

All inputs allocated have been fully utilized for project implementation. Consequently, the Project is deemed efficient in terms of input supply leading to good results. ANNEX 7 and ANNEX 8 show the detailed activities and outcomes of the Project. ANNEX 9 shows a detailed achievement of the PDM indicators of the Project.

## **(2) Implementation Process**

In general, the Project has been implemented in accordance with the PO. However, it is noted that assignment of Farming System Management expert has been delayed from a planned schedule. In addition, the budget releases from the Ghanaian side also experienced delays.

To ensure smooth and efficient implementation of the Project, an implementing structure of the Project has been established. However, the Project is being implemented in two regions, so the regular communication and monitoring system among them, and linkage between JICA experts and the Project C/Ps are very extensive, and it sometimes causes delay of information sharing and reporting. The current structure and mechanism for information sharing and reporting need improvement.

### **5.1.4 Impact**

The extent of Project impact has been assessed as moderate for the following reasons.

#### **(1) Prospects of achieving Overall Goal**

The achievement of the Project's Overall Goal, "Productivity and profitability of rice farming in rain-fed lowland in project areas has increased", cannot be fully evaluated at this stage. The reason being that, it requires some time to undertake analysis and evaluation of the Project results, so as to derive the tangible impacts.

However, the Project yield data in ANNEX 11 shows evidence of the increasing productivity as a result of project activities at Mid-Term. The average rice yield from trial plots in 2010 was 4.5t/ha (4.0 t/ha)<sup>1</sup> in Ashanti and 3.3t/ha (2.9 t/ha) in Northern as compared to 5.6t/ha (5.0t/ha) and 3.6t/ha (3.4t/ha) in 2011 which are far above productivity levels before the Project. Assessing profitability levels of farmers benefiting from the Project remains a challenge due to inadequacy of data resulting from limited data collection and record keeping. Issues of rice quality, processing and marketing are also determining factors for profitability analysis. In the light of this, the Project is expected to continue implementing interventions to support rice value addition practices.

According to the office and field interviews and questionnaire survey conducted during the Review, the Team observed that the Project brings some positive changes as mentioned below.

#### **(2) Spill-over Effects**

##### **1) Technology adoption by other surrounding farmers**

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<sup>1</sup> The number in bracket is the result including the plots where rice was not harvest any at all due to flood or discontinuation of farmers.

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With the lead by contact farmers in project areas, rice produced not only on trial plots, but also on farmlands of contact farmers and their group members.

In addition, most of the contact and group farmers reported that they had made contacts to the neighbouring farmers with whom they shared experiences on rice cultivation techniques. Some of these surrounding farmers adopted the techniques on bunds construction, line planting, and nursery preparation which is the basic practice of the technical package introduced by the Project. This kind of "Farmer to farmer dissemination (school)" has been taken place gradually by the means of learning from trial plots, field days & field trip, and so on. As a result of adopting to the improved techniques introduced by the Project, a contact farmer was awarded as district and regional best farmers for 2010 and 2011, respectively.

2) Better livelihood through rice sales

Many farmers in the Project areas during the interview indicated that they had spent incomes from rice sales to pay school fees of their dependents, while others remitted their parents living in other places. In summary, it was noted that all the farmers made incomes from rice sales which enabled them to improve their living conditions.

3) District level self-help initiatives

Without any assistance from the Project, one of the districts involved in the Project attempted to conduct AEA training on its own. The AEAs/DDOs, who participated in the series of rice training sessions organized by the Project, were able to play important roles as trainers by imparting skills and techniques to other technical staff. Further AEA/DDO training should be extended with improved methodology and extension materials, so as to improve the capacity of extension staff to deliver on project activities.

### 5.1.5 Sustainability

Project sustainability is not likely to be secured at this stage for the following three (3) reasons.

(1) Technical Aspect

The techniques introduced by the Project are appropriate, low-cost, farmer friendly and easily adoptable by rice farmers; therefore, it is certain that these rice farmers will continue to adopt these technologies.

On the other hand, it was assessed that the C/Ps in region, districts as well as AEAs has acquired necessary skills and experiences. With these enhanced capacities, they will be able to transfer and skills and experiences. With these enhanced capacities, they will be able to transfer and extend to rice farmers and any other stakeholders their experiences even after the end of the Project.

However, during the Review, the Team observed that technical capacity for field monitoring and supervision was a challenge due to inadequacies to undertake these activities. Therefore Ghanaian C/Ps would have to work closely in collaboration with Japanese experts in the short term. In the long term,

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technical capacity upgrading and assistance will be needed in the development and implementation of an M&E system.

## **(2) Policy and Organizational Aspect**

The basic Project approaches are consisting of next 3 points.

- 1) technical package,
- 2) farming and support system, and
- 3) extension procedures.

Then those Project approaches were developed and implemented in the Project areas to promote rice production. This will be continuously pursued to accelerate the dissemination of these technologies to enhance rice production in Ghana. This is expected to meet the needed supply of rice in response to the high demand of our growing population.

Rice is one of the selected food security crops as stated in the METASIP therefore; the Government of Ghana will continuously support rice cultivation during and after the end of the Project. It must be noted that management and coordination of the project implementation should be strengthened by providing adequate logistic arrangement to enhance linkage between national and region, with respect to on-time information sharing among experts and C/Ps in two regions.

## **(3) Financial Aspect**

The financial support to sustain the Project is uncertain in this stage since the current counterpart funding is from Japan-KR fund. However, in order to fully implement and continue the project activities even after the project completion, the GoG is required to make efforts to provide necessary operational budget for the continuation of project activities. Furthermore, the decentralization policy being implemented in Ghana will have to ensure continued availability of human resources and funds for the implementation of district level activities.

## **5.2 Technical Findings and Suggestions**

### **5.2.1 Improved Technical Package of Rain-fed Lowland Rice Production (Output 1)**

#### **(1) Basic Concepts for Development of Technical Package**

The basic concepts established for the development of Improved Technical Package of Rain-fed Lowland Rice Production (the Technical Package) at the inception stage of the Project are:

- Technical Package shall consist of land development and lowland rice cultivation technologies and practices,
- Technical Package evolved are based on sustainable technologies for rain-fed lowland-rice production which are appropriate for site specific conditions in the inland valleys in Ashanti Region and the lowlands in Northern Region. The socio-economic conditions of the target small-scale rice farmers in the regions are also considered. The Package should be low costs and could be applied easily by the target rice farmers,

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- The primary objective of the application of the Technical Package in trial plots is to provide opportunities for farming communities to see the need of applying basic farming timely for good results at farm level, and
- Basic considerations for selection of technologies/techniques in the Technical Package are that: i) most of resources & materials are available locally, ii) operations of technologies are manually applied with limited usage of farm machinery except for mechanical works commonly practiced in target areas, iii) apply on-farm land development which are suitable for the physical conditions of target areas and also depends on the socio-economic status of target farmers and iv) technologies/techniques which are easily disseminated by extension officer at the district level.

