

MINUTES OF MEETING  
BETWEEN JAPANESE TERMINAL EVALUATION TEAM  
AND THE AUTHORITIES CONCERNED OF THE PHILIPPINES  
ON JAPANESE TECHNICAL COOPERATION  
FOR RICE-BASED FARMING SYSTEMS TRAINING AND SUPPORT  
PROGRAM FOR ARMM  
(JICA TCP 4)

Japan International Cooperation Agency dispatched a Japanese Terminal Evaluation Team (hereinafter referred to as "the Japanese Team"), headed by Dr. Hideyuki Kanamori, to the Republic of the Philippines (hereinafter referred to as "the Philippines") from August 23 to September 17, 2009 in order to evaluate the achievement of the technical cooperation project on Rice-Based Farming Systems Training and Support Program for ARMM (hereinafter referred to as "the Project").

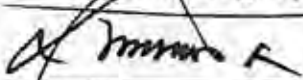
This evaluation was conducted jointly with the authorities concerned of the Government of the Philippines, by formulating a joint team of evaluation (hereinafter referred to as "the Team"). The Team has carried out field visits and interviews, collected necessary data and information on the achievement, and held discussions with different stakeholders of the projects, then prepared the Joint Evaluation Report (hereinafter referred to as "the Report").

The Team presented the Report to the Joint Coordination Committee (hereinafter referred to as "JCC") meeting that was held on September 15, 2009. The JCC has accepted the contents of the Report and taken note of the recommendations made in the Report.

The leaders from the Japanese and Philippine side agreed to report to their respective governments the matters referred to in the Report attached hereto.



**MR. MASAFUMI NAGAISHI**  
Senior Representative  
JICA Philippine Office

Corabato City, September 15, 2009  


**ATTY. RONILO A. BERONIO**  
Executive Director  
Philippine Rice Research Institute

Witnessed by:



**DR. HIDEYUKI KANAMORI**  
Japanese Terminal Evaluation Team



**HON. KEISE T. USMAN, AL-HAJ**  
Regional Secretary, DAF-ARMM

JOINT EVALUATION REPORT  
(TERMINAL EVALUATION)

RICE-BASED FARMING SYSTEMS TRAINING  
AND SUPPORT PROGRAM FOR ARMM  
(JICA TCP4)

Cotabato City, September 14, 2009



Dr. Hideyuki Kanamori  
Team Leader (Japanese Team)  
Japanese Terminal Evaluation Team  
Senior Advisor  
Japan International Cooperation Agency  
Japan



Dr. Clarita P. Aganon  
Team Leader (Philippine Team)  
Philippine Terminal Evaluation Team  
Central Luzon State University  
Republic of the Philippines



## Table of Contents

1. Scope of Evaluation
  - 1-1 Objective of Evaluation
  - 1-2 Methodology of Evaluation
  - 1-3 Methodology of the Surveys
  - 1-4 Members of the Evaluation Team
2. Outline of the Project
  - 2-1 Background of the Project
  - 2-2 Summary of the Project
3. Achievement of the Project
  - 3-1 Achievement of the Inputs
  - 3-2 Achievement of the Activities
  - 3-3 Achievement of the Outputs
  - 3-4 Achievement of the Project Purpose
  - 3-5 Implementation Process
4. Results of the Evaluation with the Five Criteria
  - 4-1 Relevance
  - 4-2 Effectiveness
  - 4-3 Efficiency
  - 4-4 Impact
  - 4-5 Sustainability
5. Conclusion
6. Recommendations and Lessons Learned

## ANNEX

Annex-1	Methodology of the Survey
Annex-2	List of Machinery and Equipment Provided for the Project
Annex-3	List of Counterpart Personnel Assigned
Annex-4	Achievement Grid
Annex-5	Training Record for AT & Implementer
Annex-6	Evaluation Grid
Annex-7	Analysis of Technology Adoption
Annex-8	Project Design Matrix

## Acronyms

ARMM	Autonomous Region in Muslim Mindanao
ARMMIARC	Autonomous Region in Muslim Mindanao Integrated Agricultural Research Center
AT	Agricultural Technologist
BSWM	Bureau of Soil and Water Management
DAF-ARMM	Department of Agriculture and Fisheries-ARMM
FFS	Farmers' Field Schools
JCC	Joint Coordination Committee
JICA	Japan International Cooperation Agency
LGU	Local Government Unit
MSU	Mindanao State University
PDM	Project Design Matrix
PhilRice	Philippine Rice Research Institute
USM	University of Southern Mindanao

## **1. Scope of Evaluation**

### **1-1 Objectives of Evaluation**

The objectives of the terminal evaluation are:

- 1) to verify the degree of achievement based on the Project Design Matrix (hereinafter referred to as "the PDM"),
- 2) to verify the implementation procedures,
- 3) to conduct the evaluation comprehensively using five evaluation criteria.

### **1-2 Methodology of Evaluation**

The evaluation is conducted;

- 1) jointly by Japanese and Philippine Members of the Evaluation Team,
- 2) by collecting data and information through
  - examining documents prepared by the "Rice-Based Farming Systems Training and Support Program for the ARMM" (hereinafter the "Project")
  - interviewing counterparts, local government officials and beneficiary farmers,
  - observing Palayamanan and FFS,and then,
- 3) by assessing the degree of achievement of the Project Activities, and
- 4) by analyzing the overall achievement using five criteria.

The five criteria are:

- Relevance

This is to question whether the Outputs, Project Purpose and Overall Goal are still in keeping with the priority needs and concerns at the time of the evaluation.

-Effectiveness

This concerns the extent to which the Project Purpose has been achieved, in relation to the outputs produced by the Project.

