultant)	
26-Sep	Sat			
27-Sep	Sun			
28-Sep	Mon	11:00 Meeting with KIS-MASAPS Expert Team 17:00 Meeting with GIDA HQ 19:00(G10:00) Meeting with District Assembly(s) one each from 2 regions		
29-Sep	Tue	17:00(G08:00) Meeting with GCAP/World Bank/ Meeting with DCS/MoFA 19:00(G10:00) Meeting with Seed Producer Group		
30-Sep	Wed	17:00(G08:00) Meeting with Farmers (WUA) 18:00(G09:00) Meeting with Farmes (WUA)		
1-Oct	Thu	17:00(G08:00) Meeting with KIS Office 18:00(G08:00) Meeting with Farmers (WUA)		
2-Oct	Fri	AM: Documentation 14:00: Team meeting 17:00(G08:00): Meeting with Ghanaian Evaluation Team		
3-Oct	Sat			
4-Oct	Sun			
5-Oct	Mon	17:00(G08:00): 2nd Meeting on Tensui 2 with Ghanaian C/Ps (Discussion on evaluation result)		
6-Oct	Tue	17:00(G08:00): Meeting with JICA Ghana Office		
7-Oct	Wed	17:00(G08:00): 2nd Meeting on MASAPS-KIS with Ghanaian C/Ps (Discussion on evaluation result)		
8-Oct	Thu			
9-Oct	Fri	M/Ms signing & Report of evaluation result to both 2 Projects		

2-4 Methodology of Evaluation

The Team conducted various interviews and field surveys through the evaluation period. The list of the key persons consulted is shown in Table 2-4.

Table 2-4 List of Consulted Personnel

Name	Position	Organization
Mr. Seth Osei Akoto	Director of Crop Services	Ministry of Food and Agriculture
Dr. Solomon Gyan Ansah	Deputy Director, CARD Focal Person	Ministry of Food and Agriculture
Mr. Al-Hassan Imoro	Assistant Director, National Rice Desk Officer	Ministry of Food and Agriculture
Mr. Reverend John Manu	Regional Director	RAD, Ashanti Region
Ms. Yaa Pokuaa	Schedule Officer	Project Coordination Unit, Ashanti Region

Mr. Kingsley Abedi-Addae	Land Development	Project Coordination Unit, Ashanti Region
Mr. Charles Ofori	Farm Management & Support System	Project Coordination Unit, Ashanti Region
Mr. Obed Opoku Mensah	Extension & M&E	Project Coordination Unit, Ashanti Region
Mr. Hawa Musa	Regional Director	RAD, Northern Region
Mr. Dauda A. Salaam	Schedule Officer	Project Coordination Unit, Northern Region
Mr. Solomon Selasi Djre	Land Development	Project Coordination Unit, Northern Region
Mr. Baba Abdulai	Farm Management and Support System / M&E	Project Coordination Unit, Northern Region
Mr. Raphael Dodzi Sorkpor	Director	DAD, Sekyere East District, Ashanti Region
Mr. John Mensah Sarbah	MIS Officer	DAD, Sekyere East District, Ashanti Region
Mr. Christopher Agumey	DAO Crops	DAD, Sekyere East District, Ashanti Region
Mr. Daniel Debrah	AEA	DAD, Sekyere East District, Ashanti Region
Dr. David Anambam	Director	DAD, Adansi South District, Ashanti Region
Mr. Kingsford Delali	DAO Livestock/ Project Desk Officer	DAD, Adansi South District, Ashanti Region
Mr. Prince Manu	DAO Crop	DAD, Adansi South District, Ashanti Region
Mr. Charles Opoku	DAO Extension/MIS officer	DAD, Adansi South District, Ashanti Region
Mr. Emmanuel Mensah	Director	DAD, Bekwai Municipal District, Ashanti Region
Mr. William Ofosu Akuoko	MIS Officer	DAD, Bekwai Municipal District, Ashanti Region
Mr. Abdul Bashit Zakari	Director	DAD, Zabzugu District, Northern Region
Mr. Mohammed Awal	AEA	DAD, Zabzugu District, Northern Region
Mr. Mustapha Zakaria	Director	DAD, Gushegu District, Northern Region
Mr. Inusah Kojo	AEA	DAD, Gushegu District, Northern Region
Mr. Nana Kwame	Budget Officer	MMDA, Sekyere Kuwawu District, Ashanti Region
Mr. Salahudeen Mohammed	Development and Planning Officer	MMDA, Gushegu District, Northern Region
Mr. Emmanuel Adjel-Mensah	Development and Planning Officer,	MMDA, Sekyere Kumawu District, Ashanti Region
Mr. John Ankrah	District Coordination Director	MMDA, Sekyere Kumawu District, Ashanti Region
Mr. Michael Opoku	Development and Planning Officer	MMDA, Adansi North District, Ashanti Region
Mr. Ramoji	Budget Officer	MMDA, Adansi North District, Ashanti Region

		Region
Mr. Hiroshi Yoshimura	Chief Advisor	Japanese Expert Team
Mr. Takafumi Nakase	Deputy Chief Advisor	Japanese Expert Team
Mr. Tatsuo Fujita	Rice Cropping	Japanese Expert Team
Ms. Kyoko Akasaka	Extension	Japanese Expert Team

(1) Joint Evaluation

The Project was jointly evaluated by the Japanese and Ghanaian Teams following the Record of Discussion (hereinafter, “R/D”), the PDM, and the Plan of Operations (hereinafter referred to as “PO”). The evaluation activities, including report analysis, questionnaire surveys, and interviews with staff of relevant institutions, beneficiaries, Japanese experts, and other concerned personnel of the Project, were conducted based on the Five Evaluation Criteria described in the following section. The Team was composed of four (4) members from the Japanese side and two (2) members from the Ghanaian side.

(2) Evaluation Framework: Five Evaluation Criteria

The evaluation is preceded with the following five criteria, which are the major points of consideration when assessing development projects.

Table 2-5 Five Evaluation Criteria

Items	Components
(1) Relevance	Relevance is to question whether the Project Purpose and overall goal are still in line with the priority needs and concerns at the time of evaluation
(2) Effectiveness	Effectiveness concerns the extent to which the Project Purpose has been achieved or is expected to be achieved in relation to the outputs produced by the Project.
(3) Efficiency	Efficiency is a productivity of the implementation process: how efficiently the various inputs are converted into outputs.
(4) Impact	Impact is any intended and unintended, direct and indirect, positive, and negative that is brought about as a result of the Project.
(5) Sustainability	Sustainability of the Project is assessed in terms of institutional, financial, and technical aspects by examining the extent to which the achievement of the Project will be sustained after the Project is completed.

(3) Sources of Information Utilized for the Evaluation

The sources of information are shown in Table2-6.

Table2-6 Source of Information

1	Project documents such as R/D, PDM, and Minutes of Meetings (hereinafter referred to as “M/M”)
2	Periodical reports of the Project
3	Interviews and discussions with the Japanese experts
4	Interviews and discussions with the counterpart personnel
5	Interview and discussion with the beneficiaries
6	Record of inputs
7	Documents on the progress and achievements of the Project

(4) PDM for evaluation

The current PDM (version 2 dated on December 2019) shown in ANNEX 2 is used as the PDM for the Terminal Evaluation.

Chapter 3 Achievements and Implementation Processes of the Project

3-1 Inputs

The Team confirmed the following inputs based on PDM and the PO. The details of inputs are shown as below.

3-1-1. Japanese side

It is projected that the total disburse amount under Project during the original Project period will be 737,719,000 JPY (7,000,692 USD).

(1) Dispatch of Japanese experts

The Japanese consultant team that comprises six experts, including 1)Chief Advisor/Monitoring Evaluation System, 2)Vice Chief Advisor/Rice Development Planning & Local Governance 1, 3)Cultivation, 4)Rice Development Planning & Local Governance 2/Extension 1, 5)Cultivation 2/Nutrition Improvement 1, and 6) Extension 2/Nutrition Improvement 2 have been dispatched to the Project for technology transfer.

(2) Training of counterpart personnel in Japan

A total of forty (40) counterparts participated in three training courses in Japan. The thematic areas of the courses included: (i) rice cultivation techniques and high-quality seed with the partnership among local government, research institutes, and test plots in Japan, and ii) roles and functions of local government and private sector in the programs of stable rice production, improvement of quality, and marketing promotion by local government.

(3) Provision of equipment and machinery

Equipment and machinery, such as vehicles, photocopiers, desktop computers, projectors, and manual planters, of the total value equivalent to 3,845,648 Japanese Yen (434,670USD) were provided for the project activities as of the end of July 2020.

Table 3-1 List of the Equipment and Machinery

Item	Q'ty	Provided by	Provided to
Vehicle	2	JICA Ghana Office (Lent)	The Project Team (Lent)
Photocopier	2	The Project Team (JICA)	Ashanti PCU (1), Northern PCU (1)
Desktop computer	12	The Project Team (JICA)	Ashanti PCU (6), Northern PCU (6)
Projector	1	The Project Team (JICA)	Northern PCU (1)
Manual planter	6	The Project Team (JICA)	Ashanti PCU (3), Northern PCU (3)

(4) Provision of Training

The table below provides the detailed training conducted:

Table 3-2 List of Project Training (2016-2019)

Date	Region	Title	Participants / Districts
Output 1			
31 May 2016	AR	Sensitization	About 40
2 June 2016	NR	Workshop	JICA Ghana Office, RCC officers DDA, Planning officer, DAO, Extension Officer Representatives of Phase 1 farmers
25-26 July 2016	NR	Training on Planning and Budgeting	Planning Officer, Budget Officer, DDA, DAO (Crop and MIS) and AEAs
8-9 Aug 2016	AR		
5-6 June 2017	AR	Sensitization	Total 127 (1 st day, AR)
13-14 June 2017	NR	Workshop / Training on Planning and Budgeting	DCD, DDA, Crop Officer, Extension Officer, MIS Officer in target 20 Districts Total 87 (2 nd day, AR) Crop Officer, Extension Officer, MIS Officer in 15 Districts from Cycle 2-4 Total 90 (1 st day, NR) DCD, DDA, Crop Officer, Extension Officer, MIS Officer in target 15 Districts Total 60 (2 nd day, AR) Crop Officer, Extension Officer, MIS Officer in 10 Districts from Cycle 2-4, JICA Ghana Office
Output 2 (&3 for M&E)			
18-19 May 2017	AR	1 st TOT	DDA, Crop Officer, Extension Officer, MIS Officer, WIAD Officer, AEA from DADs from Cycle 1
7-8, 15-16 June 2017	NR		DRA, Crop Officer, Extension Officer, Engineering Officer, M&E Officer from RADs
1-2 August 2017	AR	2 nd TOT	Same as above
5-6 August 2017	NR		
10-11 October 2017	AR	3 rd TOT	Same as above
24-25 October 2017	NR		

22-23 March 2018	AR	1 st TOT	DDA, Crop Officer, Extension Officer, MIS Officer, WIAD Officer, AEA from DADs from Cycle 2
2-3 May 2018	NR		
18-19 July 2018	AR	2 nd TOT	Same as above
1-2 August 2018	NR		
30 August 2018	AR	3 rd TOT	Same as above
10 September 2018	NR		
26-27 March 2019	AR	1 st TOT	DDA, Crop Officer, Extension Officer, MIS Officer, WIAD Officer, AEA from DADs from Cycle 3
23-14 April 2019	NR		
13 June 2019	AR	2 nd TOT	Same as above
17 June 2019	NR		
31 July 2019	AR	3 rd TOT	Same as above
19 September 2019	NR		
Output 3			
2 February 2017	NR	M&E Workshop	Crop Officer, Extension Officer, MIS Officer from 10 DADs from Cycle 1
6 February 2017	AR		Extension Officer, M&E Officer from RAD
15 January 2019	NR	M&E Workshop	M&E Officer from Cycle 1 and 2 DADs
17 January 2019	AR		
28 March 2019	AR	M&E Workshop	M&E Officer from Cycle 1, 2 and 3 DADs
25 April 2019	NR		
12 June 2019	AR	2 nd Quarter Progress	DDA or MIS Officer from 32 DADs from Cycle 1, 2 and 3
16 July 2019	NR	Report WS	M&E Officer from RADs

*AR=Ashanti region, NR=Northern region

(source: Project Annual Progress Report (1st Year), Project Annual Progress Report (2nd Year), Project Annual Progress Report (3rd Year), Project Annual Progress Report (4th Year))

(5) Bearing of local costs

As of the end of July 2020, the total amount of 65,169,116 Japanese Yen (2,855,113GHC) has been provided to cover local expenditure for the project activities, such as training and workshop expenses, demo plots, and running cost, including fuel, electricity, and maintenance cost.

3-1-2. Ghanaian side

(1) Appointment of counterpart personnel

A total of eleven (11) counterpart (C/P) personnel from DCS, including one Director of DCS as the Project Supervising Director, two Regional Directors in Ashanti and Northern regions as the Project Manager, and eight officers from each region as the Project Coordination Unit (PCU) members. Forty (40) of C/P in total participated in the training in Japan on the following themes.

- Good quality seed production and extension, and rice breeding by using useful genetic resources.
- Effective rice extension activities towards yield increase and quality improvement based on the District Rice Extension Plan
- The transition of agricultural tools, improvement, and land development technology.
- Improved rice milling technology and rice distribution based on consumer's needs.

(2) Provision of facilities and operational cost

Up to July 2020, one office space in each Regional Agriculture Office in Ashanti and Northern regions with office furniture, photocopiers, printers, desktop computers, and cars have been provided by the Ghanaian side for the Project.

(3) Local cost

MoFA/DCS has disbursed 101,958 GHS up to the end of April 2020 to cover rice extension activities in the two regions.

3-2 Achievements of the Outputs

Since the commencement of the Project in April 2016, the Project has implemented its activities as described below without significant delays of the Project schedule.

Output1: Target MMDAs increase the capacity to develop their District Rice Extension Plan and to estimate needed budget for its implementation
--

Output 1 relating to the development of MMDAs' capacity to develop their District Rice Extension Plan and to estimate the budget is **almost achieved** as below.

Indicator 1-1: District Rice Extension Plan in respective Project MMDA is developed.

【Achieved】

All the 35 District Assemblies submitted the District Rice Extension Plan to the PCU. DAD sensitized MMDA about the importance of rice extension and assisted MMDA to make district profiles, which is the

basic information for the District Rice Extension Plan. MMDA became interested in rice extension because it saw many potentials in the target districts and farmers with their own experiences.

Indicator 1-2: Districts are sensitized to incorporate rice extension plan into District Medium-Term Development Plan (DMTDP)

【Almost achieved】

26 out of 35 MMDA have prioritized the rice extension activity in the DMTDP, while the Project Team is trying to confirm the prioritization in the remaining 9 MMDAs by collecting their DMTDP documents as of October 2020¹. Some MMDAs did not prioritize the rice extension activity because they have other priority crops such as cocoa. The Project has supported MMDA to encourage MMDA to prioritize rice extension in the DMTDP. There is some delay in the disbursement of the budget for extension activities, as some MMDAs tend to rely on financial support from donors.

Indicator 1-3: Needed expenditure for providing extension services is budgeted.

【Achieved】

All the 35 District Assemblies budgeted needed expenditure for providing extension services. The Project advised DADs not to rely only on donor funds but also to utilize other financial sources such as the government funds and MMDAs' Internally Generated Funds (IGF) for diversification of the risks of late disbursement. The Project helped DADs to negotiate with MMDAs for timely disbursement of the budget by preparing a summary sheet on necessary actions to be taken and by attending meetings with District Chief Executive (DCE) and District Coordination Director (DCD), who are responsible for District budget allocation.

Output2: Using the extension guidelines, the trainings are conducted in target MMDAs.

Output 2 relating to the implementation of training in total 35 districts of Ashanti and Northern Region **has already been achieved** as below.

Indicator 2-1: 5 times a year per district of the trainings for farmers and concerned stakeholders along with the Extension Guideline are carried out.

【Achieved】

The Project conducted training 13.8 times/year. (15.5times/year in Ashanti region, 11.9times/year in Northern region). The Project originally intended to establish two demo plots per district and to conduct five training sessions per demo plot. However, due to their efforts, MMDAs were able to acquire more funds for demo plots than initially planned and establish more than two demo plots per district, which ended up with higher results.

¹ The 9 MMDAs that have not prioritized the rice extension activity in their DMTDPs are as follows: Ahafo Ano North, Asante Akim North, Afihy Kwabre North/South, Ejura Sekyedumasi, Sekyere Central, Mampong, Sekyere Afram Plains, Sekyere Kumawu, and Sekyere South (all in Ashanti Region).

Indicator 2-2: 490 of DAO and AEAs are trained.11,700 farmers are trained.