## (2) Technical Package Introduced

The Technical Packages tentatively introduced at the trial plots include 4 techniques for land development and 6 techniques for rice cultivation technologies. Generally, there are some differences in the Technical Packages applied in Ashanti Region and Northern Region. This is primarily due to differences in geographical, agro-climatic and water conditions. The outlines of the Technical Packages applied in 2011 as part of project activities are as follows;

**Table 5.2.1 Tentatively Developed Technical Package**

Technology/Technique	Main Applied Works/Practices 1/	Anticipated Primary Effect on Rice Production 2/
<b>1. Land Development (/Preparation) Technologies</b>		
1-1. Land development	Manual land clearing	W.C.C
1-2. Bund construction	Construction of bunds around rice field Construction of inter-rocking bunds	W.C.C & Y.I
1-3. Ploughing/Leveling	AR: Manual ploughing AR: Puddling (under submerged condition) AR: Land leveling (under submerged condition)	W.C.C & Y.I
1-4. Off-farm Water Management	NR: Mechanical ploughing & harrowing Water harvesting AR: Construction of water canal	W.C.C & Y.I
<b>2. Rice Cultivation Technologies</b>		
2-1. Seed preparation	Use of quality seed (Jasmine 85) Appropriate seeding rate AR: Seed selection in salt solution	Y.I & Q.I
2-2. Planting	AR: Wet nursery AR: Younger seedling AR: Regular planting (transplanting/drilling)	Y.I Y.I
2-3. Fertilization	NR: Regular planting (drilling) Total doses N P K = 60 30 30 kg/ha Basal dressing PK 100% & N 50% Top dressing 3 times N 50%	Y.I
2-4. Weeding	Weeding: push-weeder, hoe, manual, (herbicide)	
2-5. Field management	AR: On-farm water management NR: Water conservation & control Pest & disease control (on need basis)	Y.I
2-6. Harvesting	Rouging Timely harvesting	Q.I

1 : AR - applied in Ashanti Region; NR - applied in Northern Region; no marking: applied in both regions

2 : Primary contribution of element technology to rice production

W.C.C - water conservation & control; Y.I - yield increase; Q.I - quality improvement of paddy

The Technical Packages were introduced in 14 trial plots and 38 trial plots established in 2010 and 2011, respectively, in the 7 project districts (4 in Ashanti Region and 3 in Northern Region). In addition to the Technical Packages, variety trials and seed multiplications in trial plots were carried out under the Project. Further, improved post-harvest practices at on-farm level such as threshing,



winning and drying practices were introduced to some extent which is aimed at improving paddy quality in the trial plots.

### (3) Results of Introduction of Technical Package

The tentatively developed Technical Packages were tested in trial plots during the 2010 and 2011 main cropping seasons and also during minor cropping season in 2011 in Ashanti Region where 10 trial plots were established. Having tested successfully the Technical Packages in the trial plots, only 2 plots in 2010 and 3 plots in 2011 gave unsatisfactory crop performances as shown in the following table.

**Table 5.2.2 Paddy Yields in Trail Plots in Main Seasons in 2010 and 2011 1/**

Item	Ashanti Region		Northern Region	
	2010	2011	2010	2011
No. of Trial Plots Cropped	8	24	6	14
Average Yield 2/	4.0	5.0	2.9	3.4
Average Yield 3/	4.5	5.6	3.3	3.6
Yield Range	2.6 - 7.4	0.0 - 7.7	0.9 - 4.2	1.0 - 5.0

1/: Yield data in minor season not yet available 2/: Average of all plots

3/: Average excluding yield data in plots suffered from flood or serious draught

As shown, the average yield in the trial plots in 2011 in Ashanti Region is 5.0 ton/ha (5.6 ton/ha)<sup>2</sup> and the same in the Northern Region is 3.4 ton/ha (3.6 ton/ha)<sup>2</sup>, which are higher than the targeted yield levels as indicated for the project Output 1 in the PDM. In addition, the practices introduced for post-harvest operations at on-farm level resulted in production of paddy with improved quality in the trial plots. The yield increases from 2010 to 2011 in Ashanti Region could partly be explained by experiences gained by AEAs and Group Farmers.

The paddy yields attained in the trial plots are considerably higher compared with the yield levels of paddy in the project districts as shown in the table below.

**Table 5.2.3 Paddy Yield Levels in Project Regions & Districts**

Region/District	Average of 5 years (2005 to 2009) 1/		Baseline Survey
	Cropped Area	Yield (ton/ha)	Yield (ton/ha) 2/
Ashanti Region	8,790	1.17	-
Northern Region	43,812	2.32	-
Project 4 Districts/Ashanti R.3/	897	1.19	2.18
Project 3 Districts/Northern R.3/	5,842	2.42	1.39

1/: Production Estimates of SRID; estimated yields

2/: Results of Baseline Survey by the Project in 2009

3/: Production Estimates of SRID; average of 3 years from 2007 to 2009

### (4) Discussions & Suggestions

- The project performances on rice production in the trial plots for the 2 years indicate that the proper application of the basic techniques/practices in the Technical Package will enable farmers to attain satisfactory yield levels of lowland rice under rain-fed conditions. It is evident that, through the trial activities for 2 years, the basic framework of the improved Technical Package for the sustainable rain-fed lowland rice production has been identified,

<sup>2</sup> average yield when yield figures in plots suffered from crop failure excluded

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- Modification of the tentative Technical Package should better be carried out through the review of techniques/practices based on diversified conditions for rice production and experiences of the past project activities. Presently, review on farming practices such as direct sowing method in Northern Region, land preparation under dry land conditions and thorough application of timely harvesting are considered by the Project,
- In trial plots in Ashanti Region, it appears that growth performances of rice are substantially better in the trials plots developed under irrigation concepts (water harvesting & distribution) compared with the plots developed under rain-fed rice field reclamation concept. The fact indicates that there are different types of inland valleys and could be classified into: i) valleys with water resources development potential and ii) the same without or with limited water resources development potential. Accordingly, different approaches for land development should be undertaken and the development technologies should be introduced based on water supply conditions of target areas of the valleys as envisioned by the Project,
- In Northern Region, on the other hand, water supply conditions in trial plots are more or less similar and water resources for rice production are solely depending on rainfall,
- In 2010 and 2011, crop performances were adversely affected by floods. The introduction of physical flood mitigation measures is not consistent with the basic concept of this Project. Accordingly, the measures taken by the Project for the mitigation of flood damage will be the selection of target sites which are practically and technically free from flood hazard,
- Simple farm tools such as push-weeder, weeding hoe, hand land leveller and bund compactor were introduced under the Project and efficiency of their uses, especially push-weeder, is reported by Group Farmers as good. Further, fabrication of such tools is recommended to be continued to reduce burden of farmers,
- Use of organic manure for rice cultivation was suggested by C/Ps. The Project is suggested to consider the use of manure, if available, since such practice will reduce cash expenses for rice production and some effect on improvement of soil fertility is expected. Further, the introduction of power tillers is also suggested by C/Ps and Group Farmers in order to ensure timely operation of rice cultivation and to reduce burden in land preparation works. DADUs are requested to study possibility to introduce power tiller hiring services by inviting service providers as envisioned some DADUs or other possible ways.
- Major results of Questionnaire Survey to AEAs and C/Ps conducted by the Mid-term Review Team are as shown in the following table.

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**Table 5.2.4 Results of Questionnaire Survey to AEAs & C/Ps 1/**

Inquiry	Ashanti Region (respondents: 18)	Northern Region (respondents: 13)
1. Technology contributed most to productivity increase in trial plots	LD (15/18) rice cultivation technologies (12/18)	rice cultivation technologies (11/13) LD (7/13)
2. Technology contributed most to quality improvement in trial plots	rice cultivation (9/18) post-harvest (9/18)	rice cultivation (9/13) post-harvest (9/13)
3. Land development technology: Applied technique/work most contributed to yield increase of	ploughing/leveling (8/18) bund construction (8/18)	bund construction (5/) land leveling (4/13), ploughing (4/13)
4. Rice cultivation technology: Applied technique/practice most contributed to yield increase	quality seed/seed selection (11/18) fertilization (4/18)	planting method (8/13) quality seed (6/13)
5. Land development (/preparation) technology: Applied technique/works which are easily adopted by farmers Applied technique/works which are not easily adopted by farmers	bund construction (8/18) leveling (5/18) bund construction (11/18) leveling (6/18)	ploughing (8/13) bund construction (4/13) bund construction (8/13) leveling (ploughing) (5/13)
6. Rice cultivation technology: Applied technique/practices which are easily adopted by farmers Applied technique/practices which are not easily adopted by farmers	fertilization (9/18) planting method (8/18) row planting (11/14)	planting method (8/13) quality seed (4/13) fertilization (6/13) planting method (5/13)

1/: Results of Questionnaire Survey on Technical Package conducted by the JICA Mid-term Review Team

Respondent: AEAs, district & regional C/Ps (18 in Ashanti R. & 13 in Northern R)

For inquiry 1 & 2, plural answers were mistakenly made. For other inquiries, plural answers are allowed.