-Efficiency

This refers to the level of productivity in the implementation process. How efficiently the various inputs were converted into outputs.

-Impact

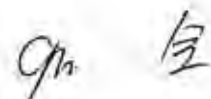
This assesses the changes, intended and unintended, direct and indirect, positive and negative, which were made as a result of the Project.

-Sustainability

This measures to what degree the Project's benefits are likely to continue after the external aid has come to an end.

### **1-3 Methodology of the Surveys**

The methodologies of the Impact Survey conducted by PhilRice and the Field Survey conducted by the Philippine Evaluator are shown in Annex 1



#### 1-4 Members of the Evaluation Team

- 1) Japanese Team
- Dr. Hideyuki Kanamori  
Team Leader  
Senior Advisor  
(Agriculture Development - Irrigation), JICA
- Ms. Miyoko Taniguchi  
Evaluation Analysis  
Senior Consultant  
IC Net Limited
- Ms. Maria Celestina Totanes  
Evaluation Planning  
Program Officer  
JICA Philippine Office
- 2) Philippine Team
- Dr. Clarita P. Aganon  
Professor and Director  
Center for Agricultural Resources and  
Environmental Studies, Research, Extension  
and Training  
Central Luzon State University

Table 1. Role of each member

Personnel	Main Tasks
Team Leader (JICA Senior Adviser)	<ul style="list-style-type: none"> <li>- Overall Supervision of the Evaluation Team</li> <li>- Technical Evaluation of the Project</li> <li>- Preparing recommendations and lessons learned</li> <li>- Reporting the results to the JCC together with other members on behalf of the Evaluation Team</li> </ul>
Evaluation Analysis (Japanese Consultant)	<ul style="list-style-type: none"> <li>- Preparation of Evaluation Plan including evaluation grid and survey instruments</li> <li>- Data collection including the conduct of interviews and focus group discussions with Project counterparts based in PhilRice Nueva Ecija/Midsayap, DAF-ARMM and ARMMIARC, USM, and with target respondents in selected areas in Maguindanao province</li> <li>- Consolidation and analysis of data collected from Project counterparts, and from field surveys in two Techno Demo Field sites;</li> <li>- Evaluation of the results of the above activities based on the five criteria listed</li> <li>- Preparation of draft and final reports, and a summary sheet</li> </ul>
Evaluation Planning (JICA)	<ul style="list-style-type: none"> <li>- Coordination of study activities for the Japanese side</li> <li>- Support other Evaluation Team members for the preparation of the report to the JCC</li> </ul>
Philippines Evaluator	<ul style="list-style-type: none"> <li>- Data collection in the areas in charge</li> <li>- Consolidation and initial analysis of collected data from the areas in charge</li> </ul>

## 2. Outline of the Project

### 2-1 Background of the Project

The Project is being implemented in partnership with PhilRice and DAF-ARMM. The cooperation period is from February 2005 to February 2010. The Project is geared towards improving

the rice-based farming system used by farmers in the ARMM. This Project provides: (1) Training in agricultural techniques and knowledge to 300 ATs; and (2) Practical training in rice and vegetable farming techniques to 3,450 farmers through the trained ATs. The emphasis of the Project is not put on transferring technology, but on quick impact to poor farmers in Mindanao provinces, especially Muslim areas where armed conflicts have continued for more than 40 years.

The Mid-term evaluation was jointly conducted by the JICA team and the Philippine team from November 12, 2007 to December 6, 2007. The progress of each activity was studied and it was concluded that the desired achievements could be obtained by the time of the terminal evaluation. On recommendations, minor revisions have been made for the PDM. In addition, a total of nine recommendations were made for enhancing the sustainability of the Project. To follow up on the results of the Mid-term evaluation, a Project consultation (hereinafter referred to as "the Project consultation") was conducted from December 2, 2008 to December 5, 2008. The progress was up-dated and the actions taken for the nine recommendations were studied. At about six months before the termination of the Project, the terminal evaluation has been conducted.

## 2-2 Summary of the Project

### Overall Goal

Living Standards for farmers are improved in the target areas.

### Project Purpose

Rice-based farming system is improved within the target area.

### Outputs

- 1) Continuous on-site training is provided by ATs regarding the transfer of agricultural technologies.
- 2) Relevant knowledge/technologies are acquired by farmers for the improvement of farming system.

### Activities

- 1)-a. Initial consultations with ATs and implementers.
- 1)-b. Provision of extensive technological training/study tour for ATs and implementers.
- 1)-c. Monitoring and evaluation of the Project.
- 2)-a. Small-scale training for farmers through the FFS and Palayamanan.
- 2)-b. Assistance for the enhancement of Palayamanan and FFS models.
- 2)-c. Practical training in accordance with the existing needs of farmers.
- 2)-d. Information campaign regarding the Project, and rice-based technologies.

## 3. Achievements of the Project

### 3-1 Achievement of the Inputs

#### 3-1-1 Japanese Side

##### (1) Equipment

The Japanese side provided the necessary equipment to enhance the achievement of the Project's outputs and purpose such as tractors, vehicles, laboratory and research equipment and some extension media tools. A detailed list of machinery and equipment provided is shown in Annex-2.



(2) Project operation costs

The Project operation cost is 63,185,863 Philippine Peso as of September 2009.

**3-1-2 Philippine Side**

(1) Project counterparts (implementers)

The Philippine side assigned counterparts from the PhilRice headquarters, PhilRice Midsayap, DAF-ARMM/ARMMIARC, LGU and USM. A detailed counterpart list is shown in Annex-3.