【Achieved】

1,071 DAO and AEA in total participated the training by 2019.

DAO: 146, AEA: 558, total 704 in the Ashanti Region.

DAO: 117, AEA: 250, total 367 in the Northern Region.

Since 2018 the Government of Ghana has started to employ young extension agents from Youth Employment Agency and the Nation Builders Corps to increase the number of extension agents. The Project provided training to those newly employed agents, which ended up with more than a double number of participants.

15,435 farmers in total participated in the training by 2019.

Male: 6,310, Female: 2,602, total 8,912 in the Ashanti Region.

Male: 4,562, Female: 1,961, total 6,523 in the Northern Region.

Output3: The capacity of RAD and DAD regarding monitoring and evaluation is increased.

Output 3 relating to capacity development of RAD and DAD officers for monitoring and evaluation (M&E) is **expected to be almost achieved** by the end of the project period as the detailed assessment below.

Indicator 3-1: The monitoring and evaluation system is established.

【Almost achieved】

The Project has introduced an effective monitoring methodology in accordance with the existing monitoring system of GoG. The Project developed the M&E tool and keeps revising the tool every year (the current version is ver.3) according to feedbacks from users. The Project will finalize the tool in 2020 and suggest the best M&E system for DAD's rice extension activity.

Indicator 3-2: 1 time a year per region of the trainings about monitoring and evaluation for target RAD and DAD officials are carried out.

【Achieved】

The Project provides two to four times of M&E training to the district for each Cycle every year. So far, 3.3 times of training per region per year on average, has been conducted by 2019.

(2017: 4 times, 2018: 4 times, 2019: 2 times)

Output 4: The Extension Guideline is fine-tuned.

The Output 4 relating to the revision of the Extension Guideline is **expected to be achieved** by the end of the project period with the detailed assessments as below.

Indicator 4-1: Comparing with the Phase 1, the rate of population who apply the technics in the Extension Guideline is increased by 5%².

【Achieved】

The Project divides the Guideline technologies into eight categories and defines those who have introduced more than five categories of the technologies as “those who apply the technics”. The rate of the population who apply the techniques has been increased by 7.4% by 2019 compared to that in Phase 1. The decrease in the rate in Ashanti region is caused by the small number of farmers with available data compared to the larger number of trained farmers than originally planned.

Table 3-3 Rate of Population Who Apply Technics

Region	Phase 1	Phase 2	Increase (Phase 2/ Phase 1)
Both regions	69.5%	74.8%	7.4%
Ashanti region	83.4%	79.8%	-4.3%
Northern region	46.1%	70.8%	53.6%

(source : the Project)

3-4 Prospects to Achieve the Project Purpose

Project Purpose: The rice cultivation practice based on the Extension Guideline developed in Phase 1 is disseminated in 35 MMDAs of Ashanti and Northern regions.

(1) Prospect to achieve Project Purpose

The Project Purpose is **expected to be achieved** based on the following results:

Indicator 1: The yield/ha of farmers who have applied the techniques in the Guideline increase 100% of the yields before the application. (Indicative target yields are 4.0ton/ha in Ashanti and 3.0ton/ha in Northern Region (NRDS target 3.5 ton/ha) respectively. These targets are subject to change according to the review of NRDS targets.)

【Expected to be Achieved】

According to the 2019 monitoring data, the average³ yield (ton/ha) of farmers who have applied the Guideline techniques has been increased by 105% compared to the average yields obtained by the baseline survey conducted in 2016, which surpassed the target indicator of 100%. The main reason for the relatively modest average for the Northern region attributed to the harsher natural environment (especially soil fertility) than that of the Ashanti region. The indicator for both regions is expected to be achieved if the same trends continue in 2020, or in other words, unless the average rice yield in the two regions in 2020 decreases below 2.53 ton/ha⁴. However, the figures will be recalculated and evaluated when the data for the year 2020

² 5% increase is equal to 73% of the trained farmers applying the Guideline technologies.
³ The 3-year average yield/ha is calculated so that it can take into consideration differences in climate and environmental conditions in each year.
⁴ The average yield of 2.53 ton/ha and over in 2020 is required for the average yield for the year 2017-2020 to be more than

becomes available after November 2020.

Table 3-4 Average Yield (ton/ha) of Farmers

Region	2016 (ton/ha)	2017-2019 average (ton/ha)	Increase (2017-2019 average/2016)
Both regions	1.37	2.81	105%
Ashanti region	1.62	3.47	117%
Northern region	1.12	2.21	97%

(source: The Project)

3-5 Prospects to Achieve the Overall Goal

Overall Goal: Domestic rice production is increased.

(1) Prospect to achieve the Overall Goal

Based on the following information, with the fulfilment of present and additional important assumptions, the Overall Goal is **expected to be achieved** to some extent.

Indicator 1: 35 MMDAs in Ashanti and Northern (now North East, Savannah and Northern) regions apply the Extension Guideline for developing the productivity of rice.

【Expected to be achieved】

As mentioned above, all the 35 MMDAs have already developed their District Rice Extension Plan, and they showed their confidence in the application of the technologies introduced in the Extension Guideline for their rice extension activity.

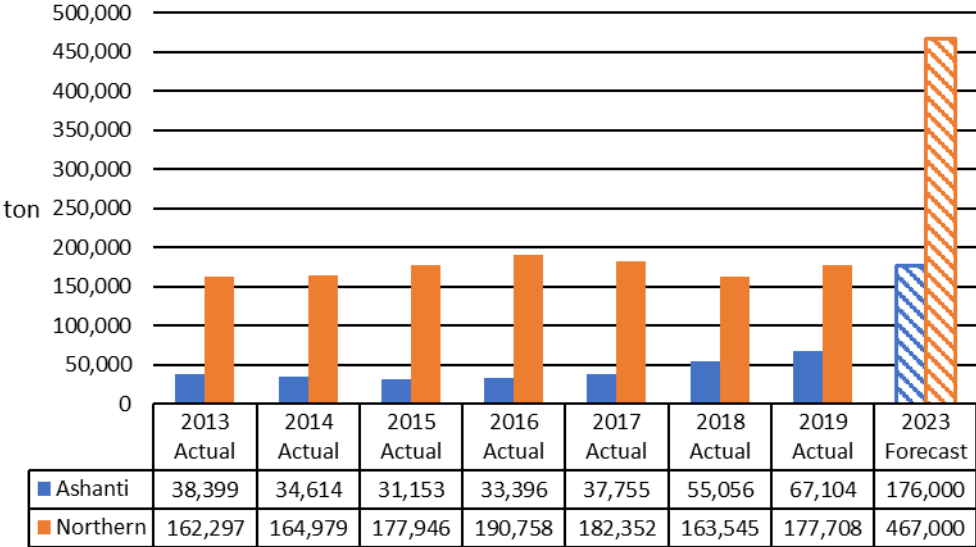
Indicator 2: Rice production in the rain-fed lowland increases from 33,000 tons to 89,000 tons in Ashanti region and 191,000 ton to 507,000 tons in Northern region from 2016 to 2023

【Expected to be partially achieved】

Figure 3-1 summarizes the annual rice production in the two regions including rain-fed and irrigation areas. The latest figures for 2019 reveal that it is 67,104 tons (75.4% compared to the target indicator) for the Ashanti region, while 177,708 tons (35.1% compared to the target indicator) for the Northern region⁵. Regional rice production depends not only on the production of trained farmers in target districts but also on the production of not-trained farmers in non-target districts, the number of which is quite large compared to that of trained farmers. This makes it challenging to achieve the target indicator within three years after the project termination. MoFA plans to expand a rice production area in the Northern region, by providing farmers with agricultural inputs such as seed, fertilizers, and machinery. Based on the plan and a calculation

2.74 ton/ha, which is 100% increase from the average yield in 2016.
⁵ Due to the regional reorganization in December 2018, the original Northern region was split into the new Northern region, the North-East region and the Savannah region, thereby the figures for Northern region after 2019 are the sum of the figures of these 3 new regions (The same applies to the Figure 3-1).

of the nationwide increase rate, the MoFA forecasts the rice production to be 176,000 tons for the Ashanti region, and the total of Northern, North East and Savannah regions as 467,000 tons in 2023. According to this forecast, there is a possibility of achievement of the Overall Goal for the Ashanti region, while there is not likely for the Northern region. The Northern region is under more severe climate conditions compared to the Ashanti region such as a single rainy season and low fertility of soil due to frequent floods, which are very difficult to predict and overcome. Therefore, it can be evaluated that the indicator is expected not to be completely but to be partially achieved.



(Source: MoFA)

Figure 3-1 Annual Rice Production in the Ashanti and Northern Regions (ton)

3-5 Implementation Process

3-5-1. Reporting System

The Project (Chair C/P and JICA experts) has reported to MoFA and JICA Ghana Office as follows:

- 1) Project Managers and PCU members (Ghanaian C/P and JICA experts) submit the Work Plan, the Monitoring Sheet on a semi-annual basis and the Annual Progress Reports to MoFA for onward transmission to JICA Ghana Office.
- 2) In addition, the Chief advisor of the Consultant Team submits Work Plan and Progress Report, and Japanese monthly reports to JICA Ghana Office.

MoFA and JICA Ghana Office have monitored the Project through the above-mentioned reports, discussed with JICA experts and C/Ps, and provided necessary supports to the Project.

3-5-2. Decision-making and monitoring mechanism

Steering Committee (SC), as the highest decision-making mechanism of the Project, chaired by the Chief Director of MoFA, has been held five times to endorse the plan and decide on the issues related to the Project implementation, including the revision of PDM. The first SC held in September 2016 suggested that the Regional Coordinating Directors (RCD) of the two regions’ Regional Coordinating Councils (RCC) should

be added to the SC members because the RCCs play a crucial role in approving the budgets for the Project activities in the regions and the districts. This addition of the SC membership contributed a lot to smooth project implementation, especially to the achievement of Output 1 indicators, which required administrative support at the regional level in the two regions.

Table 3-5 Steering Committee

No	Date	Major topics
1	September 1, 2016	SC confirmed the achievement of Phase 1, presented the Work Plan and activity plan and budget for FY2017.
2	August 17, 2017	SC confirmed the changed schedule of SC and TC, approved the selection process for target districts.
3	February 22, 2018	SC confirmed the report on the activities in FY2017, approved the activity plan for FY2018, revision of target figures for the Output2, and target districts for after the 2 nd Cycle
4	February 14, 2019	SC confirmed the report on the activities in FY2018 and the revised PDM.
5	February 4, 2020	SC confirmed the report on the activities in FY2019.

(source: the Project)

Under the SC, the Technical Committee (TC), composed of the project stakeholders, was organized as the reporting and presenting the project activities, and discussing technical issues annually. The Project has held eight times of TC in each region since its commencement up to January 2020. The list of typical participants to the T/C is as follows:

- DCS/MoFA
- RAD (Director, Crop Officer, Extension Officer, M&E Officer, PPRSD Officer, WIAD Officer, etc.)
- DAD (Director)
- MMDA (District Coordination Director)
- Research Institutes (Crop Research Institute, SRI, SARI)
- Ghana Irrigation Development Agency

3-5-3. Project Coordination Unit(PCU) established during the project period

The Project established the PCU in both Ashanti and Northern regions consisting of three to five RAD officers in charge of different project activities of scheduling, rice cultivation, land development, extension, and M&E. Two PCUs functioned for smooth implementation of the Project and shared information and experience through the Project activities with target districts in each region.

Chapter 4. Evaluation Results with 5 Evaluation Criteria

4-1 Relevance

The relevance of the Project is evaluated as “**High**” based on the following findings:

4-1-1. Relevance to the development policies and agriculture programs of Ghana

The Project is fully in line with the agricultural policies of GoG. Under the Presidential Coordinated Program (2017-2024), The MoFA Medium Term Development Plan (MTDP) which hinges on the government’s MTDP, *An Agenda for Jobs: Creating Prosperity and Equal Opportunity for All 2018-2021*, targets “transforming agriculture and industry”. The Food and Agriculture Sector Development Policy II (FASDEP II, 2007), is the overarching policy for the MoFA and is aligned to “An Agenda for Jobs”. The current implementation plan for Ghana’s agriculture sector is The Investing for Food and Jobs (IFJ, 2018 - 2021): An Agenda for Transforming Ghana's Agriculture. The Planting for Food and Jobs (PFJ) Campaign, which is captured in the IFJ is a major driver in transforming and modernizing agriculture in Ghana. The PFJ prioritizes interventions in seed access and development, fertilizer access and fertilizer systems development, extension services, marketing, and e-agriculture. Presently, the Campaign has five modules which include the Food Crops Module of which the Project is regarded as a part of the Module.

4-1-2. Consistency with the ODA policies of the Government of Japan

In the Country Assistant Policy of the Japanese Government (GoJ) for the Republic of Ghana (2012), the GoJ set agriculture (rice production) as one of the priority areas in the Basic Policy, ‘Assistance for the Promoting Dynamic Economic Growth that Benefits the People Widely.’ The GoJ promotes the Rice Production and Agricultural Development Program, and the Project was regarded as a part of the Program. The Basic Policy was followed by the Country Assistant Policy for the Republic of Ghana (2019). The Project is regarded as a part of the Assistance Program for Small Scale Farmers in the priority area of the Strengthening Industry Including Agriculture in the Basic Policy of the ‘Assistance for the Sustainable and Stable Economic Growth of Ghana.’

4-1-3. Relevance to needs of the target area and beneficiaries

The Project has met the needs of the respective stakeholders in rice production in two target regions.

(1) Needs of DCS

The improvement of rice productivity through the use of proven technologies has been one of the goals of MoFA’s rice self-sufficiency target. The Project has responded to MoFA’s target and the needs of DCS in promoting upland crop cultivation in Ashanti and Northern regions.

(2) Needs of Regional Agriculture Department (RAD)

The role of RAD in the PCU is to support MMDA to make a District Extension Plan and budgeting for the extension activities through providing the cost of activities relating to rice extension and machinery. The Project is in line with the needs of RAD to improve the communication between the two players.

Improvement of the M&E system also fulfilled the needs of RAD to aggregate and sort out the rice production-related information from MMDA. The techniques and information introduced by the Project contribute to updating of their knowledge and techniques on rice cultivation and marketing as the technical backstop for DAD.

(3) Needs of the Planning and Budget officers in the District Assembly (MMDA)

Before the Project, the District Assembly did not have much information on the rice extension itself and its value for the administration of MMDA. Therefore, the Project contributed to providing an opportunity for MMDA to understand the merits of rice extension for MMDA such as improvement of productivity and increase in revenue from increase in production. The demo plots were established with the budget from MMDA.

(4) Needs of District Agriculture Department (DAD)

DAD is the frontline of rice extension in each district. Through the project activities, DDA and DAO acquired new techniques of rice cultivation such as testing rice seed at demo plots. The techniques introduced to DAD are applicable to their district, and the Extension Guideline is the one to follow in extension work as the Master Trainer.

(5) Needs of rice farmers

Before the Project, the farmers in Ashanti and Northern regions used to produce rice with conventional techniques. Almost all trained farmers now use high-quality seeds, cultivate properly in land development, use of fertilizers, and post-harvest. At the beginning of the Project, they were skeptical, but the results of demo plots have convinced the farmers. Farmers are now eager to learn the techniques since they know these techniques meet their needs to produce more rice. Even a farmer group was formed in the area of demo plots in some districts, which is not normal.

4-2 Effectiveness

The effectiveness of the Project is evaluated as “**High**” based on the following findings.

4-2-1. Prospect for the achievement of the Project Purpose

As described in 3-4, it is assumed that the Project Purpose is already partially achieved. The Project Purpose is expected to be achieved if the same trends in rice production in the two regions for the past three years (since the Project started extension activity) continue in 2021. To be more precise, the Project needs to achieve an average rice yield of more than 2.53 tons/ha, which is very likely to happen unless the climate conditions in the two regions drastically change compared to the past years.

4-2-2. Contribution of Outputs to the achievement of the Project Purpose

Achievement of the Output1 (capacity development of MMDA to make the District Rice Extension Plan and estimate budget for implementation) contributed to upgrading the target MMDAs’ administrative

capacities to develop and budget rice extension activity plan, which was essential for the 35 target MMDAs to implement the rice cultivation extension activity with their budgets.

These capacities were further enhanced as a result of the achievement of Output 3 (establishment of M&E system). Using data obtained through the M&E activity in the fields, the MMDAs were able to develop more effective and realistic rice extension plan and budget.

Achievement of Output 2 (extension training to District officers and farmers) contributed to the dissemination of the rice cultivation technologies introduced in the Extension Guideline to farmers in the 35 districts.

In the process of the achievement of Output 4 (revision of the Extension Guideline), the introduced technologies were disseminated more efficiently and effectively. The revised new Extension Guideline contains many pictorial illustrations so even illiterate farmers can easily understand and practice the technologies in the Guideline.