Example of description: rice cultivation (12/18), where 12 respondents out of total selected rice cultivation technologies for an inquiry

Rice cultivation = rice cultivation technology, post-harvest = post harvest technology

## 5.2.2 Improvement of Rice Farming System and Farming Support System for Rice Farmers (Output 2)

### (1) Results of Baseline Survey in 2009

Some basic information on farmers in the 14 project sites (communities) identified through the baseline survey conducted by the Project in 2009 are as follows;

**Table 5.2.5 Basic Information on Farmers in Project Communities 1/**

Region	Family Size (No.) 1/	Land Holding Size /Family (Acre) 2/		Cropped Area Family (Acre) 2/		Proportion (%) of Family Cultivating: 2/							
		Avg.	Range	Avg.	Range	Rice	Cacao	Maize	Oil Palm	Plantain	Groundnut	Yam	Others
Ashanti 3/	5.9	8.1	1 - 43	8.5	1 - 60	79	47	40	27	25	1	3	18
Northern 4/	5.8	8.6	1 - 35	8.3	2 - 35	86		83			39	29	13
Project 5/	5.8	8.3	1 - 43	8.4	1 - 60	82	27	58	16	14	17	14	32
Average Cropped Area/Family Who Cultivated Subject Crop (acre/family) 1/													
Region	Rice		Cacao		Oil Palm		Maize		Groundnut		Proportion (%) of Family Holding: 1/		
	Avg.	Range	Avg.	Range	Avg.	Range	Avg.	Range	Avg.	Range	Goat	Sheep	Cattle
Ashanti 3/	2.7	1-12	5.7	1-42	4.5	1-18	2.2	0.5- 9	5.3	1-13	29	19	0
Northern 4/	2.7	1-20					3.3	1-10	2.1	1-5	45	36	15
Project 5/	2.7	1-20	5.7	1-42	4.5	1-18	2.8	0.5- 10	3.7	1-13	36	26	6

1/: Source - Baseline Survey conducted in 2009 by Project; sample no. Ashanti 354 families, Northern 268 families, total 622 families

2/: Source - Baseline Survey conducted in 2009 by Project; sample no. Ashanti 346 families, Northern 242 families, total 588 families

3/: Average of 4 project communities in Ashanti Region 4/: Average of 3 project communities in Northern Region communities

5/: Average of 7 project communities

### (2) Major Activities in the First Phase

Activities for the improvement of rice farming system and farming support system for rice farmers during the first phase (2009 to 2011) were performed as part of the activities to develop the Technical Package and the establishment of extension procedure and with the support of short term experts as the assignment of a long term expert on farming system management was realized only recently.

Major activities on the improvement of rice farming system were basically targeted to the farmer groups (Group Farmers) formed at individual trial plots and include: i) formation of Group

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Farmers for trial plot operations, ii) preparation of action plans for the Group Farmers, iii) training of the Group Farmers on farm book keeping, iv) training on rice farming system through the on-site training (OST) at the trial plots and v) skill/technology transfer activities centered at the trial plots such as training in class, farmers' days and field trip. Such activities were performed as part of the activities for the establishment of extension procedure.

Without the timely assignment of a long term expert on farming system management as stated earlier, activities on the improvement of farming support system for rice farmers were basically performed under the guidance and support of the short term experts, post-harvest processing and marketing. Major activities include: i) study on present status of post-harvest processing and rice marketing in the country and the project related areas, ii) preliminary identification of measures to improve the support system, iii) training activities directed at the Group Farmers of the trial plots, processors of parboil rice and rice millers in and around the project communities, vi) initial preparation for the establishment of Rice Quality Improvement Forum and v) preparation of sample packaged brand rice and its exhibition at the farmers' day event.

### **(3) Suggestions**

- The activities in these fields should better be intensified in the second phase of the Project by assigning of the long term expert on farming system management and by focusing activities to specific sub-fields. The scope for the improvement of rice farming system will include strengthening of producers, processors and marketing groups and improving farm management capabilities of farmers and farmer groups and the activity for the improvement of farming system will include enhancement of post-harvest management and marketing capabilities of them. The same should be carried out in close collaboration with extension activities with the support of short term experts,
- The formation and empowerment of farmer organizations is considered to be vital for agricultural development by small-scale farmers. Under the Project, the formation of Group Farmers at trial plots was attempted primarily for ensuring group collaboration in land development/preparation works in the trial plots. As the heaviest burden in rice cultivation is the works, it is suggested to employ joint work or labor exchange arrangement to mitigate such burden within farming communities and to ensure timely implementation of land development/preparation works, and
- The credit in kind introduced in the Project promoted the adoption of the Technical Packages by beneficiaries. The monitoring on the recovery rates of the credit should be continued.

### **5.2.3 Establishment of Extension Procedure for Sustainable Rain-fed Lowland Rice Production (Output 3)**

#### **(1) Major Activities**

Major activities for the establishment of extension procedures for sustainable rain-fed lowland rice production in the first phase (2009 - 2011) were basically targeted AEAs assigned to the project

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activities and the Group Farmers formed to manage the individual trial plots and include training on: i) land development technologies, ii) rice production technologies/practices and iii) post-harvest technologies at farmers level through training in class and OST at the trial plots. Such activities were implemented as part of the activities for the development of Technical Package. Other extension methods employed include field days, field trip and farmers' competition. The farmers' competition is being held at present (February, 2012). The number of qualified Group Farmers for participation is 185 in total (141 in Ashanti R. & 44 in Northern R.). The number of model sites (project target communities where trial plots are established) in the first phase is 8 in Ashanti Region and 6 in Northern Region. The number of trial plots established in the first phase was 14 (8 in Ashanti R. and 6 in Northern R.) in 2010 and 38 (24 in Ashanti R. and 14 in Northern R.) in 2011.

The activities in 2012 are planned to be substantially expanded and will be carried out by establishing demo plots in the priority sites in the target 14 communities and in the model sites (38 trial plots) established in the first phase as well. The targets set for 2012 are as follows;

**Table 5.2.6 No. of Priority Sites and Demo Plots in 2012 1/**

Region	2011			2012 (2nd Phase)		
	No. of Model Sites	No. of Trial Plots	No. of AEAs 2/	No. of Priority Sites	No. of Demo Plots	No. of AEAs 2/
Ashanti	8	24	8	160	160	40
Northern	6	14	6	36	74	30
Total	14	38	14	196	234	70

1/: Tentative figures as of Feb. 2012 2/: Total of number of AEAs assigned & to be assigned

Under the Project, the extension activities were carried out by establishing the trial plots as centres for learning. The major extension methods employed in the Project are as follows;

**Table 5.2.7 Major Extension Methods Employed in the Project**

Item	1st Phase	2nd Phase
Basic Approach	Group approach	Group + individual approach
Center for Learning	Trial plots (38 plots)	Trial plots (38 plots) AR 24 & NR 14 plots Demo plots (234 plots) AR 160 & NR 74 plots
Major Extension Methods	OST (on-site training) Training in class Field days Field trip Farmer-to-farmer extension TOT Farmers' competition Exhibition (farmers day etc.)	OST (on-site training) Training in class Field days Field trip Farmer-to-farmer extension TOT in class TOT at model sites Farmers' competition Exhibition (farmers day etc.) Extension materials (audio visual material, leaflets etc.) Use of mass media