(2) Project operation costs

The Project operation cost contributed by the PhilRice through the regular budget is 6,544,302 Philippine Peso as of August 2009.

**3-2 Achievement of the Activities**

It has been confirmed that the Project has achieved the following activities as defined in the PDM. Achievement grid is shown in Annex-4.

1)-a. Initial consultations with the ATs and implementers.

Since the beginning of the Project in 2005, "Implementers' Meetings" have been held each year at the PhilRice headquarters and Midsayap to discuss status of implementation and accomplishments, and to formulate solutions/strategies addressing problems/constraints.

1)-b. Provision of extensive technological training/study tour for ATs and Implementers (Training record is shown in Annex-5).

(1) Training

In 2004 (follow-up cooperation for ex-participants of training in Japan) and 2005 training sessions were conducted in USM and other venues. From 2006 the PhilRice headquarters also started to receive trainees from the ARMM. Originally, no trainings were planned for 2006, but were nevertheless conducted due to the strong need to train the ATs/field assistants, particularly on vegetable production. The total number of personnel who received training is 357 as of August 2009, against the target of 300. According to the schedule, the training was given to the ATs and field assistants who were assigned to new Project sites.

(2) Study Tour

The study tours in Luzon were conducted. There were 173 participants in 12 batches of study tours. Conducting study tour was not in the PDM at the start of the Project. However, it was included in training plan as one of the effective training methods for those farmers, ATs and others who were not exposed to other areas with advanced farming system and innovative farmers.

1)-c. Monitoring and evaluation of the Project

Mid-term Evaluation was done in November 2007, and two Impact Surveys were conducted in July-August 2007 and April-May 2009. Other regular basis monitoring activities for farmers are also conducted by the ATs and field assistants.



2)-a. Small-scale training for farmers through the FFS and Palayamanan (Training record is shown in Annex-5)

Small scale training sessions were conducted at the FFS and Palayamanan sites. The total number of participants in rice and vegetable farming sessions are 3,769 for rice and 4,190 for vegetables as of September 2009, against the target of 3,450.

2)-b. Assistance for/enhancement of Palayamanan and FFS models

(1) Establishment of Palayamanan and FFS models (techno demo)

Twenty-two Palayamanan models were established in all provinces, against the target of 20. On the other hand, 124 FFS models (techno demo) were established in all provinces, against the target of 123. Thus, the target for the establishment of FFS and Palayamanan models have already been achieved and surpassed. Out of 124, 3 are no longer functional due to the death of the brothers of the farmer cooperator in Tawi-Tawi, to the relocation of the farmer cooperator in Sulu, and to the evacuation of the farmer cooperator caused by the military operation in Lanao del Sur.

(2) Assistance on nursery and seed production

Three nurseries at: (1) ARMMIARC in Maguindanao (1 ha), (2) USM in North Cotabato (5 ha); and (3) PhilRice Midsayap (1 ha) were established to provide farmers with seedling materials, livestock and poultry for the different Project sites from 2004 to 2007, as planned. These nurseries also function as showcase to the farmers.

2)-c. Practical training in accordance with the existing needs of farmers

Training for Bangsamoro women on rice-based food processing was conducted. Though the planned number of participants was 75, the actual number trained was 128 women.

2)-d. Information campaign regarding the Project and rice-based technologies

(1) Graduation ceremony and field days

Graduation ceremonies from the FFS have been conducted in all the sites at the end of training period. Before the graduation ceremony, field days were conducted to distribute information to neighbors.

(2) Radio programs

Radio programs and other methods were utilized in promoting the technologies and increasing public awareness to encourage more participation and appreciation about the Project, and to reach more farmers. Radio initiatives like radio skits, straight talk format and radio plugs called Palayamanan has been aired to complement with the FFS training in all provinces.

(3) Delivery of materials

An online newsletter has been produced and sent out to the Project implementers this year (2009). A techno-bulletin on the "Production management guide for selected vegetables" was translated into the Maguindanaon, Maranao, and Tausug dialects and was distributed to farmers. 30,000 copies of

translated materials were distributed to farmer trainees.

### 3-3 Achievement of the Outputs

Output 1	Continuous on-site training is provided by ATs regarding the transfer of agricultural technologies
Indicator (PDM)	Regular monitoring and on-site training by ATs

At the start of the Project, no monitoring mechanism and system by ATs for follow-up throughout the Project period was set up. After the Mid-term Evaluation, setting-up of monitoring system through ATs did not materialize except during the FFS training. ATs have submitted monthly monitoring reports for about 8 months from the start of FFS, as required.

Despite no specific record of monitoring and on-site training by ATs for follow-up, ATs have provided target farmers with more monitoring than before, which was proven by the field survey conducted by the Evaluation Team. It was verified through interviews with target farmers that ATs visited the sites more frequently than before the training from yearly to at least twice a month.

Output 2	Relevant knowledge/technologies are acquired by farmers for the improvement of farming system.
Indicator (PDM)	3,450 farmers are trained through extensive training on high productivity farming technology at the Palayamanan and FFS.

Farmers have learned farming technologies through Palayamanan and FFS framework, and the number of farmers trained has also increased as originally targeted. For this Output, the record that farmers received training indicates that they acquired (learned) farming technologies. As of September 2009, a total of 3,769 farmers received training on rice production and a total of 4,190 farmers received training on vegetable production against the target of a 3,450. Thus, the targeted figure of the indicator has already been achieved and surpassed.