4-2-3 Important Assumptions from Output to Project Purpose

(1) Trained farmers do not migrate.

【Fulfilled】

There has been no such a case observed where migration of trained farmers caused a critical problem during the project period.

(2) Trained AEAs are not transferred to other regions.

【Fulfilled】

There has been no such a case observed that trained AEAs were posted to other regions and caused a critical problem during the project period.

(3) Price of domestic rice does not decline drastically.

【Fulfilled】

The price of domestic rice has not declined drastically during the project period.

(4) Climate does not change sharply.

【Fulfilled】

The climate conditions in the Northern district are so harsh and affecting rice yield.

4-2-4 Analysis of factors

(1) Contributing factors

The following factors can be mentioned as important factors that contributed to the achievement of the Project Purpose.

- **Effective use of demo plots:** The Project’s demo plots had a large promotional effect on technology dissemination because farmers who saw increased rice production at the demo plots were motivated to apply the same technology at their lands.
- **Success of marketing by Seeking for the Quality of rice:** The quality of rice produced by the target farmers as well as the cultivation and post-harvest techniques, including the high-quality certified seed produced by the MASAP-KIS for the demo plot in Ashanti region, received a high reputation in its quality in the market. For the target farmers in both regions, there are active markets around the farmers’ area⁶. Therefore, when the target farmers sold more surplus rice to the market, they could easily sell it at the market with seasonal price, which led to an increase in their income from rice production. This success of the marketing of high-quality rice motivated the target farmers to produce more rice.
- **Upgrading the M&E System in line with the government system:** M&E officers at RADs and DADs had been using and familiar with the GoG’s existing M&E system since the Project started. Therefore, it was not wise to develop a completely new system for the rice extension activity because it would double the work load of the M&E officers. Consequently, the Project developed the M&E tool to make it in line with the existing M&E system. Besides, the Project continued to upgrade the tool only once a year when the GoG’s M&E system was revised annually, which contributed to making it readily accepted by the M&E officers.
- **Promotion of C/P:** Three C/Ps were promoted to become DDA in other regions. While the posting of C/P to other area usually harms the project implementation, these promotions encouraged the C/P and made them more confident in the project activities.

(2) Hindering Factors

- **Climate Change:** The climate condition in the dry season is hindering the smooth operation of the project activities such as on-site training and yield, especially in the Northern region.
- **Delay in release and decrease of the budget:** Delay in release of the budget by the Central and District Government, which is not dealt with Output1 activities, are sometimes caused a delay in the establishment of demo plots and the subsequent extension activity. In most MMDA, the priority of the governmental budget is given to the COVID-19, prevention measures in 2020. Consequently, the budget for rice extension activity is decreased, and it can hinder the implementation of the planned extension activity and thereby technology dissemination.

4-3 Efficiency

The efficiency of the Project is evaluated as “**High**” with the consideration of the following findings

4-3-1. Achievement of Output

As described in 3-4, most of the Outputs were almost achieved.

⁶ For the farmers in the Northern region, the establishment of the Avnash Rice milling plant has caused a surge in demand for their paddy which is cascading into increased prices for farmers (source: interview with target farmers in Northern region). (<http://royalfarmers.avnash.com/>)

Output1 already achieved as all the target districts made the District Extension Plan, and most District prioritized rice production and budgeted for the extension activity. As for Output2, the Project conducted training based on the Extension Guideline. Since 2018, the Project has set 251 demo plots in the community of target districts even the limited budget from the MMDA. This success of the demo plot led to an increase in the number of target farmers. M&E training for Output3 was conducted along with rice cultivation training, which reduced the operation cost of the Project. As for Output4, the demo plot showing the double yield comparing to the yield with the conventional techniques, stimulated farmers to apply the introduced techniques for their plots.

4-3-2. Inputs

(1) Japanese Side

The dispatch of the Japanese experts was effective in terms of the number, their expertise, and the timing of the allocation. Even though they had to work remotely in Japan after the COVID-19 outbreak in 2020, they have continued to develop materials with close on-line communication with the C/P. The training in Japan was an effective opportunity for the C/P to learn the Japanese rice cultivation method, as well as the rice extension system in Japan. Machinery for rice provided by the Project is effectively used for the introduced techniques for rice cultivation.

The total original budget of the Project was 528,199,000 JPY (5,012,421 USD). It is projected that the total disburse amount under Project during the original Project period will be 737,719,000 JPY (7,000,692 USD), corresponding to 140% percent of the budget.

(2) Ghanaian Side

Total forty (40) counterpart personnel from DCS, RAD, DAD. The duties of the staff posted to other regions/districts were appropriately taken over.

DCS provided the Japanese experts and national staff with office space. MoFA/DCS has disbursed 101,598 GHS up to the end of April 2020 to cover rice extension activities in the two regions.

4-3-3. Important Assumptions from Activities to Outputs

(1) The mechanism of decentralization is not changed.

【Fulfilled】

The mechanism of decentralization has not been changed during the project period.

(2) The District Assembly keeps holding the delegated authority and responsibility from central.

【Partially not fulfilled, but measures were taken by the Project】

There have been divisions of the districts (six districts are newly established by being divided from the target districts) and posting of senior MMDA officers to other district, which caused delays in budget allocation. The Project minimized the effects of those changes by frequently visiting and explaining to the senior officers importance of rice extension activity and by establishing demo plots with its budget.

4-4 Impact

The impact of the Project is evaluated as “**Relatively High**” based on the following findings:

4-4-1. Prospect of Achievement of the Overall Goal

As stated in 3-5, it is assumed that the Overall Goal will be partially achieved after three years of the Project end.

4-4-2 Important Assumptions from Project Purpose to Overall Goal

(1) MoFA conducts the implements the extension service delivery, in cooperate with the other District Assemblies.

【Will be Fulfilled】

The PCU members in the two RADs supported by the MoFA will continue the Project activity and support the District Assemblies and DADs as a part of their regular duties.

4-4-3. Positive impact on policy, institution

Considering the achievement of the Project, DCS now regards JICA as the main Development Partner to promote rice production in Ghana, expecting it to lead the doner coordination nationwide among the DPs’ programs with similar objectives.

4-4-4. Positive Impact on Technology

The contents of training provided by the Project were appropriate and applicable to farmers to the increase of rice yield. Not only the target farmers in two regions but also non-target farmers who saw the demo plot applied the showcased techniques. DAD officers in Upper West region participated in the Training of Trainers (TOT) in Northern region and conducted extension activities there by using the Extension Guideline. In Ashanti region, CP transferred the techniques in non-target districts.

4-4-5. Positive Impact on Environment, Economy, and Society

The Project contributed to upgrading the livelihood of small-scale farmers in both regions⁷. The target farmers increased their rice yield and income by improving their cultivation and marketing skills through participating in the training on land preparation, seed selection, proper seeding rate, proper timing of fertilizer application, negotiating for a better price of agricultural inputs, and marketing of rice. The Project also had a positive impact on women's empowerment. The Project developed the capacity of female AEAs through joint and on-site training. Those female (and also male) AEAs provided training to female farmers and introduced the technologies. As a result of training, there was a women farmer group formed in the Ashanti region, which opened a bank account to jointly demonstrate the rice cultivation activity.

The Project also promoted nutrition improvement through rice to the target farmers based on the nutrition assessment survey on parboiled rice consumption. The Project encouraged 40% female farmers’ participation

⁷ Farmers with land holding less than 2 hectares. Farmers in the Northern region fall in the category of the second highest poverty level in Ghana (61.1%) according to the Ghana Living Standards Survey (GLSS, 2017).

in groups and nutritional improvement targeting the vulnerable in the society including children in Northern region. Two rice recipes were introduced to make farmers aware about the nutritious aspects. This led more consumption of rice and is expected to accelerate more rice production in future.

4-4-6. Negative Impacts

The Team has not observed any negative impact of the Project at the time of the evaluation.

4-5 Sustainability

The sustainability of the Project is evaluated as “**Relatively High**” based on the following finding:

4-5-1. Laws and Policies

As stated in the above 4-1 (Relevance), the agriculture policy such as the PFJ under the METASIP III, is strongly promoting the increase of Ghanaian rice production through the Decentralized Departments of Agriculture i.e RAD of the Regional Coordinating Councils) and the DAD of the Assemblies and MoFA views that the policy will continue to support the rice value chain in Ghana.

4-5-2. Institutional Aspect

The ex-C/Ps of the Project, who were promoted as DDA, are the motivators to use the Extension Guideline in their new command areas. However, after the PCU will be dissolved after the Project completion each C/P continues the extension activities in the original workplace. The absence of function of PCU may affect the continuation of the project effects.

4-5-3. Financial Aspect

Annual budget document of DCS shows that there are some budgets available for the Rice Extension. DCS expressed its commitment to allocate the budget. However, the cost for the TOT ⁸ has been borne by JICA’s budget. The whole budget allocated in the agricultural sector in the Ashanti region corresponds to third of it or the same amount at most, while that in the Northern region is less than in the Ashanti region. Situations in the North East region and Savannah region, which are newly established regions, are worse than them. At the same time, as stated in the achievement of Output1, MMDA strove to allocate its budget with the support of DCS. The continuous budget allocation and disbursement from MMDA is the key for sustainable activities for rice extension in the field. For the continuation of the monitoring and backstopping by RAD, it can be noted that PCU raised their suggestions that MMDA could include the travel cost of RAD officers in the budget to visit demonstration plots.

4-5-4. Ownership of stakeholders

The ownership of DCS, RAD, and DAD are observed. Farmers in both regions expressed their willingness to continue to apply the transferred techniques for rice cultivation. Under the circumstance of COVID-19,

⁸ It costs GHC14,000-GHS16,000 to hold each trainer training seminar.

the Ghanaian C/P proved that they implement the project activities with limited support from the Japanese experts from Japan.

4-5-5. Technical Aspect

The RAD is confident in using the Extension Guideline as a technical backstop and trainer for DAD after the project completion. DAD also expressed that they would continue to follow the Guideline as the extension tool.

Both regions consider that small farm machinery, complete land development for small irrigation schemes with machinery from land preparation to harvesting and storage will be effective to cultivate larger land for rice production with less labor work.

Techniques in the Extension Guideline has already been applied in PFJ and the projects supported by other Development Partners (DPs) such as GIZ in other regions. Therefore, it is highly expected that the techniques will be spread out.

Chapter 5. Conclusion

In line with the policy and programs of the GoG and GoJ, the Project has met the needs of the Ghanaian C/P and small scale rice farmers in Northern and Ashanti regions. Considering all the achievements and on-going activities, the Project is expected to achieve its goals. Most of the other Technical Cooperation projects usually see budget allocation and budget implementation as Important Assumptions, focusing on the provision of technical assistance and support for C/P to implement policies. The Project was ideally designed, challenged, and accomplished to secure sustainability by making the Extension Plan, encouraging execution of the budget based on the plan, and carrying out M&E in decentralized authorities.

The Project was implemented efficiently by trying to improve the outcomes of phase 1 utilizing the experiences and resources of phase 1, particularly the human resource. For example, the Extension Guideline made in phase 1 was improved. The selection of regions was strategic in terms of expecting national expansion, which guaranteed relevance and sustainability. Technology transferred by the Project was adopted by farmers for management of fields, selection of seeds, and application of fertilizer and the Guideline, which RAD and DAD used as a primary guide, is widely used. In addition, the Project advocated the value of rice in terms of nutrition and promoted the consumption of rice introducing processed parboiled rice, which was strengthened by the booming of Ghanaian rice. The market environment and the project activities motivated rice farmers.

There were both negative and positive impacts of COVID-19. Dispatch of Japanese experts was canceled, and farmers were reluctant to visit their fields due to the limitation of travel. Well-scheduled cultivation activities promoted by the Project faced challenges because the accessibility of inputs decreased. On the other hand, competitiveness against imported rice improved because the price of imported rice rose and the need for domestic rice increased in terms of quantity and quality. C/P is trying to carry out activities by themselves while Japanese experts are not able to visit there. This demonstrates the sustainability of the Project.

Chapter 6. Recommendations

The Evaluation Team made the following recommendations, which are expected to materialize before the end of the Project period based on the results of the evaluation.

6.1 Extension of the project period

(The Project) It is recommended to extend the Project for three months to catch up on delayed activities due to COVID-19, and carry out additional activities, collecting end-line data and data for the annual project report, and several final events upon completion of the Project. Based on these activities, confirmation of achievement of the indicator is expected to be completed.

6.2 Revising PDM to indicate the more feasible future direction

The Survey team and the stakeholders of the Project discussed about the contents and target figures, means of verification and Important Assumptions of the current PDM. Considering the present achievement of the Project and prospect three years after the Project end, the Evaluation team recommends the Project to revise the PDM as follows.

Current PDM	Recommended revise	Reasons of revision
<p>【Indicator_2 of Overall 】 Rice production in rain-fed lowland increases from 33,000 tons to 89,000 tons in Ashanti region and 191,000 ton to 507,000 tons in Northern region from 2016 to 2023.</p>	<p>Rice production increases from 33,000 tons to 89,000 tons in Ashanti region and 190,000 ton to 467,000 tons in Northern, North East and Savannah regions from 2016 to 2023.</p>	<ul style="list-style-type: none"> • The forecast of the rice production in from 2016 to 2023 will be 467,000 tons⁹ in Northern, North East and Savannah regions. Considering the feasibility of achievement, the target figure is recommended to be modified as the forecasted figure. • The area of rain-fed lowland should be deleted since MoFA will capture the whole rice production including irrigated and rain-fed lowland area in 2023.
<p>【Means of Verification for indicator of Overall Goal】 Survey by MoFA/DCS</p>	<p>Result of M&E</p>	<p>Based on the achievement of the Project, it is possible for MoFA/DCS to extract the rice cultivation volume by using the M&E tool without conducting a survey.</p>

(source: the Evaluation team)

6.3 Actions to be taken for budget assurance

(1) MoFA is expected to facilitate the stakeholders to decrease excessive dependence on financial support

⁹ Refer to the calculation in the Impact.

from DPs. MoFA is also expected to continue dissemination of the Extension Guidelines to other regions.

(2) MoFA and RAD are responsible for monitoring and providing technical assistance for DAD as a backstop of extension work. A budget needs to be secured for these tasks, and to materialize it, the good practice of MMDA, including the traveling cost for monitoring and technical assistance, should be widely disseminated by MoFA and RAD.

(3) Delay in the budget release has been affecting minus impact on the extension activities in the field. It is strongly recommended for Ministry of Finance with the support of the Project, to clarify the critical points that cause delays in transfer to MMDAs and develop solutions by the end of the Project.

(4) It is recommended for RAD to provide the budget officers of MMDA with the opportunity to enhance their knowledge about rice production so that they can understand the value and importance of rice extension activities. It is also recommended for RAD to start seeking for other budget source such as PFJ budget, reviewing and discussing with NGOs about the present situation and continuation of rice production with utilizing the outputs produced by the Project. Budget from the Modernizing Agriculture in Ghana (MAG) funded by the Government of Canada, can be utilized for the ordinary extension activities which contains the techniques of the Project.

It is advisable in the long term that the MMDA increase the portion of the IGF in its revenue, with a gradual decrease in financial support from DPs. To achieve this, it is recommended for DAD to present the evidence with figures, which indicate that an increase in rice production will lead to a rise in tax income so that the MMDA will convince the Ministry of Finance to increase the allocated budget for continuous rice extension activities.

6.4 Actions to be taken for continuation of institutional strengthening

It is expected to consider developing extension structure after the end of the Project for sustaining the activities. The Research-Extension-Linkages-Committee (RELC), which offers the opportunity for rice-related stakeholders such as RAD, DAD, research institute, and GIDA, to exchange their views and progress of their activities regarding rice extension as the Technical Committee (TC) of the Project. It is recommended for RAD and DAD to continue to hold the RECL. Since the web meeting, due to COVID-19, enabled stakeholders in the GoG to meet without transportation. the RELC meeting is expected to be held efficiently by using web meeting tools after COVID-19.

Chapter 7. Lessons Learned

It should be noted that the Japanese experts and Ghanaian C/P made an outstanding effort in promoting rice production methodology and empowering human resources in the planning and budgeting system of local government. There are good lessons to be learned for similar technical cooperation projects as stated below.

(1) Promotion of agricultural projects not relying on the budget of development partners

The Project required the MMDA of the budget for the rice extension activities. It was a good effort that the project team tried to ensure the sustainability of the project implementing capacity building on budgeting and extension activities considering the crop calendar and process of budgeting in decentralized authority because it decreases dependence on the financial support of the DPs. In fact, the TC functioned effectively to facilitate consideration of both budget planning process and identification process of the Project activities.