As of February

## (2) Suggestions

- In spite of the late assignment of a full-time extension expert (June, 2011), the extension activities in the Project were extensively carried out. However, the results of Questionnaire

Survey to AEA's and C/Ps conducted by the Mid-term Review Team indicate insufficient improvement in the skills of some AEA's in providing the necessary technical guidance in the farming communities. For the smooth execution of planned activities in the second phase, the intensive capacity development of extension personnel should be envisaged at the earlier stage of the phase. Monitoring activities on the impacts of the project activities appear to be rather limited in the first phase. The strengthening of monitoring component is also to be aimed. Further, in the second phase, the number of demonstration sites will be vastly increased for expanded dissemination of the Technical Package for rice production as stated earlier. Technical knowledge and practical skills for rice production and extension skills of individual AEA's should be enhanced to extent possible,

- Under the decentralization policy, agriculture extension activities in Ghana will be placed under the jurisdiction of District Agricultural Development Units. The careful monitoring on such system changes and the introduction of necessary counter measures are considered essential for the smooth execution of future extension activities under the Project.

The followings are some comments for strengthening extension activities in the project areas suggested based on the Team's assessment on the current extension activities.

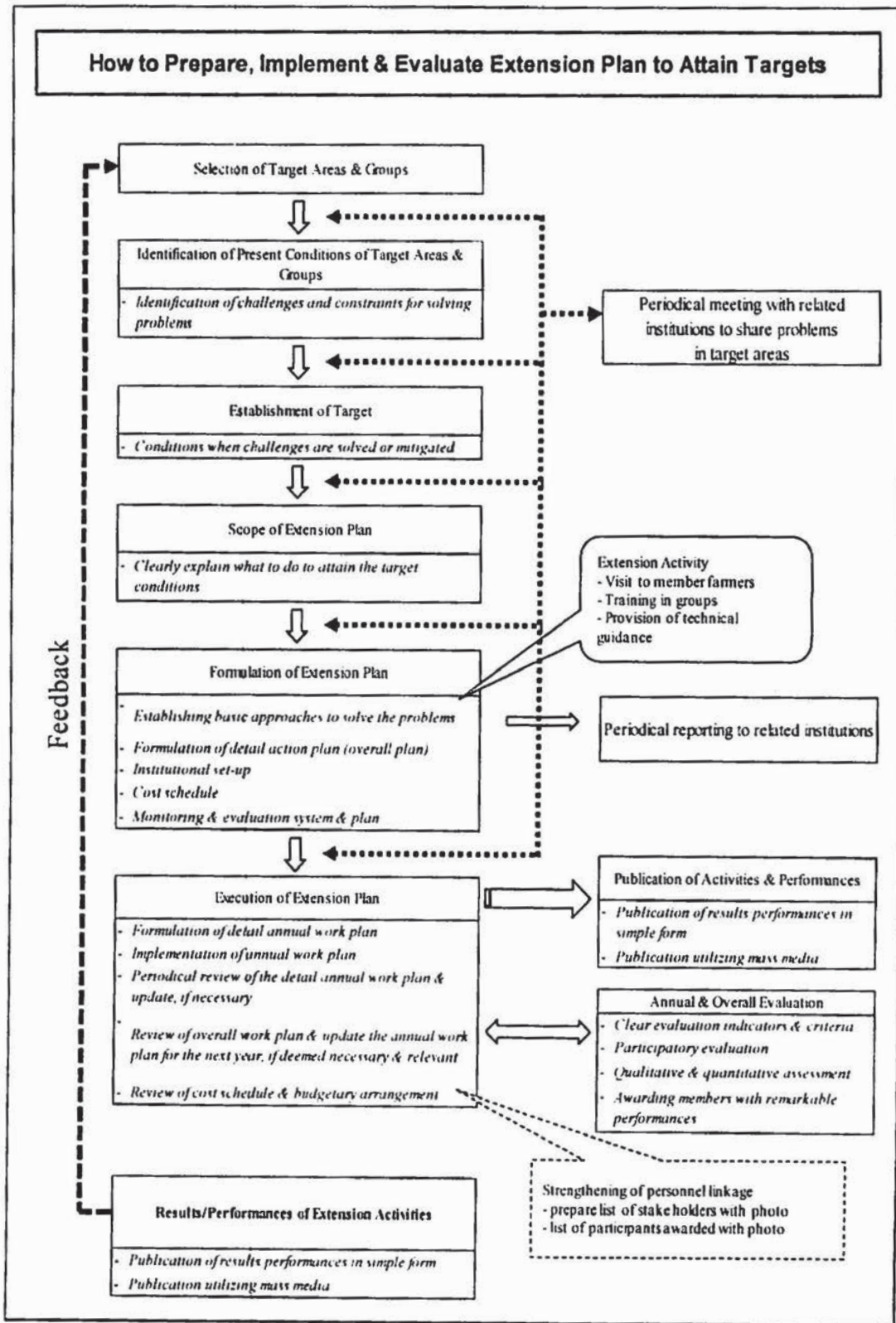
- The operation area of an AEA appears to be very large, hence the number of extension staff required for a target area should be based on the total agricultural production, farmland area and number of farmers in the area,
- Adequate provision of logistics such as motorcycle and fuel is considered essential for enhanced field operation of AEA's,
- Formation of AEA's' association is suggested in order to ensure routine exchanges of information and to share individual successful and unsuccessful experiences among members through the periodical meeting of the group,
- Compilation of extension achievements in leaflets and releasing extension performances and results to community and district government institutions, agricultural institutions and farming communities, and
- For the efficiency of extension activities of AEA's and C/Ps, accessibility to sites should be duly taken into account in the selection of priority sites.

The Team suggests that the extension method introduced in Akita Prefecture in Japan should better be implemented. This is a method where farmer groups and group members are collectively or individually supported: i) to identify challenges for development and development theme, ii) to formulate action plan to solve problems (extension plan) and iii) to implement and verify the effectiveness of the countermeasures employed.

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**Figure 5.2.1 Framework for Formulation & Implementation of Extension Plan in Akita Prefecture**

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### 5.2.4 Time Framework for Establishment of Model (tentative)

In the Project, the establishment of “model for sustainable rain-fed lowland rice production (Model)” and the dissemination of Model are envisaged as stated in the Project Purpose in PDM. The tentative time framework for the establishment of Model is illustrated in the following figure.