### 3-4 Achievement of the Project Purpose

Project Purpose	Rice-based farming system is improved within the target area.
Indicator (PDM)	<ol style="list-style-type: none"> <li>1. Adoption of at least three rice technologies promoted by over 70% of target farmers in each province (except for Tawi-Tawi) through extensive training of the Project.</li> <li>2. Adoption of at least one vegetable technology by over 70% of target farmers in each province through extensive training of the Project.</li> </ol>

Looking at the results of the Impact Survey, on the average 96.5 % of the target farmers adopted at least three rice technologies in all provinces (100% in Maguindanao, 91.6% in Lanao del Sur, 96.2% in Basilan, and 98.6% in Sulu) except Tawi-Tawi. Tawi-Tawi was excluded from the target sites

of rice training, since rice is not a major crop. On the other hand, 97.9% on the average of the target farmers adopted at least one vegetable technology in all provinces (99.0% in Maguindanao, 93.0% in Lanao del Sur, 99.5% in Basilan, 100% in Sulu, and 99.4% in Tawi-Tawi). Likewise, it can be concluded that the Project purpose has been already achieved by meeting these indicators.

### **3-5 Implementation Process**

For effective and successful implementation of the Project, the JCC is chaired by the Executive Director of the PhilRice and vice-chaired by the Regional Secretary of the DAF-ARMM. Members include concerned officials and representatives from the JICA, USM and MSU. It is planned that JCC meetings are conducted at least once a year or whenever need arises to: (1) formulate the Annual Work Plan under the framework of the Project; (2) review the overall progress and annual expenditures of the Project as well as the achievement of the Annual Work Plan; and (3) review and exchange views on the major issues. As of September 2009, four JCC meetings were conducted.

## **4. Results of the Evaluation with the Five Criteria**

The summary of the evaluation with the five criteria is shown below. Evaluation Grid is shown in Annex 6.

### **4-1 Relevance**

The Project has high relevance based on the following points:

#### **4-1-1 Consistency with Policy in the Philippines**

The Project's strategy has been consistent with the ARMM policy focusing on the improvement of the standard of living through agricultural development, since the Project started. The ARMM Medium-Term Regional Development Plan 2004-2010 puts an emphasis on the improvement of infrastructure to promote farmers' productivity including, irrigation, rural roads, post harvest services, etc.; all done towards the goal of upgrading the farmers' standard of living. Also, ARMM Regional Executive Agenda, and Development Investment Program 2008-2010 puts significant emphasis on the improvement of the standard of living through agricultural development, and adopting sustainable agricultural techniques. With these considerations, the Project is in line with the policy and direction of ARMM.

#### **4-1-2 Consistency with Policy in Japan**

Assistance for peace and stability in Mindanao is set as one of three priority development issues in the Country Assistance Program for the Philippines (as of August 2009) formulated by the Ministry of Foreign Affairs in Japan. JICA also prioritize issues on peace, stability and development in Mindanao in the Country Specific Program for the Philippines. Thus, the Project, with a focus on the poor in those depressed areas caused by long-lasting conflict is consistent with the Japanese aid policy for the Philippines.

#### **4-1-3 Necessity of the Target Group**

The main target groups in the Project are: (1) a total of 3,450 farmers in ARMM; and (2) a total

of 300 ATs in ARMM. The Project focuses not only on food security but also on the improvement of the livelihood of farmers in the ARMM. Farmers in this region suffer from a lower level of productivity in agricultural produce, particularly in rice and vegetable cultivation; more so than in other parts of the Philippines. The average yield of rice in the ARMM was lower than those of the national average (2.3 ton/ha against 3.2 ton/ha on national average at the start of the Project). In response to the needs, the adoption of rice-based farming systems and several components such as animal and small fishery practices were viewed as appropriate measures for improving livelihood.

ATs also have strong necessity to (re) learn agricultural technologies under quite rare opportunities for them to receive trainings. Thus, the Project was a good fit as it met the needs of the farmers and the ATs in the target areas, especially considering the necessity was quite high.

#### **4-1-4 Appropriateness of Implementing Agency**

Under these circumstances, PhilRice has conducted the Project under a contract for implementation with JICA, taking advantage of its rich experience in working in the area of building the capability of ATs and farmer leaders with their rice-based technical knowledge, experience, and training skills. PhilRice has also been a longtime partner of JICA through three phases of technical cooperation projects for PhilRice in Nueva Ecija since 1992. Moreover, PhilRice has been actively playing a coordinating role between cooperating organizations including DAF-ARMM/ARMMIARC and USM in order to reinforce PhilRice's technical expertise in such areas as vegetable production and animal husbandry. Considering its history of cooperation with JICA and its capabilities for implementation and coordination, it was decided that PhilRice was the most appropriate organization.

#### **4-1-5 Synergy Effect**

Based on the criteria for selecting Project sites, the sites do not have foreign-funded project especially in agricultural sector to give an opportunity to barangays which have not received any project. At the start of the project, no foreign-funded project in agricultural sector is implemented, according to DAF-ARMM. Thus, there is no synergy effect expected.

#### **4-2 Effectiveness**

The Project purpose and outputs have already been achieved as described in 3-3 and 3-4.

#### **4-3 Efficiency**

##### **4-3-1 Input (management)**

No Japanese experts have been dispatched. The number of counterparts (implementers) was reasonable for smooth implementation of the Project activities.

##### **4-3-2 Input (equipment)**

Equipment was procured on time and as specified. Equipment provided to the Project has been utilized and properly maintained (refer to Annex 2).

##### **4-3-3 Influence of the Important Assumption**



According to the results of the Impact Survey, the adoption rates are still high, and also farmers have gained extra income through the higher volume of rice and vegetable production. On the other hand, it turned out that transferring trained ATs has a slight adverse influence on the Project, as monitoring of activities has not been continued.