The increase in rice yield and rice sales in the market leads to an increase in the tax income of the district government. If MMDA can prove it, this lesson can be transferred to other crops, apart from rice. However, it is also challenging to encourage MMDA to release the budgets for rice extension activities, while other DPs continue to provide financial support. When design of the upcoming rice-related project in Ghana will be concerned, it is expected to discuss the necessity and possibility of assistance by utilizing the knowledge and experiences obtained in the Project on the Extension Activity Plan, budget allocation, disbursement, implementation, and monitoring for further dissemination in other regions.

(2) Development of the Extension Guideline aiming at nation-wide dissemination

One of the Project's policies is the promotion of various stakeholders' participation in the dissemination of the Extension Guideline nationwide. The Project focused on the implementation of the plan and activities to promote budget allocation for extension activities, reinforcing the linkage among planning, budget allocation, implementation, and M&E within the district governmental institutions instead of spending time on activities to receive official approval that usually takes time. The Project also included PCU members in Northern and Ashanti regions to elaborate the Extension Guideline from that of Phase-1, by taking time along with their understanding of the need for improvement. This process enhances the ownership of C/P for the product.

As a result, the Extension Guideline from the Ashanti region became applicable to the south of Ghana and that from the Northern region was applicable to the north of Ghana. The posted ex-C/Ps already introduced it in the Central Region of the south and the Upper West Region of the north. The dissemination by these ex-C/Ps can be a good practice for similar projects that develop guidelines and manuals and intend to expand it nationwide.

Considering its applicability, other programs of DPs (such as GCAP) will likely use the Extension Guideline in their target area. When the design of the upcoming rice-related project in Ghana will be concerned, it is also important for MoFA to facilitate DPs to consider the characteristics of each region when expanding the Extension Guidelines nationwide.

(3) Elaboration of M&E tool for wide application

The M&E tool is currently under development as a tool to properly inform MMDA of the situation in the fields. Applicability for users will be high because it has been improved following the existing monitoring system. Proper monitoring enables the district government to make appropriate budget allocations and DPs to understand their activities. Therefore, it can be said that the development process of the M&E tool is valuable for technical cooperation projects not only in the agricultural sector but also in other sectors.

Moreover, if the upcoming rice-related project covers wider area, and continue to use the M&E tool, there can be a more efficient way of monitoring activities utilizing ICT such as mobile phones and tablets in the M&E tool after considering the conditions of mobile or internet connection.

(4) Effective use of demonstration plots

The Project's demonstration plots played a large promotional role on technology dissemination because farmers who saw increased rice production at the demo plots were motivated to apply the same technology at their lands. The tactical selection of location for demonstration plot is needed to be consider to maximize its effect.

(5) Market-oriented rice cultivation

Farmers are motivated to continue rice cultivation that utilizes new technology by increasing the income generated from an increasing surplus of cultivated rice and sales of rice. Although the cultivation of rice was for self-sufficiency before the Project started, rice is now regarded as a cash crop in Ghana. Farmers' experiences of increasing income together with appropriate technology are crucial for the promotion of extension activities. This means that it is necessary to consider assistance for the whole value chain building linkage between farmers and the market, including upgrading the rice mill operation. The Project is valuable to other similar projects on rice because it showed the applicability of the SHEP approach¹⁰ of JICA into rice, which has been developed through horticultural crops. The Project also promoted parboiled rice to improve the nutritional status of people in the Northern region. This activity also stimulates consumers to buy more rice, which leads farmers to grow more rice.

(6) Introduction of machine and small-scale land development

When farmers learn how to cultivate more rice and generate more income from rice production, they would like to expand their cultivation. To realize this, farmers' needs for machinery have become stronger. For the Northern region with a harsh dry season, stable water is indispensable for stable rice production. To roll out the benefits of the Project in a wider area, the introduction of applicable machinery and small-scale land development can be one of the options to discuss for the upcoming rice-related project in Ghana. In the course of introduction of machinery, the Extension Guideline should be upgraded further in the mechanization

¹⁰ The SHEP (Smallholder Horticulture Empowerment and Promotion) approach has spread widely in Africa including the GoG a through the governments' initiatives. The concept of the SHEP is thinking from the economic theory "grow to sell" and based on a psychological theory "a mechanism for unlocking farmer motivation". (source: JICA website)

process, as the Extension Guideline fine-tuned by the Project contains mainly rice cultivation techniques which require mainly manual labour. In addition, setting a revolving fund system can be considered with the detailed feasibility survey on mechanization to capture the situation, need of farmers, as well as accessibility to possible machinery.

ANNEXES

1. The current PDM (version 2 as of December 2019)
2. The current PO (attached in the Monitoring Sheet ver.8, February 2020)
3. Evaluation Grid
4. Proposed PDM (Version 3)

Annex 1 Revised.

The Project for the Sustainable Development of Rain-fed Lowland Rice Production Phase 2 (“Tensui 2”)

Project Area:	Rain-fed Lowland in Northern Region and Ashanti Region
Term of Cooperation:	Five (5) years (April 2016 – February 2021)
Implementing Organization:	Directorate of Crop Service, MoFA
Beneficiary:	MMDAs, 490 RAD and DAD staffs (including Crop, Extension and WIAD officers in Project MMDAs), 11,700 small scale rice farmers in the target area of the Project

PDM

Ver. 2 (dated on December 2019)

NARATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Overall Goal Domestic rice production is increased.	<ul style="list-style-type: none"> 35 MMDAs in Ashanti and Northern (now North East, Savannah and Northern) regions apply the Extension Guideline for developing the productivity of rice. Rice production in rain-fed lowland increases from 33,000 tons to 89,000 tons in Ashanti region and 191,000 ton to 507,000 tons in Northern region from 2016 to 2023. 	<ul style="list-style-type: none"> Survey by MoFA/DCS 	
Project Purpose The rice cultivation practice based on the Extension Guideline developed in Phase 1 is disseminated in 35 MMDAs of Ashanti and Northern Regions.	<ul style="list-style-type: none"> The yield/ha of farmers who have applied the techniques in the Guideline increase 100% of the yields before the application¹. <p><i>*1: Indicative target yields are 4.0 ton/ha in Ashanti and 3.0 ton/ha in Northern Region (NRDS average target: 3.5 ton/ha) respectively. This targets are subject to change according to the review of NRDS targets.</i></p>	<ul style="list-style-type: none"> Project Final Report District Rice Extension Plan developed by District Assemblies in project MMDAs 	<ul style="list-style-type: none"> MoFA conducts the implements the extension service delivery, in cooperate with the other District Assemblies.
Outputs of the Project			
1. Target MMDAs increase the capacity to develop their District Rice Extension Plan and to estimate needed budget for its implementation.	1.1: District Rice Extension Plan in respective Project MMDA is developed. 1.2: <u>Districts are sensitized to incorporate rice extension plan into District Medium-Term Development Plan (DMTDP).</u> 1.3: Needed expenditure for providing extension services is budgeted.	<ul style="list-style-type: none"> District Rice Extension Plans developed by District Assemblies in project MMDAs. Budget estimation made by District Assemblies in project MMDAs. 	<ul style="list-style-type: none"> Trained farmers do not migrate. Trained AEAs are not transferred to other regions. Price of domestic rice does not decline drastically. Climate does not change sharply.
2. Using the extension guidelines, the trainings are conducted in target MMDAs.	2.1: <u>5 times a year per district</u> of the trainings for farmers and concerned stakeholders along with the Extension Guideline are carried out. 2.2: <u>490 of DAO and AEAs are trained. 11,700 farmers are trained.</u>	<ul style="list-style-type: none"> Project Annual Report District Rice Extension Plans developed by District Assemblies in project MMDAs. Project Final Report 	
3. The capacity of RAD and DAD regarding monitoring and evaluation is increased.	3.1: The monitoring and evaluation system is established. 3.2: <u>1 time a year per region</u> of the trainings about monitoring and evaluation for target RAD and DAD officials are carried out.	<ul style="list-style-type: none"> Project Annual Report Project Final Report 	
4. The Extension Guideline is fine-tuned.	4.1: Comparing with the Phase 1, the rate of population who apply the technics in the Extension Guideline is increased by <u>5%</u> .	<ul style="list-style-type: none"> Project Annual Report Project Final Report 	
Activities of the Project		Inputs	
1.1 To study the planning process and the decision making done by target MMDAs respectively 1.2 To present the Project Framework and the output produced by Phase 1 to the members of MMDAs and officials (DCD, DDA and other Agriculture Sub-Committee members) 1.3 To conduct trainings of needs analysis, resource analysis, planning, budgeting and monitoring for the member of MMDA and officials (DCD, DDA and other Agriculture Sub-Committee members) 1.4 To support each District Assembly in target MMDAs to make District Rice Extension Plan and a budget estimation 1.5 To strengthen the linkages between MMDAs and Central Government (MoFA and MoLRD) through periodical reporting and meeting 1.6 To review the progress of the plan and financial management 1.7 To renew District Rice Extension Plan and budget estimation based on the performance of the previous year. 2. 1 To study natural condition of potential valleys for implementing the Project 2. 2 To select target communities and farmers, and then to sensitize and group them 2. 3 To set up demonstration plots 2. 4 To conduct a baseline survey about land holdings, farm management, market, post-harvest processing, gender and so on 2. 5 To conduct trainings for RAD staff, DAD staff and farmers in line with the Extension Guideline 3.1 To conduct monitoring activities of the Extension Guideline, using existing monitoring system via MoFA MIS and/or MoLRD (“monitoring system” means the structure, methodology and data formats) 3.2 To review and assess the effectiveness and efficiency of existing monitoring system and tools 3.3 To improve monitoring/reporting structure from field level to national level 3.4 To improve a set of monitoring/reporting formats (qualitative and quantitative data) and tools 3.5 To conduct trainings of monitoring and evaluation practices for RAD staff and DAD staff 4. 1 Through monitoring the extension activities, to identify the techniques that farmers found difficulties to apply 4. 2 To assess the reasons why the difficulties occur 4. 3 To examine if each skill in Extension Guideline needs to be modified (i.e. for women specification) 4. 4 To develop more appropriate skills through learning by doing process 4. 5 To revise the Extension Guideline and training materials 4. 6 To arrange dissemination workshops and public relation activities for the other MMDAs 4. 7 To support MoFA’s effort to mainstreams the Extension Guideline in national rice policies		1. Ghanaian Side a. Human Resources Counterpart personnel b. Physical Input Office spaces for PCU in Ashanti and Northern c. Financial Input Counterpart Fund 2. Japanese Side a. Human Resources: JICA will dispatch a professional team to achieve the project purpose. The team will include the following specialities: extension, evaluation and monitoring system, local governance, rice cultivation and others. b. Physical Input Materials, tools and equipment for implementing the Project c. Other Training in the other countries and/or Japan	<ul style="list-style-type: none"> The mechanism of decentralization is not changed. The District Assembly keeps holding the delegated authority and res <p>Preconditions:</p> <ul style="list-style-type: none"> Security is maintained. Economic situation is not worse sharply. The policy favourable for domestic rice promotion is not changed.

AEA: Agriculture Extension Agent
 DAD: District Agricultural Department
 DAO: District Agriculture Officer
 DCS: Directorate of Crop Service

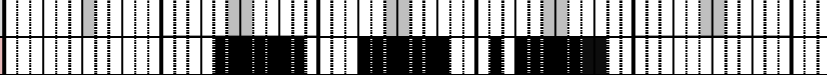
DCD: District Co-ordination Director
 DDA: District Director for Agriculture
 MMDAs: Metropolitan, Municipal, District Assemblies
 MoFA: Ministry of Food and Agriculture

MoLRD: Ministry of Local Government and Rural Development
 RAD: Regional Agricultural Department
 WIAD: Women in Agricultural Development

Project Monitoring Sheet II (Revision of Plan of Operation)

Version 8
Dated 27th April 2020

Project Title:		The Project for the Sustainable Development of Rain-fed Lowland Rice Production Phase 2 ("Tensui 2")																					Monitoring																
Inputs	Plan	2016			2017			2018			2019			2020			21	Remarks	Issue	Solution																			
	Actual	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	11
Expert																																							
Chief advisor/ Monitoring and evaluation		Plan																																					
Deputy advisor / Local governance 1		Plan																																					
Rice cultivation 1		Plan																																					
Local governance 2 / Extension 1		Plan																																					
Rice cultivation 2		Plan																																					
Extension 2		Plan																																					
Equipment																																							
Vehicle 1		Plan																																					
Vehicle 2		Plan																																					
Training in Japan																																							
Counterpart training for the Project		Plan																																					
In-country/Third country Training																																							
Sub-Activities		Plan																			Responsible Organization																		
		Actual																			Japan	GOG	Achievements	Issue & Countermeasures															
Output 1: Target MMDAs increase the capacity to develop their District Rice Extension Plan and to estimate needed budget for its implementation.																																							
1.1 To study the planning process and the decision making done by target MMDAs respectively		Plan																																					
		Actual																																					
1.2 To present the Project Framework and the output produced by Phase 1 to the members of MMDAs and officials (DCD, DDA and other Agriculture Sub-Committee members)		Plan																																					
		Actual																																					
1.3 To conduct trainings of needs analysis, resource analysis, planning, budgeting and monitoring for the member of MMDA and officials (DCD, DDA and other Agriculture Sub-Committee members)		Plan																																					
		Actual																																					
1.4 To support each District Assembly in target MMDAs to make District Rice Extension Plan and a budget estimation		Plan																																					
		Actual																																					
1.5 To strengthen the linkages between MMDAs and Central Government (MoFA and MoLRD) through periodical reporting and meeting		Plan																																					
		Actual																																					
1.6 To review the progress of the plan and financial management		Plan																																					
		Actual																																					

				<p>[2017] - Cycle 1 districts reviewed performance in 2017 through 3rd TC. - After Field Trips, follow-up of the review about rice extension plan, status about district composite budget approval were done.</p>	
<p>1.7 To renew District Rice Extension Plan and budget estimation based on the performance of the previous year</p>	<p>Plan</p>			<p>[2019] Cycle 3 districts prepared plan and presented them in 6th TC.</p>	
	<p>Actual</p>			<p>[2018] - Cycle 2 districts prepared plan and budget for FY 2019 based on the review done in 5th TC.</p> <p>[2017] - Cycle 1 district prepared plan and budget for FY 2018 based on the review done in 3rd TC. - Revised outline of District Rice Extension Plan were developed and distributed to Cycle 1 and remaining Cycle districts.</p>	