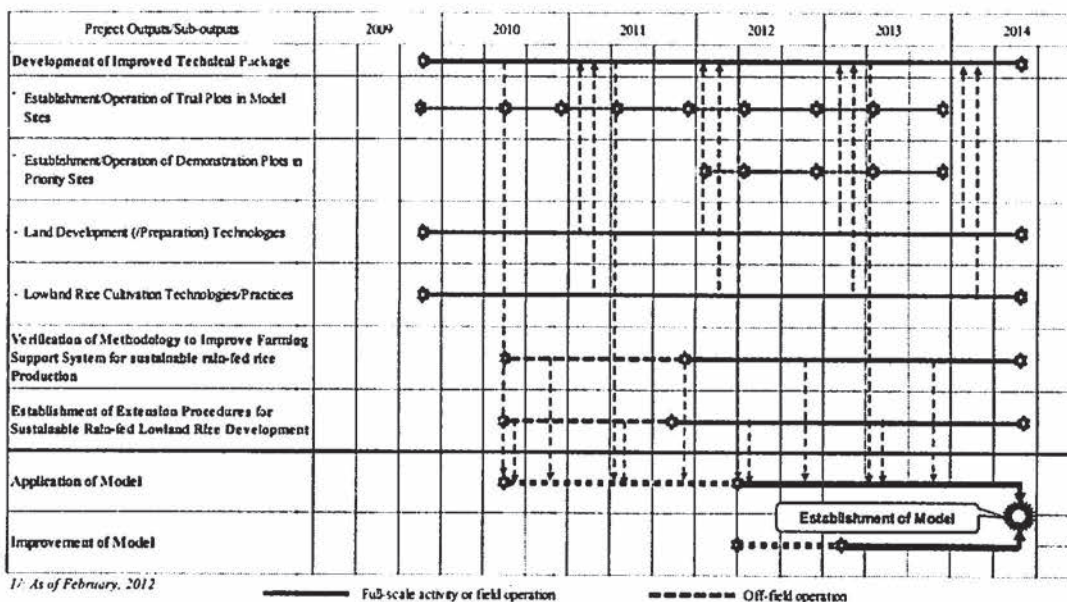


Figure 5.2.2 Time Framework for Establishment of Model

## 6. Conclusion

The Project has passed two and half (2.5) years since its commencement. The Team evaluated this Project based on the findings obtained from field observations and a series of discussions with those involved in the Project, and in accordance with the five (5) evaluation criteria.

The Team concludes that project activities have been well implemented so far in spite of some delays experienced during the initial stages.

Development of the technical packages for rain-fed lowland rice production is well advancing and the results from the trial plots are very encouraging in all project regions.

The technical and managerial capacity of Ghanaian C/Ps has been strengthened; however, there is still the need to upgrade their managerial capacity relating to monitoring and supervision, and also production of materials on better extension delivery procedures. There is the need to conduct extension staff training for new priority areas. Such training conducted by existing C/Ps, regional C/Ps, district staffs are backstopped by technical experts from Japan. It is too early to evaluate the Project’s impact and sustainability at this stage; however, there is no doubt that the Project is on the right track and it’s likely to achieve Project Purpose.

It should also be noted that considerable efforts have been made by the Ghanaian side, especially with respect to land tenure arrangements and off-farm water management in lowland as a whole, which are required to address current challenges in a long term.

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In conclusions, the Team emphases that the first phase of the Project is on the right track with considerable improvement in farmers' production levels with the adoption of introduced technical packages by the Project.

All the observations notwithstanding, the Team therefore made the following recommendations as a guide to the implementation of the next phase of the Project.

## **7. Recommendations**

### **7.1 Categorization of Technologies**

The Team observed significant improvement of yields in the trial plots which confirmed their farmer friendliness and applicability of technologies. To accelerate the dissemination of these technologies, it is recommended that the Improved Technical Package should be categorized into 10 elements technologies according to the session 5.2 (Technical Findings and Suggestions) in order to make the Package explicit and also to make it easy.

### **7.2 Profitability through Farming Support System**

To sustain farming as business, the profitability through farming support system including rice quality improvement and market access should be ensured. In view of this, network and information sharing among the rice value chain actors should be promoted through Rice Quality Improvement Forum (RQIF) so as to link farmers and farmer groups to good market. It was observed that rice marketing in Northern region faces serious challenges and therefore the RQIF in Northern region is expected to contribute more to improving it.

With regard to the quality improvement, parboiling, milling and de-stoning technologies shall be further disseminated.

Accordingly, to improve farming support system, the Team suggests the assignment of JICA Expert on Farming System Management.

### **7.3 Extension Procedure and Materials**

Evaluation of extension activities conducted under the Project should be carried out and Extension Procedure should be developed and established based on the evaluation. It is expected that extension activities, especially training components, will build capacities to empower project stakeholders in the development and dissemination of technologies. In order to enhance farmer adoption, the Team suggests the introduction of audio visual materials for effective dissemination of new technologies.

### **7.4 Monitoring and Evaluation on Progress of Activities**

To ensure the increment in number of priority sites, it is recognized that the monitoring and evaluation on the demo plot activities is vital. Therefore it is highly recommended to develop a

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monitoring and evaluation framework to ensure efficient and effective implementation of the Plan of Operations at all levels.

The Team observed the increment of yields in the individual plots of several farmer groups. Therefore, the Team suggests that the Project monitors the individual farmers' yields periodically and continuously assess the effectiveness of technologies. In this regard, it is recommended that the capacity of staff should be strengthened and the needed logistics should be provided to ensure efficient monitoring and evaluation.

#### **7.5 Public Relations (PR)**

For purpose of public awareness creation and information sharing among partners, a PR aimed at disseminating project activities and performances through media, multimedia and ICT should be further enhanced.

#### **7.6 Exit Strategy**

As part of implementation of second phase, the Team recommends that MOFA should develop an exit strategy to sustain and upscale the dissemination of the Model and technologies developed under the Project. This plan should be presented by the next Steering Committee.

#### **7.7 View on Decentralization**

Ghana is undergoing decentralization and therefore administrative and financial matters of the district agriculture services will finally be under the jurisdiction of district assemblies. This ongoing decentralization process should be monitored carefully to ensure that MMDAs are involved in the planning and implementation of project activities.

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## **Joint Mid-term Review Report**

**on**

**The Project for Sustainable Development of Rain-fed Lowland**

**Rice Production in the Republic of Ghana**

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**Annex 1 Study Schedule**

Day	Date	Japanese members	Ghanalan members
1	24-Jan	Tue AM: Visit to JICA Ghana Office, MOFA CSD PM: Moving from Accra to Kumasi Meeting with JICA expert	Meeting with Japanese mission members
2	25-Jan	Wed Meeting with all the C/Ps, Interview with C/Ps	
3	26-Jan	Thu AM: Visit to Tapa DADU Office Field visit and interviews to farmers at Frenchman site and Katabo central PM: Field visit and interviews to farmers at Kensakrom and Mpasatia	
4	27-Jan	Fri AM: Visit to New Adubiase DADU Field visit and interviews to the farmers at Subriso and New Adubiase PM: Field visit and interviews to the farmers at Praso	
5	28-Jan	Sat AM: Field visit and interviews to the farmers at Atonsu and Actuase	
6	29-Jan	Sun Moving from Kumasi to Tamale	
7	30-Jan	Mon AM: Visit to Wale Wale DADU Office Field visit and interviews to the farmers at Gmbisi PM: Field visit and interviews to the farmers at Wungu	
8	31-Jan	Tue AM: Moving from Accra to Tamale (Ghanalan members) Meeting with all the C/Ps, Interview with C/Ps PM: Field visit and interviews to the farmers at Nachimbiya and Sanga	
9	1-Feb	Wed AM: Field visit and interviews to the farmers at Kpalbe PM: Moving from Tamale to Kumasi	
10	2-Feb	Thu AM: Meeting with Project members Visit to Tapa DADU Field visit and interviews to farmers at Frenchman site and Katabo central PM: Field visit and interviews to farmers at Kensakrom and Mpasatia	
11	3-Feb	Fri AM: Visit to New Adubiase DADU Field visit and interviews to the farmers at Subriso and New Adubiase PM: Field visit and interviews to the farmers at Praso Internal meeting of review mission	
12	4-Feb	Sat Joint mission internal meeting, Analysis of evaluation findings, Preparation of draft M/M	
13	5-Feb	Sun Joint mission internal meeting, Analysis of evaluation findings, Preparation of draft M/M	
14	6-Feb	Mon Meeting with regional and district C/P to explain findings and draft M/M Joint mission internal meeting, Revising draft M/M and preparation for Steering Committee	
15	7-Feb	Tue Revising draft M/M and preparation for Steering Committee	
16	8-Feb	Wed Steering Committee (First session: Project report and plan, Second session: Joint Review results and explanation on M/M)	
17	9-Feb	Thu AM: Finalizing M/M, PM: Moving from Kumasi to Accra	
18	10-Feb	Fri Signing on M/M, Report to JICA Ghana Office, EoJ and MOFA CSD	Signing on M/M