#### 4-4 Impact

The Project has had highly technical and socio-economic impacts based on the following points:

##### 4-4-1 Prospects of Achievement of Overall Goal

Overall Goal	Living Standards for farmers are improved in the target area.
Indicator (PDM)	Increased income from farming activities

According to the results of the Impact Survey, more farmers are enjoying the growth of gross income after the trainings, averaging 96% increase from rice and 103% increase from vegetable. In terms of annual gross income, the target farmers gained 23,308 peso from rice and vegetable production on average by province. At present, overall goal has been already achieved with surplus income.

##### 4-4-2 The Technical Aspect

According to the results of the Impact Survey conducted in 2009, farmers increased their average rice production per hectare from 1.63 to 2.71 tons. Thus, it is observed that the Project's impact was high, as it provided both the target ATs and farmers with a high degree of technical knowledge and measurable success in the cultivation of rice and vegetables.

##### 4-4-3 The Socio-economy Aspect

Indeed, the effects of the Rice-based Farming Systems Training are seen not only to individuals who participated in the training and to their respective household but likewise in the community.

###### <Individual>

To the farmers, the knowledge they gained in the training is something that is lasting. The training gave them the opportunity to learn new and useful practices in farming.

###### <Household>

At the household level, a significant increase in income was realized aside from being food secured, as seen in the increased volume of production and percent of products (rice and vegetable) sold. Increased in standard of living was achieved, as some of them are able to buy home appliances and go to vacation within the island. The income generated enable some of them to send their children to school, buy more food and clothes, invest on farm machinery, buy animals and medicines, and/or renovate or build house. Some of them were able to buy motorcycle as a means of transportation,

making it easy to market their products, and to obtain additional source of income.

#### <Community>

A very significant impact on the community is the working together of Christians and Muslims in all sites. Farmers learned to share what they learned from the training with other farmers, making their ties stronger. Farmers became busier than before, because they started farming after undergoing the training. Many visitors are coming to the sites to observe the farms and to learn from their experiences. The Farmer to Farmer extension approach has been taking place in the target areas.

Though economic impact from vegetable production is big, it was observed in the field survey that some farmers are opening sloping lands and encroaching. If the scale of the encroachment gets bigger, it might negatively affect ecological system in the area. Landownership in ARMM is complicated. More importantly, it is a very sensitive issue to ask.

#### 4-5 Sustainability

According to the Mid-term Evaluation, sustainability of the Project will be judged from the viewpoint of how well the technologies adopted by target farmers (3,450) are continued to be implemented and further developed.

##### 4-5-1 Financial Aspect

###### <Farmers – Seed>

During the training sessions, seeds were provided free of charge. Most of the farmers who gained extra income did not allocate a quantity of funds for purchasing seeds. By using deteriorated seeds, it is predicted that the productivity of crops will become lower. Based on the recommendation of the Mid-term Evaluation, PhilRice included training on seed reproduction in Palayamanan and FFS. Many vegetable farmers and some rice farmers started adopting the technology so as not to purchase seeds.

###### <DAF-ARMM>

The lack of funding for monitoring by ATs is a constraint to maintain the technical support and monitoring to farmers after the Project. DAF-ARMM has a plan to allocate funds to monitoring by ATs and conducting training for ATs through other government funded projects such as the "Ginuntuang Masaganang Ani" (GMA) to increase agricultural productivity under DA and the "Cross Commodity Program" under the Office of President, and "Promotion of Upland Rice Program" under the Regional Governor, after the Project ends.

###### <PhilRice & DAF-ARMM>

The Philippine government has a plan to start a "Rice Self-Sufficiency Master Plan" from 2009-2013. PhilRice is included in the plan for implementation and DAF-ARMM will also benefit from some funding for rice cultivation. In this Master plan implementation, a total of 48 provinces over the country have been nominated for increasing yields. All provinces in ARMM have been included in the Plan with massive training sessions for ATs and farmers. Despite the fact that this does not ensure

financial sustainability in the long term, it will help, at least in the medium term, to continue the monitoring activities.

#### **4-5-2 Technical Aspect**

<ATs>

The present technical level of ATs is sufficient for achieving the Project's purpose. One of the contributing factors to the high adoption rate of agricultural technologies by farmers can be attributed to the AT's efforts. However, to sustain the overall goal, the technological support system for farmers operated by the ATs should be strengthened and more ATs should be trained, considering the needs of farmers.

<Farmers>

Farmers have realized a higher level of productivity and an increased income indicates sustainability. During trainings, a wide range of agricultural technologies were introduced regardless of the level of agricultural technologies the farmers were familiar with. As a result, farmers could adopt the suited technologies for their situation. According to the Impact Survey, the adoption rate of technologies indicate development opportunities of location-specific technologies with which farmers can apply more technologies to further increase their yields and incomes. Annex-7 discusses the details. From the other viewpoint of the Impact Survey, 76.5% of farmers who were trained in 2005 adopted agricultural technologies in 2006 on average, while 78.0% of farmers still continue to apply them in 2008. Thus, it is expected that technical sustainability is ensured to a greater extent.

#### **4-5-3 Organizational Aspects**

<DAF-ARMM>

It is considered that DAF-ARMM holds enough number of ATs for extension service. Out of 934 ATs in ARMM, the 357 ATs were able to enhance their capabilities in agriculture technologies. The problem lies in the fact that the some ATs have been constrained from continuing monitoring and on-site training in the target areas due to limited budget for the operation. Thus, it is institutionally limited for DAF-ARMM to ensure the Project effect and impact and further extends the agricultural technologies that the ATs gained to other areas.