Activities Sub-Activities	Plan Actual	2016			2017			2018			2019			2020			21	Responsible Organization Japan GOG	Achievements	Issue & Countermeasures						
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4				5	6	7	8	9	10
Output 2: Using the extension guidelines, the trainings are conducted in target MMDAs.																										
2.1 To study natural condition of potential valleys for implementing the Project	Plan																	[2019] - All 3 TOTs were held for Cycle 3 MMDAs in two regions as planned. - PCU established a training plot in each regions and trained DAOs, AEAs and group farmers. - According to what they learnt in TOT/ OST in a training plot, Cycle 3 MMDAs held JT and OST at the additional demo plots established. - PCU did follow-up visits to Cycle 1-3 demonstration plots	Challenge found in Annual Progress Report 2018 (APR 2018) 2-1 Late preparation and submission of Action Plan (AR). 2-2 Excessive rainfall was recorded in most sites (Kumbungu, NR). 2-3. Delay in harvesting by some training plots (due to social events such as funeral etc. (Savelugu etc.)(NR)) 2-4. Some plots experienced low germination rate by flood (or died after germination due to flood/drought)(NR). 2-5. Levelling was not well achieved in many demo plots(NR) 2-6. Poor understanding of farmers on importance of water management for rice plant (NR)							
	Actual																									
2.2 To select target communities and farmers, and then to sensitize and group them	Plan																	[2018] - All 3 TOTs were held for Cycle 2 MMDAs in two regions as planned. - PCU established a training plot in each regions and trained DAOs, AEAs and group farmers. - According to what they learnt in TOT/ OST in a training plot, Cycle 2 MMDAs held JT and OST at the additional demo plots established. - PCU did follow-up visits to Cycle 1 and 2 demonstration plots								
	Actual																									
2.3 To set up demonstration plots	Plan																	[2017] -All 3 TOTs were successfully held for Cycle 1 districts in two regions. - JTs were implemented in Cycle 1 districts. Farmers were trained through OSTs at demo plots. JTs/OSTs were monitored by PCU. - Field Day was held in Northern Region. New DCE, DCD in Cycle 1 and DDA/DAO in Cycle 2 candidate districts were invited. - Rapid Survey on 2.4 was conducted.	Actions to be taken [Actions against 2-1(Action Plan (AR))] - Let AEAs to practice preparing Action Plan as follow. - More time on Action Plan preparation in the Guidance of JT programme.							
	Actual																									
2.4 To conduct a baseline survey about land holdings, farm management, market, post-harvest processing, gender and so on	Plan																									
	Actual																									
2.5 To conduct trainings for RAD staff, DAD staff and farmers in line with the Extension Guideline	Plan																									
	Actual																									
Output 3: The capacity of RAD and DAD regarding monitoring and evaluation is increased.																										
3.1 To conduct monitoring activities of the Extension Guideline, using existing monitoring system via MoFA MIS and/or MoLRD	Plan																	[2019] - PCU verified and compiled result data in 2018 season that was submitted from Cycle 1 nad 2 MMDAs. - PCU prepared 3rd Annual Progress Report with the data. - M&E tools were revised based on the experience in 2018. - Training has beend conducted in TOT in each regions. Monitoring]	Challenge found in Annual Progress Report 2018 (APR 2018) 3-1 Untimely submission of M&E tools 3-2 The data collected is not well utilized in district M&E system. 3-3 Efforts in demo plots were not well captured in the district report (see examples). 3-4 Decision makers such as DCE and DCD will not be informed about efforts of rice extension.							
	Actual																									
3.2 To review and assess the effectiveness and efficiency of existing monitoring system and tools	Plan																	[2018] - PCU reviewed the existing M&E system and found that "MAG format" was being used as a district reporting format. - M&E tools were simplified and harmonized with the "MAG format". - MMDAs used the formats in quarterly reporting and presented in 2nd and 3rd TOT as well as TC meeting. - PCU has trained RAD and DAO about how to input data into tables in each TOT.	Actions to be taken [Actions to 3-1,3-2, 3-3 and 3-4] - Facilitation to district on where and what collected data to be described. - Sharing good practices.							
	Actual																									
3.3 To improve monitoring/reporting structure from field level to national level	Plan																	[2017] - M&E tools were simplified based on review about existing system. - In the M&E and each TOTs, RAD and DAD were trained. - Cycle 1 districts monitored their rice extension activities in the rice extension plan and submitted Quarterly and Annual reports based on the M&E tools. - Based on the feedback from Cycle 1 districts, the tools were revised. [2016]								
	Actual																									
3.4 To improve a set of monitoring/reporting formats (qualitative and quantitative data) and tools	Plan																	[2017] - M&E tools were simplified based on review about existing system. - In the M&E and each TOTs, RAD and DAD were trained. - Cycle 1 districts monitored their rice extension activities in the rice extension plan and submitted Quarterly and Annual reports based on the M&E tools. - Based on the feedback from Cycle 1 districts, the tools were revised. [2016]								
	Actual																									
3.5 To conduct trainings of monitoring and evaluation practices for RAD staff and DAD staff	Plan																									
	Actual																									
Output 4: The Extension Guideline is fine-tuned.																										
4.1 Through monitoring the extension activities, to identify the techniques that farmers found difficulties to apply	Plan																	Ongoing: [2019] Experience Sharing Workshop was held. Revision of Guideline started based on the experience so far.	Challenge found in Annual Progress Report 2018 (APR 2018) 4-1 TOT/JT/OST Materials were improved and new technics were applied, but they have not been incorporated in the guideline yet.							
	Actual																									
4.2 To assess the reasons why the difficulties occur	Plan																	[2018] - New technics of hot water seed treatment and determination of harvesting date by accumulated temperature were verified through activities. - VC questionnaire survey was conducted. - Based on the survey, in-house training materials on VC were improved. - Improved parboiling method was experimented. - Rice recipes were demonstrated with WIAD (NR)	Action to be taken [Actions against 4-1] - Continue introducing innovative technology. - Revision of a Rice Extension Guideline (PDM item 4.5)							
	Actual																									
4.3 To examine if each skill in Extension Guideline needs to be modified (i.e. for women specification)	Plan																	[2017] - New techniques on rice cultivation were introduced at TOTs. - Training materials on rice cultivation are revised and used for cycle 1 districts. - Training materials on farm management support system were revised, newly added and used for cycle 1 districts.								
	Actual																									
4.4 To develop more appropriate skills through learning by doing process	Plan																	[2016] - Technical Adoption Survey was completed and attached to the Annual Progress Report.								
	Actual																									
4.5 To revise the Extension Guideline and training materials	Plan																	Ongoing: [2018][2017][2016] - Demonstration in National farmers Day in Ashanti and Northern Regions was conducted. [2016]								
	Actual																									
4.6 To arrange dissemination workshops and public relation activities for the other MMDAs	Plan																									
	Actual																									

4.7 To support MoFA's effort to mainstreams the Extension Guideline in national rice policies													- Press tour was held.	
	Plan													Consultation of revised Extension Guideline had started.
	Actual													

Activities	2021												Remarks				
	March			April			May										
	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4					
Technical Committee/ Extension Workshop (February - Early March)																	
Finalization and Approval of the Rice Extension Guideline in MoFA																	Validation WS will be held in November.
Data Compilation and Project Completion Report Writing																	Data Compilation is to be delayed because of the late start of rice cultivation in Ashanti due to COVID-19 in combination with several events after harvest.
Steering Committee (one day in April)																	
Office closure in Ghana																	
Administrative procedure in Japan																	
Admin																	

Evaluation Grid for Terminal Evaluation for the Project for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Performance

Evaluation Questions		Verification of Performance		
		Information needed	Information source	Survey Results
Main Questions	Were the Inputs allocated as planned?	Comparison of plans and results	Project documents (2nd Year Progress Report 3)	The Japanese experts have been dispatched as schedule in terms of quantity and quality. Timing of dispatch was also appropriate. Experts in marketing and farm management who experienced the Phase1, also actively conducted their activities, VC analysis and nutrition improvement. 1st year (2016-4-2017.2) :Chief Advisor/M&E System, Vice Chief Advisor/Rice Development Planning (Rural Administration-1), Rice Cultivation-1, Rice Cultivation Planning (Rural Administration-2/Extension-1 2nd year (2017.4-2020.2) : Chief Advisor/M&E System, Vice Chief Advisor/Rice Development Planning (Rural Administration-1), Rice Cultivation-1, Rice Cultivation Planning (Rural Administration-2/Extension-1, Rice Cultivation-2/Nutrition Improvement-2
	Have necessary equipment been installed/ provided as planned?	Comparison of plans and results	Project documents (Monitoring Sheet Ver:8)	One project office in each Regional Agriculture Office in Ashanti and Northern Regions was established. Equipment and machinery, such as vehicles, photocopyers, desktop computers, projectors, and manual planters, of the total value equivalent to 3,845,648 Japanese Yen (434,670USD) were provided for the project activities as of the end of July 2020.
	Have the installed/ provided equipment been properly used and maintained?	Comments from experts Observation	Experts, MoFA, RAD, DAD	The equipment is properly used and maintained.
	Were the C/P Trainings conducted as planned?	Comparison of plans and results	Project documents	Project dispatched total forty of trainees to Japan from August to September in 2017, October in 2018, and September 2019. The training covered the extension of rice cultivation with collaboration between rural administration and research field, seed extension, stable production of rice, quality improvement, roles and functions of private and public sectors for sales promotion.
	For what and how much were local costs paid by the Japanese side?	Comparison of plans and results	Project documents (Monitoring Sheet Ver:8)	Glfh 2,855,113 (equivalent to JYN65,169,116 up to July 2020) Project covered travel fee (daily allowance, lodging, transportation, fuel and maintenance costs for vehicle, demo plot) and stationaries.
	Has the adequate budget been allocated for project management by the Ghanaian side? Has the allocated budget been efficiently executed?	Comparison of plans and results	Project documents (1st Year Progress Report, Monitoring Sheet Ver:8)	<ul style="list-style-type: none"> Project paid needed cost for extension activities. However, the project cost was not delivered in between the first contact and 2nd contract of Japanese consulting team (March to April in 2017). This caused delay of rice extension activity in Ashanti region.
	Were the C/P and management staff appointed as planned?	Comparison of plans and results	Project documents (RD, Monitoring Sheet Ver:8)	<ul style="list-style-type: none"> A total of eleven (11) counterpart (C/P) personnel from DCS, including one Director of DCS as the Project Director, two Regional Directors in Ashanti and Northern Regions as the Project Manager, and eight officers from each region as the Project Coordination Unit members. Four ex-CP were transferred so far. However, the new CP had basic knowledge of project activities as extension officer. The CP who had worked for the Phase 1 had knowledge and skill in rice cultivation and plot management. They took a lead of CP team, and other CP supported new CPs. Three CP of Project Coordination Unit (PCU) became Director of District Agricultural Directorate. One CP has to bear more than two position in Northern region, which leads concentration of work. Project requested CP make the situation better at Technical Committee
	Were the Project office, furniture, telecommunication network, and facilities equipped as planned?	Observations Conditions of equipment	Project documents (Monitoring Sheet Ver:8)	Two office spaces in both regions were prepared by respective RADs. It was not comfortable to work in the former Northern region's office because an air conditioner had not worked and a rice mill next to the office made it difficult to open windows. When the current office opened in 2019, working condition was improved.

Evaluation Grid for Terminal Evaluation for the Project for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Performance

Verification of Performance				
Main Questions	Evaluation Questions		Survey Results	
	Sub-Questions	Information needed		Information source
Comparing with indicators in PDM, have the Outputs been produced as planned?	Output1: Target MMDAs increase the capacity to develop their District Rice Extension Plan and to estimate needed budget for its implementation. 1-1: District Rice Extension Plan in respective Project MMDA is developed 1-2: Districts are sensitized to incorporate rice extension plan into District Medium-Term Development Plan (DMTDP). 1-3: Needed expenditure for providing extension services is budgeted.			
		• District Rice Extension Plans developed by District Assemblies in project MMDAs. • Budget estimation made by District Assemblies in project MMDAs.	Project documents (Progress Reports)	
		Output2: Using the extension guidelines, the trainings are conducted in target MMDAs. 2-1: 5 times a year per district of the trainings for farmers and concerned stakeholders along with the Extension Guideline are carried out. 2-2: 490 of DAO and AEAs are trained. 2-3: 11,700 farmers are trained.	• Project Annual Report • District Rice Extension Plans developed by District Assemblies in project MMDs. • Project Final Report	Project documents (Progress Reports)
		Output3: The capacity of RAD and DAD regarding monitoring and evaluation is increased. 3-1: The monitoring and evaluation system is established. 3-2: once a year per region of the trainings about monitoring and evaluation for target RAD and DAD officials are carried out.	• Project Annual Report • Project Final Report	Project documents (Progress Reports)
			[Achieved] • All the 35 MMDA budgeted needed expenditure for providing extension services. • 31 Districts disbursed the budget for FY2020.	
			[Achieved] • The Project conducted training 13.8 times/year. (15.5times/year in Ashanti region, 11.9times/year in Northern region)	
			[Achieved] • 1,071 DAO and AEA in total participated the training by 2019. DAO : 146, AEA : 558, total 704 in Ashanti region. DAO : 117, AEA : 250, total 367 in Northern region.	
			[Achieved] • Total 15,435 farmers participated in the training by 2019. 8,912 farmers in Ashanti region, 6,523 farmers in Northern region.	
			[Almost Achieved] • The Project improved the M&E tool for better usage by MMDA in accordance with the existing M&E system that changes every year. The Project will complete the draft M&E tool in 2020.	
			[Achieved] • The Project conducted 3.3 times/region/year in total by 2019. 3.3 times/region/year in Ashanti and Northern regions.	

Evaluation Grid for Terminal Evaluation for the Project for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Performance

Verification of Performance			
Main Questions	Evaluation Questions		Survey Results
	Sub-Questions	Information needed	
	Output 4: The Extension Guideline is fine-tuned.		
	4-1: Comparing with the Phase 1, the rate of population who apply the techniques in the Extension Guideline is increased by 5 %.	<ul style="list-style-type: none"> • Project Annual Report • Project Final Report 	<p>[Achieved]</p> <ul style="list-style-type: none"> • 7.4% increased as average in both regions (74.8% actual increase by 2019) • 4.3% in Ashanti (79.8%), 53.6% in Northern region
Comparing with the indicators in PDM, will objectives of the Project be achieved? ;[The rice cultivation practice based on the Extension Guideline developed in Phase 1 is disseminated in 35 MMDAs of Ashanti, Northern, North East, and Savannah Regions.]	<p>Indicator 1: The yield/ha of farmers who have applied the techniques in the Guideline increase 100 % of the yields before the application(*).</p> <p>•*: Indicative target yields are 4.0 ton/ha in Ashanti and 3.0 ton/ha in Northern Region (NRDS 2009 average target; 3.5 ton/ha). This target is subject to change according to the review of NRDS targets.</p>	<ul style="list-style-type: none"> • Project Final Report • District Rice Extension Plan developed by District Assemblies in MMDAs 	<p>[Expected to be achieved]</p> <ul style="list-style-type: none"> • Comparing the average yield at the Baseline assessment and that of farmers who applied the transferred technique, the yield increased more than expected. The indicator for both regions is expected to be achieved if the same trends continue in 2020, or in other words, unless the average rice yield in the two regions in 2020 decreases below 2.53 ton/ha . However, the figures will be recalculated and evaluated when the data for the year 2020 becomes available after November 2020. <p>Average between 2017-2019 Average in both regions: 2.81 ton/ha (increase tentatively 105 %) Ashanti: 3.47 ton/ha (117 % increase) Northern: 2.21 ton/ha (97 % increase)</p>
Is it expected that Domestic rice production is increased? (Overall Goal)	<p>Indicator1: 35 MMDAs in Ashanti, Northern, North East and Savannah regions*] apply the Extension Guideline for increasing the productivity of rice</p> <p>Indicator2: Rice production in rain-fed lowland areas increases from 33,000 tons to 89,000 tons in Ashanti region and 190,000 ton to 507,000 tons in Northern, North East and Savannah regions from 2016 to 2023.</p>	<ul style="list-style-type: none"> Survey by MoFA/DSC 	<p>[Expected to be achieved](Indicator 1)</p> <p>All the 35 MMDAs have already developed their District Rice Extension Plan. They showed their confidence in the application of the technologies introduced in the Extension Guideline for their rice extension activity.</p> <p>[Expected to be partially achieved](Indicator 2)</p> <ul style="list-style-type: none"> • The MoFA forecasts the rice production in the two regions in 2023 to be 176,000 tons for the Ashanti region and 467,000 tons for the Northern region. According to this forecast, there is a possibility of achievement for the Ashanti Region, while there is little for Northern Region.