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## Annex 2. Interviewee List

### • Ministry of Food and Agriculture (MOFA)

Emmanuel Asante-Krobea	Director of Crop Services Directorate
Al-Hassan Imoro	Rice Liaison Officer
William Boakye-Acheampong	Ashanti Regional Director
Joseph Faalong	Northern Regional Director
Stephen Yakubu	Deputy Regional Director (Northern Region)
Abdulai I. Adama	Engineer (Northern Region)
Langkuu F. Aaron	M&E unit (Northern)

### • Ashanti Region: Regional Counterpart

Samuel Kofi Tekpor	Schedule Officer
Eliasu Mumuni	Regional Counterpart: Land Development
Raphael Dodzi Sorkpor	Regional Counterpart: Farming Support System
Samuel Kissi	Regional Counterpart: Rice Cultivation
Yaa Pokuaa	Regional Counterpart: Extension

### • Northern Region: Regional Counterpart

Yusuf Ahmed Tijani	Schedule Officer
Paschal Agbam	Regional Counterpart: Extension
Dauda A. Salam	Regional Counterpart: Rice Cultivation
Iddrisu Musah	Regional Counterpart: Farming Support System
Al-Hassan Abdul Rauf	Regional Counterpart: Land Development

### • Asante Akim North (Ashanti Region)

Albert Obeng Adu	Director
Samuel O. Ampofo	DDO
Osei Yaw	AEA of Akutuase
Boapea Agyare	AEA of Atunsu

### • Ahafo Ano North (Ashanti Region)

Saibu Mahama	Director
Anthony Amoa-Bosompen	DDO
Atta Abeberese	AEA of Katabo (Tepa)
Apraku Richmomnd	AEA of Anyinasuso

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• Atwima Mponua (Ashanti Region)

William Osei	Director
Martin Brantuo	DDO
Frank Otoo	AEA of Mpasatia
Baffour Owusu John	AEA of Kensakrom

• Adansi South (Ashanti Region)

Geoffrey Kporfeame	Director
Antwi Rafael	DDO
Charles Ofori	AEA of Subriso
Addai William	AEA of Praso

• West Mamprusi (Northern Region)

Leonard J. Yosangfo	Director
Ibrahim Mahama	DDO
Abukari Bawah	AEA (Gbimsi)
Adams J.D.	AEA (Wungu)

• East Gonja (Northern Region)

Robert A. Akolgo	Director
Solomon S. Djre	DDO
Karim A. Haruna	AEA (Kpalbe)
Ziblim Imoro	AEA (Gbung)

• Tamale Metropolitan

Arkorful Kwamena	Director
Richard Homawoo	DDO
Ziblim Abukari	AEA (Nachimbiya)
Majeed A. Yussif	AEA (Sanga)

• Japanese Experts

Ohara Katsuyuki	Team Leader/ Farming System Management
Tujishita Kenji	Land Development
Katafuchi Shota	Extension
Yoshino Minoru	Rice Cultivation
Takemoto Masanori	Administrative Coordination

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Annex 3. Evaluation Grid

Project for the Sustainable Development of Rain-fed Lowland Rice Production in the Republic of Ghana

(This Grid was prepared and finalized by Japanese Evaluation Team.)

Evaluation Criteria	Evaluation question		Basis of judgment	Data needed	Data source	Data collection method
	Main question	Sub question				
Achievement	Were the input made as planned?	Have the Japanese experts dispatched as planned?	Comparison with the planned figures	Records on Japanese experts	Project records	Document review, interviews
		Has the counterpart training conducted as planned?	ditto	Records on counterpart training	ditto	Document review, interviews
		Have the equipment and machinery provided as planned?	ditto	Records on equipment provision, information on the equipment and machinery	Project records, opinions of experts	Document review, interviews
		Have the counterpart personnel assigned as planned?	ditto	List of counterpart personnel	Project records	Document review, interviews
		Have the budgets to cover operational costs allotted as planned?	ditto	Records on budgetary allocation	Project records	Document review, interviews
	Have the outputs been produced properly?	Through the development of "Technical Package", how about the acceleration of rice production in model sites?	Degree of achievement	Information on the progress of the completion	Progress report/ Project complete report, Monitoring & Evaluation by Project personnel/Experts	Interview, discussion with Project personnel
		How about the verification of methodology to improve farming support system?	ditto	ditto	ditto	ditto
		How about the process of establishment on extension procedure for sustainable rain-fed lowland rice development model?	ditto	ditto	ditto	ditto
	Is the Project purpose likely to be achieved?	Have the materials (various manuals, etc) been prepared and/or compiled?	ditto	ditto	Project records, documents and production data, manuals	Document review, discussion with Project personnel
		The dissemination of the model for sustainable development of rain-fed lowland rice production is accelerated within the Project areas or not? Indicators are below: a. More than 1,000 farmers apply the model for sustainable development of rain-fed lowland rice production b. All the manuals of technical package, farming support system and extension is compiled as "Model for sustainable rain-fed lowland rice development" and made available to stakeholders	Levels of improvement  Prospects of achievement, Levels of application	Information related to the progress of completion  Information related to the Project surrounding areas, and degree of achievement of the manuals produced by the Project	Progress report/ Project complete report, and Project personnel/Experts  Opinion of the Project personnel, Project records, targeted farmers	Interview, discussion, with Project personnel, field visit  Document review, Interview, discussion with Project personnel
Have the activities been implemented as scheduled?	Have the activities been timely implemented?	Comparison with the PO	Information on the changes that took place	Actual implementation schedule	Project personnel, Project records	Document review, interviews
	Has there been any change in the activities and schedule of implementation from the original PO?					Document review, interviews

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Evaluation Criteria	Evaluation question		Basis of judgment	Data needed	Data source	Data collection method	
	Main question	Sub question					
Implementation processes	Have there been any problem related to the management of the Project?	Have the Project activities been properly monitored?	Frequency and contents of monitoring	Monitoring mechanism, monitoring results	Project personnel, Project records	Document review, interviews	
		Has the decision making mechanism of the Project been functional?	Existence of problems and countermeasures	Information on the JCC and other decision making mechanisms	Project personnel, Project records	Interview, discussion with Project personnel	
		Has the communication among JICA HQ, JICA country Office, the implementing agencies and the Project been smooth?	ditto	Ways and contents of the regular transactions	Officers in charge at JICA HQ and JICA Ghana Office, Staff of implementing agencies, Project personnel, Project records	Interview, discussion with Project personnel & related persons	
		Has the communication among the Project personnel been smooth?	ditto	Ways and contents of the daily and regular transactions among the Project personnel	Project personnel, Project records, Questionnaire results	Interview, Questionnaire	
		Have there been any other problems encountered in the course of Project implementation so far?	ditto	Information on the managerial problems so far and countermeasures taken by the Project	ditto	Interview, discussion with Project personnel, Questionnaire	
		What are special measures taken in terms of the managerial aspects of the Project?	ditto	Information on the managerial measures taken by the Project	ditto	Interview, discussion with Project personnel	
		Do the implementing agencies understand the objectives and approaches of the Project?	Levels of understanding	Information on the understanding of the Project purpose, discussion & meeting records	Project personnel, Project records	Interview, discussion with Project personnel	
		Are the implementing agencies committed and well aware of the Project?	Have appropriate counterpart personnel been assigned?	Suitability of their expertise	Information on the qualification / background / experiences of the assigned personnel	ditto	Interview, discussion with Project personnel
		Are the target groups well aware of the Project?	Have the counterpart personnel been committed and involved actively in the Project activities?	Degree of participation	Examples of the activities that were mainly conducted by the counterpart personnel	ditto	Interview, discussion with Project personnel
			Have the beneficiaries well recognize the Project activities?	Levels of understanding	Information on their understanding of the Project, records of explanatory efforts made by the Project	Project personnel, Project records, targeted farmers	Interview, discussion
	Have the beneficiaries (DDO, AEA and trial plot farmers) participated actively in the Project activities?		Degree of participation	Information on their participation in the Project activities	Project personnel, Project records	Interview, discussion	
	Were there any special measures taken to ensure the smooth implementation of the Project?		Have there been any special measures taken in terms of implementation mechanism?	Existence of the consistent stipulation in the document	Information on the measures taken by the Project	Project personnel, Project records	Interview, discussion with Project personnel
		Have there been any special consideration given in terms of dealing with the target groups?	ditto	Information on the measures taken by the Project	Project personnel, Project records	Interview, discussion with Project personnel	
	Has the Project still been in line with the priorities in the development plans and program of the country and the sector?	Is the Project still consistent with the development plans of Ghanaian Government?	Existence of the consistent stipulation in the document	National Policy & Development plans and programmes of Ghanaian government	National Policy Papers (CAADP, METASIP, CARD, etc), Questionnaire results	Document review, Questionnaire	
Is the Project still consistent with the plans and programs in rice irrigation and agricultural sectors?		Policies & programs related to the irrigation and agriculture		Questionnaire results	Document review		