<ARMMIARC>

The present role of ARMMIARC in the Project is to provide technical support and planting materials to farmers. The maintenance of nursery funded by the Project is now financially assisted by PhilRice. ARMMIARC can try to be engaged in income generating activities by charging the vegetable seeds to be more sustainable.

### **5. Conclusion**

Thanks to the fullest cooperation from PhilRice, DAF-ARMM/ARMMIARC and USM, overall progress of implementation is on schedule, even ahead in some aspects. Project purpose has already been achieved, as 96.5% of a total of 3,769 farmers trained on rice have practiced at least three of the



introduced technologies and have increased the average yield and income. Out of 4,190 farmers trained on vegetables, 97.9% practiced at least one technology, according to the estimation of the Impact Survey. Overall goal was also achieved by the fact that the income of trained farmers have increased to 96% from rice and 103% from vegetable. As the Project has successfully achieved the Project outputs set forth, and consequently attained the Project purpose, the Project will be terminated as planned.

## 6. Recommendations and Lessons Learned

### 6-1 Recommendations

The Team recommends the following:

<PhilRice>

- 1) More location-specific technologies for Mindanao should be developed through action research to achieve further increase of yields for rice production in rainfed and upland areas in particular. For instance, developing an improvised LCC will be very effective to economize on fertilizers.
- 2) Location-specific extension approaches/methods for Mindanao should be developed and trained to ATs for further rapid dissemination. For instance, Farmer to Farmer extension approach will be effective if incorporated to the present Palayamanan and FFS approach.
- 3) The future training program should include knowledge on related land-use laws for legally effective expansion of cultivated areas.
- 4) The future training program should include technologies for soil conservation by citing information from the BSWM and other agencies

<DAF-ARMM and LGUs>

- 5) A framework for collaboration should be established with funding among DAF-ARMM, LGUs and PhilRice to expand the extension system formulated in the Project to other areas and farmers, applying the Rice Self-Sufficiency Master Plan 2009-2013, Promotion of Upland Rice Program planned for 2010 and others.
- 6) The efforts of providing budgets for ATs should be sustained to support systematic monitoring and on-site training in the target areas, applying budgets from Cross Commodity Program 2008-2010 and "Ginintuang Masaganang Ani" (GMA) Program 2006-2010 and other national programs.
- 7) Transfer of the trained ATs in this Project to other Municipalities should be carefully considered so as not to hamper their monitoring and on-site training of farmers.

### 6-2 Lessons learned

The Project has not only achieved the Project purpose of improving rice-based farming system with adoption of rice and vegetable technologies but also accomplished the overall goal of improving the living standards for farmers. The estimated average annual income (gross) increase from rice and vegetable production is 23,308 peso per farmer after having technology transfer from the ATs. This

effect is estimated to influence about 4,000 farmers in the target area. The reasons of realizing this big performance are the following:

- 1) Cooperation among PhilRice, DAF-ARMM, LGU and USM was very effective and efficient in terms of technology, training, provision of inputs and administration.
- 2) Extension methods were very efficient and effective. In particular, the following are very useful:
  - Hands-on type training of farmers is very efficient with the Palayamanan and FFS.
  - Radio program is very effective to ensure the results of the hands-on training by repeating the training contents within that week in local dialect.
  - Delivery of vegetable training materials to ATs and farmers at the training is very efficient. In particular, flip charts and technology bulletins are very useful because ATs can start dissemination immediately after training.
- 3) Various levels of technologies are disseminated so that a farmer can apply the suited technology for their situations.

Realizing the big performance with the above reasons will give useful lessons to conduct similar projects for poor farmers in ARMM and other areas in Mindanao.

Annex-1	Methodology of the Surveys
Annex-2	List of Machinery and Equipment Provided for the Project
Annex-3	List of Counterpart Personnel Assigned
Annex-4	Achievement Grid
Annex-5	Training record for AT & Implementer
Annex-6	Evaluation Grid
Annex-7	Analysis of Technology Adoption
Annex-8	Project Design Matrix

## Annex-1: Methodology of the Survey

### 1. Impact Survey

#### 1-1 Sampling Procedure

The required number of sample survey for farmers was statistically determined in the way that the parent population is trained farmers in each province with 5% significant level. The formula is shown below.

n=

$$n = \frac{N}{\left[ \frac{E}{1.96} \right]^2 * \frac{N-1}{\pi(1-\pi)} + 1} + 1$$

\*n = required number of samples, N = parent population,  $\pi$  = Ratio of the parent population (when the ratio is un-clear, 0.5 is applied.), E = Scale of deduced error (E=0.05 for the case of 95% confidence interval)

The distribution of the number of respondents by province was computed with the estimated number of trained farmers at the time of the Project consultation as shown in Table 1. The real number of the trained farmers at the Final Evaluation is, however, bigger than the estimated. Since the Impact Survey was conducted with the estimated number of the trained farmers despite the increasing number, the actual sample number (Actual-n) is less than the computed sample number (n) with the number of real trained farmers as shown in Table 2. We, thus, computed the scale of deduced error (Actual-E) from the Actual-n and shown in Table 2. It can be said from the Actual-E values in Table 2 that the actual number of samples by province almost satisfies the desired 5% significant level.