Evaluation Grid for Terminal Evaluation for the Project for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Implementation Process

Implementation Process				
Evaluation Questions		Information needed	Information source	Survey result
Main Questions	Sub-Questions			
<p>Were activities implemented as planned?</p>	<p>Have the Project activities been implemented in line with the PO?</p>	<p>Comparison of plans and results PO</p>	<p>Experts, Ghanaian stakeholders (MoFA, RAD)</p>	<p>In Ashanti region, the seeding was delayed two months because the COVID-19 occurred at the time of training and rice cultivation. Baseline data and end line data take longer time to collect. Limit of budget disbursement, work from home and limitation for holding workshop cause extension activities may lead effects to yield and production, even though it is not visibly observed yet.</p> <p>The presidential election in December 2020 effects to collect data for preparing the project annual report</p>
	<p>Was there any effect from revising PDM?</p>	<p>Effects of revising PDM to project management</p>	<p>Experts, Ghanaian stakeholders (MoFA, RAD)</p>	<p>N/A</p>
<p>Is there any problem in the measures to transfer skill/knowledge/techniques?</p>	<p>Measures to transfer skill/knowledge/techniques</p>	<p>Opinions from C/P & T/G on appropriateness of LF system</p>	<p>Project documents, Experts, Ghanaian stakeholders (RAD, DAO, AEA), Training institutes</p>	<p>Ashanti region and Northern region were selected as project site in phase 2 following phase 1. The initial C/P of phase 2 was highly motivated with the doubled production in phase 1.</p> <p>One of the objectives in phase 2 was dissemination of the Rice Extension Guideline. It was meaningful to disseminate it based on experiences in phase 1 because the selected districts in phase 2 were not included in phase 1 and C/P stepped up from technology development to extension.</p> <p>Selection of target farmers was reasonable. C/P let community leaders know objectives of extension and a clear standard of selection before selecting target farmers from those who agreed with the objectives and the standard.</p>
<p>Is there any problem in the project management system (monitoring system, decision-making process, functioning of JICA Ghana office, communication mechanisms among project staff)?</p>	<p>Does JICA HQ and JICA Ghana Office promptly adjust project activities, provide advice, and communicate with related agencies based on the monitoring result? How is the Project monitored and what is improved as a result of the monitoring? Issues of the monitoring and actions to be taken to deal with the issues</p>	<p>Opinions from Experts & the staff in charge of the project in JICA HQ and JICA Ghana Office</p>	<p>Project documents (Monitoring Sheets), Experts, JICA HQ, JICA Ghana Office</p>	<p>The Project periodically report to the JICA HQ, as well as visit JICA Ghana Office when the Japanese experts start and end their task in Ghana. The JICA Ghana Office attend the SC, TC, and even visit the field. The Ghana Office accelerated communication among DPs and stakeholders.</p> <p>Project Managers and PCU members (Ghanaian C/P and JICA experts) submit the Work Plan, the Monitoring Sheet on a semi-annual basis and the Annual Progress Reports to MoFA as well as JICA Ghana Office.</p>
		<p>Opinions from Experts S/C Minutes Minutes of regular meetings, Activity records, Monitoring Sheets</p>	<p>Project documents (Monitoring Sheets), Experts, Project stakeholders, Other monitoring records</p>	<p>The Project received comments from the Ghana Office to the Monitoring Sheet, appropriate feed back by mail and phone.</p> <p>Steering Committee (SC), as the highest decision-making mechanism of the Project, chaired by the Chief Director of MoFA, has been held five times to endorse the plan and decide on the issues related to the Project implementation, including the revision of PDM. The first SC held suggested RCC should be added to the SC members. This addition of the SC membership contributed a lot to smooth project implementation, especially to achievement of Output 1 indicators, which required administrative support at the regional level in the two regions</p> <p>Under the SC, the Technical Committee (TC), composed of the project stakeholders, was organized as the reporting and presenting the Project activities, and discussing technical issues annually. The Project has held eight times of TC in each region since its commencement up to January 2020.</p>

Evaluation Grid for Terminal Evaluation for the Project for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Implementation Process

Implementation Process				
Evaluation Questions		Information needed	Information source	Survey result
Main Questions	Sub-Questions			
Do the implementing agency and C/P well understand/actively participate in the project?	How well does C/P recognize the Project activities?	Opinions of RAD and DAD	Project documents, Ghanaian stakeholders	N/A
	Does T/G actively participate in the activities?	Opinions of MMDAs staff, RAD staff, DAD staff, rice cropping farmers in target districts	Project documents Experts Ghanaian stakeholders (MMDAs, RAD, DAD, Farmers in target districts)	<ul style="list-style-type: none"> The CP actively participated in the project activities. MoFA and Regional Coordination Committee (RCC) disbursed 101,958GHC. They dispatched CP to other project to provide technical instruction. Director of regional agriculture Directorate often visited plots in target district to monitored the activities, and supported stakeholders.
Are appropriate personnel assigned as C/P?	Are the C/P (RAD and DAD) appointed as planned?	Staff allocation	Project documents Experts Ghanaian stakeholders, (DAD)	<ul style="list-style-type: none"> The Project established the Project Coordination Units (PCU) in both Ashanti and Northern Regions consisting of three to five RAD officers in charge of different project activities of scheduling, rice cultivation, land development, extension, and M&E. The 2 PCUs functioned for smooth implementation of the Project and shared information and experience through the Project activities with target districts in each region. The promotion of the former Director of District Agricultural Directorate encouraged other Directors of District Agricultural Directorate.
	Are the number of C/P, their roles, positions, capacity and assignment relevant?	Opinions of stakeholders	Project documents Experts, Ghanaian stakeholders, (DAD)	<ul style="list-style-type: none"> Currently some CPs in Northern region are assigned for 2 positions at the same time. However, it has been confirmed that the RAD will assign additional CP members soon to solve this issue.
	Which organizations are involved in this project other than the direct beneficiaries? How deeply are these organizations involved?	Name of organizations and their activities deeply involved in the project other than T/G	Project documents Experts, Ghanaian stakeholders (MoFA, RAD, DAD, MMDA, MoLGRD), JICA Ghana office	N/A

Evaluation Grid for Terminal Evaluation for the Project for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Implementation Process

Implementation Process				
Evaluation Questions		Information needed	Information source	Survey result
Main Questions	Sub-Questions			
Did the Project take appropriate actions to respond to recommendation from the Project Formulation Survey Mission?	Did the Project take appropriate actions to respond to recommendation from the Project Formulation Survey Mission?	Current status of the Project's actions to recommendation from the PFS Mission 1. Establishment of M&E system 2. Establishment of PCU at RADs 3. Standardization of Extension Guideline 4. Securing the C/P fund 5. Intra Cooperation among JICA Rice-Cropping and Rural Development Programme Projects	Experts, JICA HQ, JICA Ghana office	<p>1) The Project should take regional characteristics into consideration for revision of the Extension Guideline with using audio materials, address the challenges in gender issues: The Project prepared materials for officers that take characteristics of Ashanti region and Northern region. The material introduces good practices of gender issue so that female farmers can refer.</p> <p>2) The Project should implement market oriented agriculture training, promote quality control in the processing: The Project added marketing into training material for farmers. It promoted understanding consumers' needs, application of the improved technique for producing competitive high quality rice. The District Agriculture Officers and AEA conducted survey for VC stakeholders, and provide instructions on marketing.</p> <p>3) Development of the M&E tool: The Project identified the existing M&E system including information transfer. Based on the findings, they Project improved the M&E system, including human resource development.</p> <p>4) The Project should roll out extension in decentralization. To realize it, it should promote MMDA to prioritize rice production in the development plan, assure validity in policy and budget for activity: The Project reflected District Mid-term Development Plan to annual budget in accordance with the regulations of planning and budgeting of the government of Ghana and the direction of decentralization. The Project with CP studied the data and discussed about the importance of the allocation of budget</p>
Are there any other contributing / hindering factors to the Project's implementation process? If yes, why?	Are there any other contributing / hindering factors to the Project's implementation process? If yes, why?	COVID19's effects to the Project, Other contributing factors and/or obstacles	Project documents Experts Ghana office Ghanaian stakeholders Experts	<p>(1) Effects on society and economy: Prices slightly increased due to lockdown. Regulations were gradually released and life in Kumasi is almost as normal as before COVID-19.</p> <p>(2) Effects on rice farming: Blocked border made imports of inputs such as fertilizer and seeds stopped, which is forcing them to use domestic reserves. It is not clear whether they can deal with it using domestic reserves even after minor season.</p> <p>(3) Effects on target farmers: There is no restriction for farmers to work in their fields while extension workers could not provide farmers with technical assistance due to lockdown and banning on gathering in important season for plowing, raising seedling, and planting in Ashanti region. This can lead to a low rate of establishment of technology.</p> <p>(4) Effects on project activities: The start of planting activities was delayed in Ashanti region because schedule of training and planting coincided with pandemic of COVID-19. It is not clear at the moment, but low yield and production are expected because of changes in budget, increase of work from home, and restrictions on workshop.</p> <p>Introduction of audiovisual materials and implementation of remote instruction of planting are being discussed.</p> <p>(5) Effects on achievement of PDM: It is not clear at the moment, but low yield and production are expected because of the lockdown, changes in budget, increase of work from home, and restrictions on workshop.</p>

Evaluation Grid for Terminal Evaluation for the Project for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Relevance

Evaluation Questions		Relevance			
		Judgment	Information needed	Information source	Survey Results
Main Questions Needs Are objectives of the Project appropriate as a measure to solve issues of agricultural and rural development in Ghana at present? Objectives: [The rice cultivation practice based on the Extension Guideline developed in Phase 1 is disseminated in 35 MMDAs of Ashanti and Northern Regions.] contributes to food security and poverty reduction through agricultural development in Northern Regions.] Is the Project still in line with the needs of the T/G (MMDAs staff, RAD staff, DAD staff)? Is the Project still in line with the needs of other relating groups / institutions than T/G and C/P (MoLGRD, Agricultural Machinery Centre) Is the Project still in line with the needs of farmers?	The objectives of the Project [The rice cultivation practice based on the Extension Guideline developed in Phase 1 is disseminated in 35 MMDAs of Ashanti and Northern Regions.] contributes to food security and poverty reduction through agricultural development in Northern Regions.] The Project is still in line with the needs of the T/G The Project is still in line with the needs of relating groups / institutions than T/G and C/P The Project is still in line with the needs of farmers	Agricultural issues in Ghanaian society Missions and Needs assessments of the T/G Changes of needs of other institutions / groups Changes in the needs of LF Farmers	Project documents, Poplcy documents, Experts, Ghanaian stakeholders, JICA Ghana Office Project documents MMDA staff, RAD staff, DAD staff MoLGRD, Agricultural Machinery Centre Project documents, Farmers	In Ashanti region, 43.8% of the economically active population is engaged in agriculture. The cash crops in the region are cocoa, palm. Rice has been produced as the staple food. 51% of the rice producing household is GH¢ 6,571.80 (GLSS-6, 2014) categorized as the poor household. In Northern region, 73.3% of the economically active population is engaged in agriculture, and it is one of the largest production spots in Ghana. However, due to low yield/ha, the farmers' income is below the poverty line with the average of GH¢ 6,571.80 (GLSS-6, 2014). 20 to 25% of farmers' income comes from rice production. the objective of the project to increase the rice yield/ha contributes to food security as well as poverty alleviation in both regions. Improvement of rice productivity through the use of proven technologies has been one of the goals of MoFA's rice self-sufficiency target by 2023 (to be reached to 106%), and the project is contributing to that. N/A -It seems strikingly important to introduce new technology and improve yield for rice development in Ghana, where traditional rice production by smallholders is dominant. Additionally, budget allocation following the plan of MMDA is crucial for sustainable extension activities. • Coordinated Programme for Economic and Social Development Policies 2017-2024 made by the new government sets Transforming Agriculture and Industry as one of the pillars in development policies. In agricultural sector, there are seven pillars; (i) marketing; (ii) institutional reforms; (iii) production efficiency; (iv) postharvest management; (v) cost minimization; (vi) promoting youth in agricultural development; and (vii) enhancing communication. Activities of the project contribute to (iii) production efficiency by disseminating the Rice Extension Guideline. • Improvement of food production and income is the objective of Planting for Food and Jobs (PFI) , which is the second program of GIPAD 2018-2021 (Ghana Integrated Plan for Agri-Food Systems Development) following FA SDEP II. The project is included in the program. Added activities on nutrition is expected to contribute to Programme 4 Emergency Preparedness, Nutrition and Social Protection.	
	Priority Is the Project in line with the direction of agricultural development under the development policies of Ghana?	The Project is in line with the direction of agricultural development under the development policies of Ghana	Position of rice extension in Ghanaian Agricultural Policy	JICA Ghana Office, Ghanaian stakeholders (MoFA), Policy documents	

Evaluation Grid for Terminal Evaluation for the Project for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Relevance

Evaluation Questions		Relevance				
		Main Questions	Sub-Questions	Judgment	Information needed	Information source
	Is the project in line with Japan's country assistance policy and JICA's implementation strategy?	The project is in line with Japan's country assistance policy and JICA's implementation strategy	Japan's country assistance policy and priority areas Role of this project in the rolling plan Contents of assistance in agriculture sector issued in TICAD VII	Japan's Country Assistance Policy (Sep 2019) Rolling Plan (Sep 2019) TICAD VII "Yokohama" Action Plan (Aug 2019)	Survey Results The Project is fully relevant to the latest policy between Ghana and Japan. In the Country Assistant Policy of the Japanese Government (GoI) for the Republic of Ghana (2012), the GoI defines agriculture (rice production) as one of the priority areas in the Basic Policy 'Assistance for the Promoting Dynamic Economic Growth that Benefits the People Widely.' The GoI promotes the Rice Production and Agricultural Development Program, and the Project is an integral part of the Program. The Basic Policy was followed by the Country Assistant Policy for the Republic of Ghana (2019). The Project is regarded as a part of the Assistance Program for Small Scale Farmers in the priority area of the Strengthening Industry Including Agriculture in the Basic Policy of the 'Assistance for the Sustainable and Stable Economic Growth of Ghana.	
Adequacy as a measure	Is strategy of the Project appropriate to tackle development issues in the area of agricultural development?	Target regions were selected appropriately Target districts were selected appropriately Target crop was selected appropriately	Selection criteria Change in the reasons of selection Selection criteria Change in the reasons of selection Change in the reasons of selection	Project Formulation Survey report Project documents Experts JCC Minutes	TICAD VII's Yokohama Action Plan also states that the GOI will promote the CARD (Coalition for African Rice Development) Initiative and dispatch agricultural experts for agricultural production increase and food security enhancement in Africa. The Project selected Ashanti region and Northern region for the Phase 2. At the beginning of the Phase 2, most CP had experience of the Phase 1. They were highly motivated and confident in increase production. Developed technologies for the Northern Region are appropriate for all the parts of the north and that of Ashanti Region are also for the southern part of the country The Project intended to roll out the Rice Extension Guideline developed in the Phase 1 to these target regions. The Project planned to implement its activities in accordance with the Ghanaian system and budget. Since the most target districts were not targeted in the Phase 1, it was meaningful for CP to disseminate what they learned in the Phase 1 Rice is the second most important crop after maize in Ghana due to its level of consumption and geographical coverage in terms of cultivation. The consumption of rice is on the rise due to a rapidly increasing population and progressive change in consumer habits, particularly in urban areas. Ghana still import approximately 50% of the rice that is consumed District government implemented the extension activities following rice extension plan and the Guideline within institutions from planning to monitoring. Demonstration plots established in communities to conduct practical training have limited effect on technology transfer. Surveys on gender was conducted to know characteristics of Ashanti region and Northern region. Materials for local officers were made to introduce good practice on gender. Women were encouraged to participate in training in Ashanti region because those who have right to use lands has responsibility and right to plan, manage, and sell regardless of gender there. Training for the female farmers group was implemented To promote consumption of parboiled rice in Northern region, a cooking recipe which substitutes maize with parboiled rice was introduced to farmers, which received positive comments. Similar activities using brown rice are planned in Ashanti region. To achieve increase of productivity, problems concerned with selection of land to keep enough water, application of fertilizer, and selection of variety were solved.	
	Is the selection of C/P organizations (RAD, DAD and MMDA) appropriate?	C/P institutions were selected appropriately (needs for cooperation were high)	Process of determining the C/P and relevancy of the C/P at present situation	Project documents Experts Ghana Office	RAD, DAD, and MMDA are appropriate as C/P of the Project because they are governmental organization promoting agricultural policies.	
	Is the selection of the target groups (MMDAs staff, RAD staff, DAD staff) appropriate? (target size, gender balance etc.)	The selection of the target groups was appropriate	TOR of appointed staff in each target group Roles in the Project	Project documents Experts Ghananian stakeholders (RAD/DAD)	The Project selected the target farmers in the target district appropriately. There was a clear selection criteria for farmers. C/P informed the community leader about the objectives of rice extension activities and group selection criteria. The Project selected some communities and groups after informing the objectives of rice extension and group selection criteria to the community leaders.	