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Evaluation Criteria	Evaluation question		Basis of judgment	Data needed	Data source	Data collection method
	Main question	Sub question				
Relevance	Does the Project address the needs of the target area and the target groups?	Is the Project still in line with the needs of the target areas (Ashanti & Northern Province) and society?	Confirmation on the current needs	Information related to the progress of completion, opinion of Project personnel, the relevant local government, and target beneficiaries	Project personnel, Project records, Questionnaire results	Document review, interviews, Questionnaire, field visit
		Is the Project still in the line with the needs of the target group?	Positive response from the target group	Baseline information, opinion of Project personnel and target beneficiaries	Project records, documents and production data, targeted farmers, Questionnaire results	Document review, interviews, Questionnaire
	Is the Project priority in the Japan's foreign assistance policy and JICA's country programs?	Is the Project relevant to the Japan's Aid Policies ?	Existence of the consistent stipulation in the document	Priority directions in Japan's Aid Program	Japan's Foreign Assistance Policy	Document review
		Is the Project relevant to the JICA's Program / Rolling Plan?	ditto	JICA's Program / Rolling plan	JICA's Country Assistance Program / Rolling Plan	Document review, discussion with JICA staff
	Has the Project been adequate means to address the development issues in the country and the sector?	Does the Project properly address the needs and context of implementing agencies?	Existence of the consistent stipulation in the document	Plans and program of implementing agencies and the relevant local government	Policy documents, staff of implementing agencies	Document review, interviews
		Has there been any synergy effects through cooperation with other donors?	Positive response from the target group	Baseline information, opinion of stakeholders	Project personnel, Project records	Document review, interviews
	Is the selection of target groups appropriate?	Have the size of the target group been appropriate? Were the selection of the model areas appropriate in terms of the Project implementation?	Existence of the size of the target group	No. and area of coverage, no. of beneficiaries	Project personnel, statistics, other secondary documents	Document review, interviews
		Has the Project equitably brought about the benefit?	Distribution of the Project benefits	Project benefits enjoyed by different status of target groups	Project personnel, Project records	Document review, interviews
		Has the cost been equally shared by the stakeholders?	Cost sharing ratio	Expenditure and source of funds	Project records and personnel	Document review, interviews
	Has the Project applied appropriate approach?	Are there relevant on the technical package, farming support system and extension approach / methods as the Project content?		Technical package, Farming support system and Extension approach / methods in the Project	Project personnel, Project records	Document review, interviews
		Is there any advantage of Japanese technologies / experiences?		Technologies transferred through the Project	Project personnel, Project records	Document review, interviews
	Has there been any changes in the environment of the Project?	Has there been any changes in the social, political and other conditions assumed prior to the commencement of the Project?	Existing condition in the environment of the Project	Information on the environment of the Project	Project personnel, Project records	Document review, interviews
Effectiveness	Is the prospect of achieving the Project purpose considered to be high?	Has the Project purpose been specific enough?	Existence of commonly shared definitions of Project purpose	Definition, understanding on the Project purpose among the Project personnel	Project personnel, Project records, Questionnaire results	Interview, discussion with Project personnel, Questionnaire
		Will there be any potential obstacles that may hinder the achievement of the Project purpose?		Information on the potential risks and obstacles and possible countermeasures	Project personnel, Project records, Questionnaire results	Interview, discussion with Project personnel, Questionnaire
	Have the outputs been appropriate to achieve the Project purpose?	Has there been any factors contributing to the achievement of the Project purpose other than the outputs?		Information on the related events, programs/projects by other organizations in the target areas	Project personnel, Project records, relevant documents	Interview, field visit, discussion with Project personnel
		Is the logical sequences between outputs and Project purpose still secured?	Confirmation on the logical sequence	Information on the results of activities that indicate the cause-effect relationship	Project personnel, Project records	Interview, discussion with Project personnel
Has there been any influence of important assumptions?	To implement the project smoothly, are there any big influences by external factors?	Existing condition in the environment of the Project	Information on any related events, problem surrounding to the Project	Project personnel, Project records, Questionnaire results	Document review, interviews, Questionnaire	

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Evaluation Criteria	Evaluation question		Basis of judgment	Data needed	Data source	Data collection method
	Main question	Sub question				
	Has there been any other hindering or contributing factors?	What are the positive factors that encouraged the achievement of the Project purpose? What are the negative factors that inhibited the achievement of the Project purpose?	Current assumptions & important factors	Information on any relevant events in the course of Project implementation	Project personnel, Project records	Interview, discussion with Project personnel
Efficiency	Have the Project activities been appropriate to produce the outputs?	Are the activities contributing to achieve the outputs?	Co-relation between the outcomes of the activities and outputs	Logical sequence between activities and outputs, progress of activities and levels of achievements Information on any relevant events in the course of Project implementation	Project personnel, Project records ditto	Document review, interviews Interview, discussion with Project personnel
		Has there been any obstacle for the achievement of the outputs?	Comparison with the planned figures	Records on Japanese experts	Project records, Questionnaire results	Document review, interviews, Questionnaire
		Have the timing, number, duration, and fields of Japanese experts dispatched been appropriate?	ditto	Records on counterpart training	ditto	Document review, interviews, Questionnaire
		Have the timing, duration, contents of counterpart training been appropriate?	ditto	Records on equipment provision	ditto	Document review, interviews, Questionnaire
		Have the timing, volume, and specification of provision of equipment been appropriate?	ditto	List of counterpart personnel	ditto	Document review, interviews, Questionnaire
		Have the timing, number, fields and competency of the counterpart personnel been appropriate?	ditto	information on the facilities	Project records, opinions of experts	Interviews, field visit
		Were the physical facilities sufficient to implement the Project activities?	Comparison with the input costs	Budget and expenditure, local cost by Ghanaian side	Project record and personnel, JICA staff	Interview, discussion with Project personnel and JICA staff
	Have the inputs been appropriate to produce the outputs?	Has the scale of Project output been appropriate for the planned inputs?	ditto	ditto	ditto	ditto
		Is it expectable to obtain enough project achievements to compensate the input costs?		Information from the Project	Project record and personnel, JICA staff, related donor personnel	Interview, discussion with Project personnel and JICA staff
		Are there any outputs that were realized by cooperation with other JICA schemes or other donors?		Information from the Project	Project record and personnel, JICA staff	Interview, discussion with Project personnel and JICA staff
Have the project been managed and supported by the stakeholders?	Have the project management and support been well functioned? Were the monitoring activities carried out efficiently?		Information on the climate and natural disasters, and other factors	Project personnel, Project records	Interview, discussion with Project personnel	
	Have there been any factors hindering or contributing to the efficiency of the Project?	Have there been any influence from important assumptions? Have there been any other factors affecting the efficiency?		Information on any relevant events in the course of Project implementation	Project personnel, Project records	Interview, discussion with Project personnel
Is the prospect of achieving the overall goal assumed to be high?		Is the productivity and profitability of rice farming in rain-fed lowland in Project areas increased? (Average unit yield of rice and income increased from rain-fed lowland rice production in the model areas)	Comparison with the baseline	Information from the Project, national agricultural data	Opinions of Project personnel, Project documents, Questionnaire results	Document review, sample survey, discussion with stakeholders, Questionnaire
		Will the achievement of the overall goal contribute to the bring positive impacts to the policies of Ghanaian government?	Organizational commitment, existence of relevant programs	Current program, future plan of the government, opinion of the Project personnel	Staff of the implementing agencies, Project personnel, Questionnaire results	Document review, interviews, discussion, Questionnaire
		Is there any possible factors that hinder or contribute to the achievement of the overall goal?		Information on any relevant events in the course of Project implementation	Project personnel, Project records	Document review, interviews
		Are any methods or mechanism suggested in order to achieve the overall goal?		Future plan of the government, opinion of the Project personnel	Staff of the implementing agencies, Project personnel	Document review, interviews, discussion