Table 1 Form of determining the sample survey numbers of trained farmers

Province	Rice		Vegetable	
	N	n	N	n
Maguindanao	1193	292	1227	294
Lanao del Sur	903	271	914	272
Basilan	429	204	395	196
Sulu	466	212	446	208
Tawi-Tawi	248	-	328	178
TOTAL	3239	978	3310	1147

Table 2 Actual sample survey numbers and the actual E-values

Province	Rice				Vegetable			
	N	n	Actual-n	Actual-E	N	n	Actual-n	Actual-E
Maguindanao	1,499	307	303	0.050	1,567	310	297	0.051
Lanao del Sur	1,143	289	286	0.050	1,175	291	284	0.051
Basilan	550	227	208	0.054	498	218	199	0.054
Sulu	419	202	213	0.048	553	228	213	0.053
Tawi-Tawi	(158)	-	-	-	397	196	180	0.054
Total	3611 (3769)	1025	1010	0.026	4190	1243	1173	0.024

Note: ( ) shows the real trained number. Since Tawi-Tawi is excluded from rice analysis, it is not included in calculation.

Since new farmers are trained through the Project every fiscal year, stratified random sampling was implemented from the training participants in 2005 to 2007 for equal representation. It is important when tracking the levels of adoption during the three-year period. It should be noted that Tawi-Tawi was not included in the analysis of rice farming data.

### 1-2 Respondents

There were a total of 1,194 farmers (1,010 for rice and 1,173 for vegetable) who were interviewed, majority are growing rice and vegetables as shown in the table below. The table also provides information on the number of participants based on the year when they joined the Project. At the field level, 136 project sites out of 138 in total were covered (2 in Maguindanao were not covered due to security reasons). Respondents in each site were selected using random sampling.

Table 3 Profile of respondents by type of data and year of training

Provinces	Total sample size	Type of data			Year of training		
		Rice & Vegetable	Rice only	Vegetable only	2005	2006	2007
Maguindanao	307	293	10	4	99	110	98
Lanao del Sur	286	284	2	0	159	103	24
Basilan	208	199	9	0	63	73	72
Sulu	213	213	0	0	77	68	68
Tawi-Tawi	180	0	0	180	78	0	102
Total	1194	989	21	184	476	354	364

## 2. Field Survey by the Philippine Evaluator

To carry out the evaluation, two methods of data collection were employed; a) focus group discussion (FGD) and b) formal survey.

### 2-1 Sampling Procedure

Four sites each in Maguindanao and Lanao del Sur were selected based on accessibility, peace and order and the year when FFS was conducted. Each site represents year 2005, 2006, 2007 and 2008, as

shown in the following table. The formal survey respondents were randomly picked from the group after holding the FGD.

Table 4 Study sites and respondents in FGD and formal survey

	TOWN	BARANGAY /YEAR	Number of Respondents		
			FGD	Survey	TOTAL
MAGUINDANAO	Sultan Kudarat	Pinarang/2005	6	6	12
	Sultan Mastura	Tambo/2006	11	5	16
	Datu Odin Sinsuat	Margues/2007	5	5	10
	Mamapasapano	Manungkaling/2008	9	5	14
<b>Subtotal</b>			<b>31</b>	<b>21</b>	<b>52</b>
LANAO DEL SUR	Buadiposo Buntong	Manacab/2008	17	5	22
	Marantao	Bubong Camalig /2006	5	3	8
	Tugaya	Pantar-Lumbac/2007	8	6	14
	Malabang	Madaya/ 2005	7	5	12
<b>Sub-total</b>			<b>37</b>	<b>19</b>	<b>56</b>
<b>TOTAL</b>			<b>68</b>	<b>40</b>	<b>108</b>

### 2-2 Formal Survey

Formal surveys were conducted with FFS/Palayaman cooperators/participants and ATs as respondents. Different questionnaires were used for farmers and ATs. The questionnaire for farmers was designed specifically to assess the extent of adoption of the agricultural technologies in rice and vegetables taught during FFS as well as the effects of adoption on farm productivity.

The questionnaire for ATs is meant to assess the effectiveness, impacts and sustainability of the training program to them and to the farmers.

The AT respondents were purposely selected since they are the once who facilitated in FFS sites where the formal surveys were conducted. There were 14 ATs interviewed for the purpose. The formal survey on each site was conducted after holding the focus group discussion (FGD).

### 2-3 Focus Group Discussion

The FGDs were conducted with farmer group in the field survey sites to assess the effectiveness, impacts and sustainability of the training program to them and to the ATs.

### 2-4 Data Analysis

The data gathered during the FGDs and formal survey were consolidated and tabulated. Data analysis was done using descriptive statistics such as frequency counts and percentages. For net income as indicator of farm productivity, simple cost and return analysis was employed.



**Annex-2 LIST OF MACHINERY AND EQUIPMENT PROVIDED FOR THE PROJECT**

JICA TCP on Rice-Based Farming Systems and Training Support Program for ARMM (Feb. 2005-2010)

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	PERSON RESPONSIBLE	CONDITION (W, NW)	USAGE	Remarks
<b>FY 2004 (February - March 2005)</b>										
1*	Vehicle, Nissan Patrol III 2005 Model, 4x2 Manual Transmission, full size wagon with ZD30 neo di turbo diesel engine, 4 cylinders, 10 seater with one set standard tools, 5 pcs, 265/70 R16 tires, complete with spare tire jack with handle tools and owner's manual, S/N TWSSLFY61-Y13147, Engine No. ZD30-193348A, CS No. LA3570, Key No. 67, Color: Silver	1	2,080,000	2,080,000	30-Mar-05	PhilRice CES	EU Bautista	W	B	the vehicle is detailed at PhilRice CES instead of Midsayap with approval from JICA RR
2*	Vehicle, Nissan Frontier III 2005 Model, 4x4 Manual Transmission pick-up, with QD32 diesel engine, 4 cylinders in-line OHV, 1 set standard tools, 5 pcs, 245/70 R16 tires, complete with spare tire jack with handle tools and owner's manual, S/N CVRLJFFD22-EL5390, Engine No. QD32-190869, CS No. LA2535, Key No. 771, Color: White	1	1,070,000	1,070,000	31-Mar-05	PhilRice Midsayap	RS Escabarte	W	A	Used for monitoring TCP4 and other related activities in ARMM and Region 12
3*	Tractor, Kubota 21 hp, 4-wheel drive with canopy, B-series weight, and standard accessories	1	1,627,700	1,627,700	31-Mar-05	PhilRice Midsayap	RS Escabarte	W	A, used everyday for hauling, mowing, and cultivation	being used for establishing and maintaining demo farms at Midsayap, ARMMIARC, and in Maguindanao sites
				<b>Sub-total (FY 2004)</b>						<b>4,777,700</b>