Evaluation Grid for Terminal Evaluation for the Project for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Relevance

Evaluation Questions		Relevance				
		Information needed	Information source	Survey Results		
Main Questions	Sub-Questions					
	Is any spillover effect seen on non-T/G?	Some spillover effects have been seen in non-T/G	Project documents Experts Other stakeholders than T/G	<ul style="list-style-type: none"> It is observed that farmers living around target farmers apply improved technology in their fields. 		
	Are Japanese technologies effective? (is the know-how of the necessary technology accumulated? Can Japanese experiences be effectively utilized?)	The Japanese technologies transferred are effective	Utilization of experiences accumulated from relevant projects, utilization of the know-how	Project documents Experts	<ul style="list-style-type: none"> (1) Selection and sterilization of seeds: Salt solution is used to omit improper seed and select quality seed. Hot water treatment is used to prevent them from diseases such as rice blast and omit factors decreasing yield. (2) Improvement of quantity and time of fertilizer applied: Restraints on quantity of fertilizer prevented them from rice blast and decrease of yield. (3) Securement of appropriate planting corresponding to target yield: A certain amount of yield was secured by increasing planting density. 	
	Is there any significant change in Japan's development policy for Ghana?	Confirmation of Japan's development policy for Ghana	Assistant Policy of Gov to Ghana Rolling plan	Project documents Japanese Ministry of Foreign Affairs HP, JICA HQ, JICA Ghana Office	No significant change	
	Is there any significant change in policies for agricultural development in Ghana?	Confirmation of Ghana's development policy	Change in position of rice cropping extension in Ghanaian agricultural policy	Project Formulation Survey report, Policy documents, JICA Ghana Office	<ul style="list-style-type: none"> (1) Effects on society and economy: Prices slightly increased due to lockdown. Regulations were gradually released and life in Kumasi is almost as normal as before COVID-19. (2) Effects on rice farming: Blocked border made imports of inputs such as fertilizer and seeds stopped, which is forcing them to use domestic reserves. It is not clear whether they can deal with it using domestic reserves even after minor season. (3) Effects on target farmers: There is no restriction for farmers to work in their fields while extension workers could not provide farmers with technical assistance due to lockdown and banning on gathering in important season for plowing, raising seedling, and planting in Ashanti region. This can lead to a low rate of establishment of technology. 	
Changes around the Project after Mid-term Review						
	Is there any significant social / economic change in Ghana?	There no negative social / economic change in Ghana	Climate change effect on crops COVID19 effects on the Project and agriculture Any other effects on social and economic situations	Project documents Experts Ghanaian stakeholders JICA Ghana Office		

Evaluation Grid for Terminal Evaluation for the Project for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Effectiveness

		Effectiveness (Estimation)				
Main Questions	Evaluation Questions		Judgment Criteria/Method	Information needed	Information source	Survey Results
	Sub-Questions					
Achievement forecast for the Project Purpose	Is there a prospect to achieve the Project purpose? The rice cultivation practice based on the Extension Guideline developed in Phase 1 is disseminated in 35 MMDAs of Ashanti and Northern Regions. Was there any effect from collaboration with other JICA projects / donors' program?	1. The yield/ha of farmers who have applied the techniques in the Guideline increase 100 % of the yields before the application. There are some collaboration between the Project and others	<ul style="list-style-type: none"> Project Final Report District Rice Extension Plan developed by District Assemblies in project MMDAs 	Project documents (Latest Progress report)	<ul style="list-style-type: none"> See "Performance". 	
Causality	How much of the Outputs has contributed to achieve the Project Purpose?	<p>Logicality between the Project Purpose and four outputs are still valid.</p> <p>Each output contributes the achievement of Project Purpose</p>	<ul style="list-style-type: none"> Present status of other projects Examples of collaboration Contents of training conducted by other donors Project Formulation Survey report History of PDM revision in the past JCCs Recognition of C/P on PDM Contents of project purpose and outputs 	<ul style="list-style-type: none"> Project documents (Previous Progress reports) Project document (PDM, Project Formulation Survey report, JCC Minutes) 	<ul style="list-style-type: none"> Seeds produced by KIS project were purchased and used. Experts and C/P of both projects visited each project site and exchanged ideas Achievement of the Output1 (capacity development of MMDA to make the District Rice Extension Plan and estimate budget for implementation) contributed to upgrading the target MMDAs' administrative capacities to develop and budget rice extension activity plan, which was essential for the 35 target MMDAs to implement the rice cultivation extension activity with their budgets. These capacities were further enhanced as a result of the achievement of Output 3 (establishment of M&E system) Using data obtained through the M&E activity in the fields, the MMDAs were able to develop more effective and realistic rice extension plan and budget. Achievement of Output 2 (extension training to District officers and farmers) contributed to the dissemination of the rice cultivation technologies introduced in the Extension Guideline to farmers in the 35 districts. In the process of the achievement of Output 4 (revision of the Extension Guideline), the introduced technologies were disseminated more efficiently and effectively. The revised new Extension Guideline contains many pictorial illustrations so even illiterate farmers can easily understand and practice the technologies in the Guideline. Thousands of farmers' exact migration records were not kept, but no one raised a problem concerned with it. 	
	Is there a prospect to fulfill the important assumptions to achieve the Project Purpose by attaining the Outputs?	<ul style="list-style-type: none"> Trained farmers do not migrate. Trained AEAs are not transferred to other regions. Price of domestic rice does not decline drastically. Climate does not change sharply. 	<ul style="list-style-type: none"> Farmer migration records AEA transfer records 	<ul style="list-style-type: none"> Experts, AEAs Project documents (Previous Progress reports), Experts, MoFA MoFA Ghanaian stakeholders 	<ul style="list-style-type: none"> The promotion of the former Director of District Agricultural Directorate encouraged other Directors of District Agricultural Directorate. Newly appointed extension workers have basic knowledge of assigned area. Leaders and other members from phase 1 have knowledge of cultivation and field maintenance and supported newly appointed members. No significant change as of 2019 Climate condition of Northern region is tough and decreases yields. 	
	Are there any hindering factors to achievement of the Project Purpose?	Hindering factors, if any, are mitigated / solved	Newly observed external hindering factors	<ul style="list-style-type: none"> Experts, Ghanaian stakeholders 	<ul style="list-style-type: none"> Budget allocation of government was not included in important assumptions. Output1 does not require budget allocation while output2 require budget allocation to independently implement rice extension activities. COVID-19 is prioritized over any other sector in terms of budget allocation of government. Dependence on MAG for rice extension is expected to increase compared with past years. 	

**Evaluation Grid for Terminal Evaluation for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2
Verification of Efficiency**

Evaluation Questions		Efficiency			
		Information source	Information needed	Judgment Criteria/Method	Survey Results
Main Questions	Sub-Questions				
	Has the Project been achieving the 4 Outputs?	Indicators for each output are already achieved / expected to be achieved	Check logical relation between outputs and project purpose Check the achievement level of targeted value for each indicator	Project documents (Latest progress report)	See "Performance". Achievement of output is beyond expectation which is estimated from cost input. Output1: Because of implementation of the Rice Extension Plan and budgeting training, periodic review of progress, assistance of planned budgeting, the project achieved to include Rice Extension activities in budget in all target districts. Output2: The project implemented training following the Rice Extension Guideline and succeeded to keep providing training using allocated budget because all extension workers had been trained in target district since 2018 and the district gained enough human resource. 251 demonstration plots were established while establishment of 192 demonstration was estimated despite budget constraint of district government. Output3: M&E training was conducted together with the rice cultivation training, which cut cost of training and led to achieve the planned goal. Output4: This indicator is similar to Output2 because it is calculated dividing the number of farmers adopting technology with the number of farmers participated in the training and comparing it with result of phase 1. It achieved a high rate of adoption of technology by farmers because input here is the training in demonstration plot and almost doubled yield was achieved in each region.
Appropriateness of inputs in terms of quality, quantity and timing	Have the Experts been dispatched appropriately for achieving outputs in terms of its number, expertise, and timing?	Compared with the plan, the volume, timing, activities' schedule, expertise, quality of outputs are satisfactory.	Results of dispatch Attitudes of experts Opinion of C/P	List of experts, Experts	See "Performance".
	Have the machineries and equipment been in good condition and operated in appropriate way?	Comparison with the plan, No negative effects to the project activities observed	Condition of machineries, equipment provided by the Project, C/Ps who use the provided machineries	List of equipment, maintenance levels, Experts	* Some of the equipment provided in phase 1 was badly damaged with dusty environment and additional copiers and computers were installed in the second year.
Are C/P training courses in Japan appropriate in terms of the number of participants, target, field/sector, content, period, and timing?	Comparison with the plan	Review trainings already conducted Learnings from the trainings and application of the earnings	List of training reports, Training reports, Experts, Trainees	List of training reports, Training reports, Experts, Trainees	* Some of the equipment provided in phase 1 was badly damaged with dusty environment and additional copiers and computers were installed in the second year. * Trainees participated in the training in Japan after learning the Rice Extension Guideline and practicing it. The training on rice blast, which is common in Ghana, contributed to prevention of rice blast and increase of yield.
	Have the C/P (RAD, DAD) been allocated appropriately? Have the workload for other works, capacity and timing of appointment been appropriate?	Comparison with the plan, No negative effects to the project activities observed	Allocation of C/P to Project activities	Experts List of appointed C/P staff (incl. MoFA and each DAD staff)	* Human resources developed in phase 1 contributed to success of phase 2. Half of the initial C/P was transferred, but some of the newly appointed members had been trained in phase 1 and had basic knowledge and skills. * Ghanaian government started to adopt and appoint the young from Youth Employment Agency (YE-A) and The Nation Builders Corps (NABCO) for job creation for the young in 2018.
Is there any problem in office, facilities and equipment provided by C/P?	No issues regarding the quality, scale and convenience of buildings, facilities observed	Distance, transportation hours and road conditions between buildings, facilities and the capital city and the Project office. Users' opinion	Direct observations of facilities, Users	Direct observations of facilities, Users	* It was not comfortable to work in the former Northern region's office because an air conditioner had not worked, and a rice mill next to the office made it difficult to open windows. When the current office opened in 2019, working condition was improved. * Demonstration plot: It takes time to travel because the demonstration plots scatter in dozens kilometers away from the capitals of each region. As a result, it was difficult to monitor and follow up in the limited schedule.
	Was the budget allocated appropriate for implementation of the project?	Amounts and timing of budget allocation from C/P and JICA were appropriate	Results of budget allocation by Ghanaian authorities (MoFA, RAD, DAD, MMDA) Information from JICA HQ and Ghana Office	Project documents, Ghanaian stakeholders (MoFA, RAD DAD, MMDA), Experts, JICA HQ, JICA Ghana Office	* The total original budget of the Project was 538,199,000 JPY (5,012,421 USD). It is projected that the total disburse amount under Project during the original Project period will be 737,719,000 JPY (7,000,692 USD), corresponding to 140% percent of the budget. * On the Ghanaians side, the budget was scarcely allocated by MoFA, Ashanti government, and Northern government through the project team kept explaining that it would provide only technology assistance. As a result, JICA paid accommodation, travel, and fuel cost of C/P.

Evaluation Grid for Terminal Evaluation for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Efficiency

Evaluation Questions		Efficiency				Survey Results
		Information needed	Information source	Information source	Information source	
Causality	Sub-Questions					
	Were the activities sufficient to achieve three Outputs?	The activities were sufficient to achieve 4 Outputs	Activity records Stakeholders' opinions	Project documents Experts, Ghanaian stakeholders	N/A	
	Has the Important Assumptions been fulfilled to achieve the outputs by implementing project activities?	1) • The mechanism of decentralization is not changed. 2) • The District Assembly keeps holding the delegated authority and responsibility from central	Change in the mechanism of decentralization Change in the levels of delegation from the Central to the district Assemblies.	Project documents Experts, Ghanaian stakeholders(MoLGR D, RCC, MMDA)	• The mechanism of decentralization is not changed.	
	Are there any contributing / hindering factors other than project inputs for the achievement of the Outputs?	Identify any other major factors that hinder outputs and its cause and effects if any	COVID19's effect Any other major hindering factors	Project documents Ghanaian stakeholders(MoFA, RAD DAAD, MMDA),Experts,JICA HQ and Ghana Office	• Independence of some districts after the election and transfer of the highest level delayed budget allocation. Greeding with the highest functionaries and stakeholders and establishment of demonstration plots directly managed by project team decreased negative effect on Output2. • Mion district and Sagman district in Northern region recorded the low yield. 16.7/ha and 2.3/ha respectively. due to lack of rain in 2017. They were advised to start seeding in June or in the middle of July at the latest considering that rainy season ends in October establishing fields in locations to facilitate utilization of surface water after rain.	
Cost	Have the Outputs been appropriately achieved in comparison to the cost?	The Outputs have been appropriately achieved in comparison to the cost	Expenditure of the Project up to now Expenditure of similar projects Measures to save the expense	Project documents Experts Similar project information	• To implement extension activities in large areas within the limited budget, C/P directly instructed farmers only in some critical milestones and gathered farmers in phase 2 while C/P visited for each training and instructed individually in phase 1.	
	Are the human resources, outcomes, and equipment of former/ other on-going projects utilized?	The human resources, outcomes, and equipment of former/ other on-going projects are utilized	Utilization levels of Tensui 1 resources and outcomes	Project documents Experts,JICA Ghana Office	Utilization level of equipment in phase 2 provided in phase 1 is as follows. • Human resources: Human resources developed in phase 1 contributed to success of phase 2. Half of the initial C/P was transferred, but some of the newly appointed members had been trained in phase 1 and had basic knowledge and skills. • Training materials(materials for farmers(kamshiba)): Training materials were frequently used in phase 2. The content of it was revised and added. Outcome concerned with monitoring was improved in phase 2. • Equipment: Some of the equipment was utilized. Measurement of rice husk water content and soil pH and rice mill are used. Automobile is used while the project team pays fuel cost. New OX equipment was installed due to severe damage. Most of equipment of verification test and research equipment are not used in phase 2	
	Was there any duplication with projects implemented by other donors? Was there any collaboration with other projects? Was the collaboration cost effective?	There no duplication with projects implemented by other donors There is any case of collaboration with other projects to save the project cost	Latest information about assistance strategies and programs of other donors Demarcation of T/G in the training with other donors	Project documents Experts,JICA Ghana Office, Ghanaian stakeholders(MoFA, RAD)	• No duplication was observed. • District governments utilize Modernizing Agriculture in Ghana (MAG), which is financial assistance from Canada. C/P implements technical assistance as follow up activities in the fields established with MAG. It also utilizes PFJ to implement rice extension activities. • KIS project from JICA produces some of the certified seed used in PFJ.	

Evaluation Grid for Terminal Evaluation for the Project for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Impact

Evaluation Questions		Impact			
Main Questions	Sub Questions	Judgment Criteria/Method	Information needed	Information source	Survey Results
Achievement	Will the Overall goal, Domestic rice production is increased in Ashanti and Northern Regions be achieved three years after the completion of the Project?	Indicator1: 35 MMDAs in Ashanti and Northern regions apply the Extension Guideline for developing the productivity of rice. Indicator2: Rice production in the rain-fed lowland Regions increases from 33,000 tons to 89,000 tons in Ashanti region and 191,000 ton to 507,000 tons in Northern region from 2016 to 2023 Any action has already been taken to achieve overall goal/planned	Survey plan of MoFA/DCS Annual rice production in both Regions Plan of MoFA	Experts, Ghanaian stakeholders (MoFA/RAD, MMDA) Experts, Ghanaian stakeholders (MoFA, RAD, MMDA)	All the 35 MMDAs have already developed their District Rice Extension Plan. They showed their confidence in the application of the technologies introduced in the Extension Guideline for their rice extension activity. The MoFA forecasts the rice production in the two regions in 2023 to be 176,000 tons for the Ashanti region and 467,000 tons for the Northern region. According to this forecast, there is a possibility of achievement for the Ashanti Region, while there is little for Northern Region. To achieve the overall goal, rice production should be increased not only in the target but also non-target districts. The Project does not cover all the districts in both regions. The Project targets only 10 farmers around the demo plot. Therefore, there is a large gap between the Project Purpose and Overall Goal. The Project seems to have increased productivity in both districts and regions because it assisted improvement of productivity in each target district. Each district needs to elaborate the Rice Extension Plan and implement it. The activities of the Plan are supposed to be included in mid-term development plan of district and Composite Budget.
Causality	Are Domestic rice production is increased in Ashanti and Northern Regions (Overall goal) and The rice cultivation practice based on the Extension Guideline developed in Phase 1 is disseminated in 35 MMDAs of Ashanti and Northern Regions (Project Purpose) locally valid at present? Is there a high probability that important assumptions are fulfilled?	There is no possible hindering factor for achievement of overall goal It can be said that if the Guideline is disseminated to 35 regions, rice production in rain-fed lowland area will be increased.	Prospect of MoFA about policy, institutional structure, and budget Opinion of experts, MoFA	Experts, Ghanaian stakeholders(MoF A,RAD,MMDA) Experts, Ghanaian stakeholders(MoF A,RAD,MMDA)	<ul style="list-style-type: none"> Possible hindering factors in non-target districts in two regions are the limitation of budget allocation, worsening of climate conditions, and worsening of distribution of inputs. Technology written in the Guideline contributes to increase yield. The relation between the project purpose and overall goal is logical. There is a large difference in numerical target between the project purpose and overall goal. Overall goal comes from the top down as political objective in Ghana while it comes from build-up as bureaucratic objective in Japan.
Ripple effects	Is there any influence of the Project other than overall goal? - Effects on policy making, legal and judicial institution and regulations - Effects on social and cultural aspects such as gender, human rights, and poverty - Economic influence on environment, technology, society, stakeholders and beneficiaries	MoFA provide extension services collaborating with District Assembly. Possible Impacts> #Roles in household changed by applying new rice cultivation techniques #Livelihood and nutritious status of target farmers improved #The Project gave impacts to other existing programmes/projects #The technologies introduced by the Project are applied to program/project implemented by DPs, around neighboring regions and countries	Opinion of Experts, Ghanaian stakeholders Influence on policy, law, institution and regulations Influence on environment and economy Changes in women and the poor Influence on traditional institutions	Experts, Ghanaian stakeholders(MoF A,RAD,MMDA) Experts, Ghanaian stakeholders(MoF A,RAD,MMDA)	<ul style="list-style-type: none"> Three promoted from PCU as the Director of District Agricultural Directorate are implementing the Rice Extension Guideline in the districts where they were transferred. Considering the achievement of the Project, DCR now regards JICA as the main Development Partner to promote rice production in Ghana, expecting it to lead the donor coordination nationwide among the DP's programs with similar objectives. Farmers' income increased because rice yield increased and negotiation power of groups increased. Production cost decreased because of the introduction of new technology to apply fertilizer and manage water resource. PCU produced three Director of District Agricultural Directorate. The Extension Guideline is utilized in AGRA. PCU was invited as instructor in a training in the target district of World Bank's GCAP and instructed improvement technology following the Rice Extension Guideline. It does not seem that the Project has negative impact on women, the poor, and the socially vulnerable because beneficiaries are the poor and women and the socially vulnerable also participate in farming. Gender balance and date of the training were taken into account to promote the participation of women. Instruction on gender is being carried out in TOT. Appropriate application of fertilizer increased soil fertility. No negative impact from the project is observed.
	If there is any negative impact, has the Project dealt with it?	# There is no negative impact # Project has taken actions to mitigate negative impact	Possibility of causing income gap in the region due to the Project		