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Evaluation Criteria	Evaluation question		Basis of judgment	Data needed	Data source	Data collection method	
	Main question	Sub question					
Impacts	Is the project purpose still appropriated to achieve the overall goal?	Is the logical sequences between the Project purpose and the overall goal still secured?	Confirmation on the logical sequence	Information on the results of activities that indicate the cause-effect relationship	Project personnel, Project records, Questionnaire results	Interview, discussion with Project personnel, Questionnaire	
		Are there any additional important assumptions to be taken into account?	Influences of surrounding factors on the Project implementation	Information on the relevant factors surrounding the Project	Project personnel, Project records	Interview, discussion	
		Has there been any effects beyond the intended target groups?		Information on the sample cases in target area and other areas	Project personnel, Project records, Questionnaire results		
		Has there been any unexpected effect on the policies and programs of implementing agencies?		Information on the relevant policies	Relevant documents, Project personnel, Project records, Questionnaire results		
		Have there been any other ripple effects? (expectation/forecasting)	Has there been any unexpected change in technical and/or methodological aspects of the training?	Direct/indirect influences through the Project implementation	Information on the changes that took place	Project personnel, Project records, Questionnaire results	Document review, interviews, Questionnaire
			Has there been any unexpected effect in terms of gender, human rights, poverty gap, peace and conflicts?		Information on the cases of relevant events	Project personnel, Project records, Questionnaire results	
	Has there been any unexpected effect on environmental concerns in the target areas?			Information on the cases of relevant events	Project personnel, Project records, Questionnaire results		
Are the impacts brought by the Project?	What are the factors that brought about the above mentioned positive and negative effects?	Project's attributes to the effects	Information on the other interventions and events in the target areas	Project personnel, sample beneficiaries, Questionnaire results	Interview, discussion with relevant staff, document review, Questionnaire		

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Evaluation Criteria	Evaluation question		Basis of judgment	Data needed	Data source	Data collection method
	Main question	Sub question				
Sustainability	Will the policy of improving and expanding rice production continue ?	Is the possibility of continuation of the policies of rice production high?	Policy commitment	Current program, future plan of the government, opinion of the Project personnel	Policy documents, Project personnel	Interview, discussion with relevant staff, document review
		Is there any alternative programs that can integrate the outcomes of the Project?	Existence of relevant programs	ditto	ditto	Interview, discussion with relevant staff, document review
		Are the implementing agencies committed to continue the activities?	Organizational commitment of the implementing agencies	Opinions and relevant documents of implementing agencies	Project personnel, staff of implementing agencies, Questionnaire results	ditto
	Are the implementing agencies capable to continue or further expand relevant activities of the Project?	Are the counterpart personnel capable of carrying out the activities?	Comparison with the baseline	Levels of competence, confidence, experiences and performance	Project personnel, Questionnaire results	Interview, discussion with Project personnel, Questionnaire
		Are the necessary budget allocated for the continuous provision to technical training, farming support system and extension activities?	Budget allocation, planned volume	Budget plan of implementing agencies	Relevant staff of implementing agencies, budget documents	Interview, confirmation of documents
		Are the participating farmers capable of continuing and expanding their activities initiated during the Project?	Comparison with the baseline	activity records and future plan of the irrigation groups	Sample beneficiaries , Project personnel	Interview, discussion
		Are the model for sustainable development of rain-fed lowland rice production properly comprehended and well accepted among the stakeholders?	Levels of understanding and acceptance	Understanding on the modal among stakeholders	Project personnel, Project personnel, Questionnaire results	Interview, discussion, Questionnaire
	Will the technologies and methodologies introduced by the Project continuously be utilized?	Is there any mechanism to further disseminate the Project model and approach to other areas?	Existence of relevant programs	Information on the organizational setup and programs for further dissemination	Project personnel, staff of relevant institutions, organization structure	Interview, discussion with Project personnel, document review
		Is there any mechanism within the implementing agency to continue / further disseminate / modify the Project model & manuals in the future?	Existence of relevant programs	Information on the organizational setup and programs for further continuation and dissemination	Project personnel, staff of relevant institutions, organization structure	Interview, discussion with Project personnel, document review
		is the necessary equipment properly maintained?	Degree of maintenance and designation of the responsible entities	Budget allocation, history of maintenance of equipment	Project records, Project personnel	Document review, interviews
	Are there any factors that may affect the sustainability of the Project?	Is there any negative influence on the social and cultural aspects that may become obstacles in carrying out the activities?		Information on the cases of relevant events	Project personnel, Project records, sample beneficiaries, Questionnaire results	Interview, discussion, Questionnaire
		Is there any negative influence on the environment that may inhibit the continuation of the activities?		ditto	ditto	ditto

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Evaluation Criteria	Evaluation question		Basis of judgment	Data needed	Data source	Data collection method
	Main question	Sub question				
Identification of the Necessary measures to be taken	How the presumed conditions at the time of the commencement of the Project been changed and addressed?	What are the factors which have affected the provisions of the planned inputs?		Information related to the inputs	Project personnel, Project records & documents	Interview, discussion
		What are the factors which have affected the progress of the activities?		Information related to the process of implementation of the activities	Project personnel, Project records & documents	Interview, discussion
		What are the factors which have affected the degree of achievement of outputs?		Information related to the progress of attainment of the outputs	Project personnel, Project records & documents	Interview, discussion
		What are the factors which have affected the implementation mechanism of the Project?		Information related to the implementation mechanism	Project personnel, Project records	Interview, discussion
		What are the factors which have affected the pre-conditions and important assumptions?		Information related to the assumptions	Project personnel, Project records	Interview, discussion
		Is there any necessary change in terms of activities and inputs of the Project?		Target areas of the project, etc	Project personnel, staff of the implementing agencies	Discussion with stakeholders and among the evaluation team
	What are the possible measures to further facilitate the Project implementation?	Is there any necessary change in terms of outputs and their target indicators of the Project?			ditto	ditto
		Is there any necessary change in terms of the Project purpose and its target indicators?			ditto	ditto
		Is there any necessary change in terms of the implementation mechanism of the Project?			ditto	ditto
		What are the other possible measures to further facilitate the Project implementation?			Project personnel, Project records	Interview, discussion

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