Evaluation Grid for Terminal Evaluation for the Project for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Sustainability

Sustainability (Prospects)			
Evaluation Questions	Judgment Criteria/Method	Information needed	Information source
Main Questions Policies and Institutions Will policy support continue after JICA's cooperation is finished? Have the relevant regulations and legal institutions been developed? Is there a plan for developing such institutions? Has the institutional structure been developed to disseminate benefit of the project to outside of the project sites?	The policy support will continue after the end of JICA's cooperation. The relevant regulations and legal systems are clarified. Those regulations and legal system are/will be established. #The extension system has/will be developed for non-target area #There is a detailed extension plan.	Opinion from MoFA Opinion from MoFA	Ghanaian stakeholders (MoFA, RAD) Experts, Ghanaian stakeholders (MoFA, RAD) N/A
Organization and Finance In order to continue project activities to achieve positive impacts after the completion of the Project, is capacity of the implementing agency sufficient? Can implementing agency allocate sufficient human resource, maintain decision-making process, and coordinate with other organizations? Is the ownership of implementing agencies (RAD, DAD, MMDA) sufficiently confirmed for future? Is the ownership of beneficiaries sufficiently confirmed for future?	PCU in respective regions will exist to continue project activities after the end of the project Extension agent is expected to be appointed The ownership of implementing agencies are expected to continue sufficiently for future MMDA, RAD, DAD officers practice what they learned from the Project	Opinions from MoFA Opinions from MoFA Opinions from stakeholders Opinions from stakeholders	Experts, Ghanaian stakeholders (MoFA, RAD) Experts, Ghanaian stakeholders (MoFA, RAD) Experts, Ghanaian stakeholders (MoFA, RAD, MMDA) Experts, Ghanaian stakeholders (MoFA, RAD, MMDA) Experts, Ghanaian stakeholders (MoFA, RAD, MMDA) Experts, Ghanaian stakeholders (MoFA, RAD, MMDA)
Are there measures to secure future budget to sustain overall goal of the Project?	Collaboration and information sharing among the following lines are observed 1) Among MoFA-RAD-DAD 2) MoLGRD-RCC-MMDA, 3) Agricultural Directorate-at national/regional/district levels-Officers at local government office There are measures to secure future budget to sustain overall goal of the Project?	Prospect for future budget of MoFA, MoLGRD	Experts, Ghanaian stakeholders (MoFA, RAD, DAD, MMDA, MoLGRD) Experts, Ghanaian stakeholders (MMDA, RAD, DAD, MoLGRD, RCC, MMDA) Experts, Ghanaian stakeholders (MoFA, RAD, DAD, MMDA, MoLGRD)
			Survey results The agriculture policy such as the PFJ under the METASIP III, is strongly promoting the increase of Ghanaian rice production through the Decentralized Departments of Agriculture i.e. RAD of the Regional Coordinating Councils) and the DAD of the Assemblies and MoFA views that the policy will continue to support the rice value chain in Ghana. Technology of the Rice Extension Guideline is applied in PFJ and other projects. The ex-C/Ps of the Project, who were promoted as DDA, are the motivators to use the Extension Guideline in their new command areas. However, after the Project Coordination Unit will be dissolved after the Project completion each C/P continues the extension activities in the original workplace. This may affect the continuation of the project effects. The project demanded that MMDA should include travel cost of RAD officers to visit demonstration plots in the budget while RAD officers may not contribute to the activities as was done during the project. Continuous contribution of RAD officers is expected. The number of extension workers is increasing following the Ghanaian government policy promoting the employment of the young. The contents of the Rice Extension Guideline were applied in AGPA, which let C/P have confidence by those outside of the Project adopting their outcome. Follow-up activities of DCE/DCD, which supported the project activities, are expected. Stakeholders in District Agricultural Directorate is highly motivated by the increase of the rice yield. MoFA needs to pay attention not to disturb their activities. Some of the farmers understand the effectiveness of the technology disseminated by the Project and apply it in their fields. Dissemination the technology from District Agricultural Directorate and the trained farmers is expected. MoLGRD needs to avoid delay of the budget allocation and closely communicate with delegated consultants regarding with the Project. MoF, which is responsible for approval of the government budget, needs to avoid delay of budget allocation. It costs GHC14,000-GHS16,000 to hold each trainer training seminar, which is run by JICA's budget. The whole budget allocated in agricultural sector in Ashanti region corresponds to third of it or the same amount at most while that in Northern region is less than in Ashanti region. Situations in North East region and Savannah region, which are newly established regions, are worse than them. Extension activities are being carried out receiving financial support from the government, other development partners, and input retailers in district level. The number of the districts that obtain government's budget from the second year is gradually increasing.

Evaluation Grid for Terminal Evaluation for the Project for the Sustainable Development of Rain-Fed Lowland Rice Production Phase 2 Verification of Sustainability

Sustainability (Prospects)				
Evaluation Questions	Judgment Criteria/Method	Information needed	Information source	
Main Questions	Sub-Questions		Survey results	
Technology	<p>Are the skills and technologies transferred from the Project shared among stakeholders?</p> <p>Are the machineries and equipment provided by the Project be maintained appropriately after the Project is ended?</p> <p>Has the dissemination mechanism been included in the project activity?</p>	<p># Opinions of Experts, MoFA # Extension Agents</p> <p># List of receivers of the machineries and equipment # List of machineries and equipment with their conditions</p> <p># Opinions of MoFA, Experts # Extension Plan</p>	<p>Experts, Ghanaian stakeholders (RAD, DAD, MMDA)</p> <p>Experts</p> <p>Experts, Ghanaian stakeholders (RAD, DAD)</p>	<ul style="list-style-type: none"> Annual budget document shows that there are some budgets available for the Rice Extension. Follow-up activities of DCE/DCE, which supported the project activities, are expected. Stakeholders in District Agricultural Directorate is highly motivated by the increase of the rice yield. MoFA needs to pay attention not to disturb their activities. Some of the farmers understand the effectiveness of the technology disseminated by the Project and apply it in their fields. Dissemination of the technology from District Agricultural Directorate and the trained farmers is expected. Personnel relocation occurred among stakeholders of the Project such as the promotion of Director of District Agricultural Directorate of the target district in Ashanti region to Director of District Agricultural Directorate in Bono region. Techniques in the Rice Extension Guideline has already been applied in PJ and the projects supported by other Development Partners such as GIZ in other regions. Therefore, it is highly expected that the techniques will be spread out Most of equipment provided by the Project except for manual seeding machine and planter are used in good condition. Both regions consider that small farm machinery, complete land development for small irrigation schemes with machinery from land preparation to harvesting and storage will be effective to cultivate larger land for rice production with less labor work. C/P is in charge of technical instruction on rice in two target regions due to support from DCS and Director of District Agricultural Directorate. Continuing the extension activities utilizing development partner's assistances such as AGRA is prepared. C/P is conducting Joint Training and OST in district level utilizing the government's budget and development partners' budgets. Each district is gaining experiences implementing Cycle 1 for three years at most. Revision of the Extension Guideline was implemented waiting for the C/P's motivation growing. C/P was proud of the Guideline made by themselves and hesitated to revise it. Revision of the Rice Cultivation Guideline in 2018 and complete revision of the Guideline were carried out after introduction of M&E tool and new technology and annual revision of training materials. C/P made most of the contents of the Guideline revised discussing strategic positioning, framework, and contents of the Guideline with PCU.
Society, culture and environment	<p>Are the introduced techniques appropriate to disseminate to non-target districts?</p> <p>Is there any possibility to hinder project's sustainable effects due to the shortage of attention to women, the poor, the socially vulnerable and traditional organizations?</p> <p>Is there any possibility to hinder sustainable effects due to the shortage of attention to the environment?</p>	<p># Opinions of MoFA, Experts # Extension Plan</p> <p># Opinions of MoFA, Experts</p> <p># Opinions of MoFA, Experts # Extension Plan</p> <p># Opinions of MoFA, Experts</p> <p># Opinions of MoFA, Experts # Opinions of AEA, farmers</p>	<p>Experts, Ghanaian stakeholders (RAD, DAD)</p> <p>Experts, Ghanaian stakeholders (RAD, DAD)</p> <p>Experts, Ghanaian stakeholders (RAD, DAD, AEA, Farmers)</p>	<ul style="list-style-type: none"> Upper West region had participated in ToT in Northern region supported by GIZ last year before they held ToT inviting Director of District Agricultural Directorate and extension workers to District Agricultural Directorate in Upper West region. JOCV assigned in District Agricultural Directorate, C/P, and stakeholders in universities from Central region participated in ToT in Ashanti region. Three promoted from PCU as Director of District Agricultural Directorate are implementing the Rice Extension Guideline in the districts where they were transferred. Directorate of Crop Service of MoFA ordered to use technology packages developed by the Project regarding with rice extension activities of other development partners in Ashanti region and Northern region. As a result, PCU is working on World Bank's GCAP to apply the technology of the Project in Ashanti region and the Rice Extension Guideline is commonly used outside of the target areas as well. It does not seem that the Project has negative impact on women, the poor, and the socially vulnerable because beneficiaries are the poor and women and the socially vulnerable also participate in farming. Gender balance and date of the training were taken into account to promote the participation of women. Instruction on gender is being carried out in ToT.

Annex 4

The Project for the Sustainable Development of Rain-fed Lowland Rice Production Phase 2 (“Tensui 2”)

Project Area:	Rain-fed Lowland in Northern Region and Ashanti Region
Term of Cooperation:	Five (5) years (April 2016 – May 2021)
Implementing Organization:	Directorate of Crop Service, MoFA
Beneficiary:	MMDAs, 490 RAD and DAD staffs (including Crop, Extension and WIAD officers in Project MMDAs), 11,700 small scale rice farmers in the target area of the Project

PDM

Ver. 3 (dated on October 2020)

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Overall Goal Domestic rice production is increased.	<ul style="list-style-type: none"> 35 MMDAs in Ashanti and Northern (now North East, Savannah and Northern) regions apply the Extension Guideline for developing the productivity of rice. Rice production in rain-fed lowland increases from 33,000 tons to 89,000 tons in Ashanti region and 190,000 ton to 467,000 tons in Northern, North East and Savannah regions from 2016 to 2023. 	<ul style="list-style-type: none"> Result of M&E 	
Project Purpose The rice cultivation practice based on the Extension Guideline developed in Phase 1 is disseminated in 35 MMDAs of Ashanti and Northern Regions.	<ul style="list-style-type: none"> The yield/ha of farmers who have applied the techniques in the Guideline increase 100% of the yields before the application¹. <p><i>*1: Indicative target yields are 4.0 ton/ha in Ashanti and 3.0 ton/ha in Northern Region (NRDS average target: 3.5 ton/ha) respectively. These targets are subject to change according to the review of NRDS targets.</i></p>	<ul style="list-style-type: none"> Project Final Report District Rice Extension Plan developed by District Assemblies in project MMDAs 	<ul style="list-style-type: none"> MoFA conducts the implements the extension service delivery, in cooperate with the other District Assemblies.
Outputs of the Project			
1. Target MMDAs increase the capacity to develop their District Rice Extension Plan and to estimate needed budget for its implementation.	1.1: District Rice Extension Plan in respective Project MMDA is developed. 1.2: Districts are sensitized to incorporate rice extension plan into District Medium-Term Development Plan (DMTDP). 1.3: Needed expenditure for providing extension services is budgeted.	<ul style="list-style-type: none"> District Rice Extension Plans developed by District Assemblies in project MMDAs. Budget estimation made by District Assemblies in project MMDAs. 	<ul style="list-style-type: none"> Trained farmers do not migrate. Trained AEAs are not transferred to other regions. Price of domestic rice does not decline drastically. Climate does not change sharply.
2. Using the extension guidelines, the trainings are conducted in target MMDAs.	2.1: 5 times a year per district of the trainings for farmers and concerned stakeholders along with the Extension Guideline are carried out. 2.2: 490 of DAO and AEAs are trained. 11,700 farmers are trained.	<ul style="list-style-type: none"> Project Annual Report District Rice Extension Plans developed by District Assemblies in project MMDAs. Project Final Report 	
3. The capacity of RAD and DAD regarding monitoring and evaluation is increased.	3.1: The monitoring and evaluation system is established. 3.2: 1 time a year per region of the trainings about monitoring and evaluation for target RAD and DAD officials are carried out.	<ul style="list-style-type: none"> Project Annual Report Project Final Report 	
4. The Extension Guideline is fine-tuned.	4.1: Comparing with the Phase 1, the rate of population who apply the technics in the Extension Guideline is increased by 5 %.	<ul style="list-style-type: none"> Project Annual Report Project Final Report 	
Activities of the Project		Inputs	
1.1 To study the planning process and the decision making done by target MMDAs respectively 1.2 To present the Project Framework and the output produced by Phase 1 to the members of MMDAs and officials (DCD, DDA and other Agriculture Sub-Committee members) 1.3 To conduct trainings of needs analysis, resource analysis, planning, budgeting and monitoring for the member of MMDA and officials (DCD, DDA and other Agriculture Sub-Committee members) 1.4 To support each District Assembly in target MMDAs to make District Rice Extension Plan and a budget estimation 1.5 To strengthen the linkages between MMDAs and Central Government (MoFA and MoLRD) through periodical reporting and meeting 1.6 To review the progress of the plan and financial management 1.7 To renew District Rice Extension Plan and budget estimation based on the performance of the previous year. 2.1 To study natural condition of potential valleys for implementing the Project 2.2 To select target communities and farmers, and then to sensitize and group them 2.3 To set up demonstration plots 2.4 To conduct a baseline survey about land holdings, farm management, market, post-harvest processing, gender and so on 2.5 To conduct trainings for RAD staff, DAD staff and farmers in line with the Extension Guideline 3.1 To conduct monitoring activities of the Extension Guideline, using existing monitoring system via MoFA MIS and/or MoLRD (“monitoring system” means the structure, methodology and data formats) 3.2 To review and assess the effectiveness and efficiency of existing monitoring system and tools 3.3 To improve monitoring/reporting structure from field level to national level 3.4 To improve a set of monitoring/reporting formats (qualitative and quantitative data) and tools 3.5 To conduct trainings of monitoring and evaluation practices for RAD staff and DAD staff 4.1 Through monitoring the extension activities, to identify the techniques that farmers found difficulties to apply 4.2 To assess the reasons why the difficulties occur 4.3 To examine if each skill in Extension Guideline needs to be modified (i.e. for women specification) 4.4 To develop more appropriate skills through learning by doing process 4.5 To revise the Extension Guideline and training materials 4.6 To arrange dissemination workshops and public relation activities for the other MMDAs 4.7 To support MoFA’s effort to mainstreams the Extension Guideline in national rice policies		1. Ghanaian Side a. Human Resources Counterpart personnel b. Physical Input Office spaces for PCU in Ashanti and Northern c. Financial Input Counterpart Fund 2. Japanese Side a. Human Resources: JICA will dispatch a professional team to achieve the project purpose. The team will include the following specialities: extension, evaluation and monitoring system, local governance, rice cultivation and others. b. Physical Input Materials, tools and equipment for implementing the Project c. Other Training in the other countries and/or Japan	<ul style="list-style-type: none"> The mechanism of decentralization is not changed. The District Assembly keeps holding the delegated authority and res <p>Preconditions:</p> <ul style="list-style-type: none"> Security is maintained. Economic situation is not worse sharply. The policy favourable for domestic rice promotion is not changed.
AEA: Agriculture Extension Agent DAD: District Agricultural Department DAO: District Agriculture Officer DCS: Directorate of Crop Service	DCD: District Co-ordination Director DDA: District Director for Agriculture MMDAs: Metropolitan, Municipal, District Assemblies MoFA: Ministry of Food and Agriculture	MoLRD: Ministry of Local Government and Rural Development RAD: Regional Agricultural Department WIAD: Women in Agricultural Development	