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	PERSON RESPONSIBLE	CONDITION (W, NW)	USAGE	Remarks
1	<p>Vehicle, SUZUKI Bravo SK-10KA-DSRB 2005 pick-up with dropside rear body, without aircon (AUV), 2-3 passenger capacity, with factory retractable front seat belts, engine: F10A, 4-stroke cycle, water cooled engine, single overhead camshaft, 4x2 wheel drive, 4-cylinder, 1000cc, 44HP, 5300 rpm, equipped with 5 sets of steel rim mounted on 175R13 tires, standard tool set (jack and handle, spare tire, tire wrench) and canopy, color olympus white</p>	6	403,500	2,421,000	10-Dec-05					Transferred to DAF-ARMM through a deed of donation; being used in conducting and monitoring activities such as farmers' field schools (training), palayamanan models of TCP4 by ATs and field assistants
1-1*	Chassis no. DA21T-144390; Engine No. F10A-1084716; CS No. ZG0911				16-Feb-06	DAF-Maguindanao	KT Usman/ DK Lagasi	W (with minor damage to body)	A	in Maguindnao
1-2*	Chassis no. DA21T-144347; Engine No. F10A-1078976; CS No. ZG0868				16-Feb-06	DAF-Lanao Sur	KT Usman/ PA Balindong	W	A	in Lanao Sur
1-3**	Chassis no. DA21T-144393; Engine No. F10A-1084719; CS No. ZG0914; Plate No. SER-691				16-Feb-06	DAF-Sulu	KT Usman/ ME Adjid	W	A	in Sulu
1-4*	Chassis no. DA21T-144389; Engine No. F10A-1084715; CS No. ZG0910; Plate No. SFF-441				16-Feb-06	DAF-ARMMIARC	KT Usman/ SB Belongan	W (with minor damage to body)	A	in Maguindnao
1-5	Chassis no. DA21T-144391; Engine No. F10A-1084717; CS No. ZG0912; Plate No. SER-521				16-Feb-06	DAF-Tawi-tawi	KT Usman/ S Tindick	W	A	in Tawi-tawi
1-6	Chassis no. DA21T-144348; Engine No. F10A-1078377; CS No. ZG0869; Plate No. SER-631				16-Feb-06	DAF-Basilan	KT Usman/ S Guillermo	W	A	in Basilan



ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	PERSON RESPONSIBLE	CONDITION (W, NW)	USAGE	Remarks
2*	<p>Vehicle, 2004 Mitsubishi L300 versa van, diesel, 4x2 wheel drive, manual, 2,477 cc engine displacement, 10 seating capacity, dual air-conditioning system with manual, 1 set of tools, lighter, jack with handle, ash tray, spare tire, early warning device, C/S No. BD3234, Engine No. 4D56A-R2605, Chassis No. PAEL65NV15B001353, Color Aspen white</p>	1	743,000	743,000	11-Jan-06	PhilRice Midsayap	PPD/ RS Escabarte	W	A	being used to ferry participants, materials for a training and other promotional activities like pest clinic in the villages in Region 12 and ARMM; just transferred to Midsayap on Dec. 12, due to delays of issuance of plate number
3*	<p><b>ELISA (Enzyme-Linked Immunosorbent Assay) Reader</b>, Bio-rad Microplate Reader Model 680 with internal thermal printer; detection range: 400-750nm; photometric range: 0-3.5OD; accuracy: ± 1%; precision: 1.0% or 0.005 OD from 0.0 to 2.0 OD, 1.5% from 2.0 to 3.0 OD; filter wheel capacity: 6 or more, reading time 6-12 sec (single wave length) and 10-20 sec (dual); temp control: 4°C above ambient temp up to 50°C; dimension: 34 x 33 x 15cm; weight: 5.5kg, with power cord, dust cover, and manual; Serial No. 13363</p>	1	380,000	380,000	12-Dec-05	PhilRice Midsayap	RS Escabarte	W	C, when reagent is available	being used for detection of rice tungro virus which is one of the major disease in the area; used for training

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (In Pesos)	TOTAL COST (In Pesos)	DATE DELIVERED	LOCATION	PERSON RESPONSIBLE	CONDITION (W, NW)	USAGE	Remarks
4*	Portable sound system, Sennur EP-2001D with 75w power amplifier, built-in 12V-4.5A x 2 rechargeable batteries and auto rechargeable system (charger) with accessories; 1 pc wireless microphone, 1 pc tripod stand, bag/cover, trolley, Sennur VHF wireless module with VHF handheld microphone, Serial No. E406984, and E406994	2	64713.63	129,427.26	2-Nov-05	PhilRice Midsayap	RS Escabarte	W	C, every monday	used for training, meetings, field days, flag ceremony
5*	LCD Multimedia projector, Canon Model LV-S3; resolution: 800x600 SVGA; brightness: 1250 ANSI lumens; net weight: 2.2 kg with lens cover, soft carrying case, computer/VGA cables, AC power supply cord, wireless remote control unit and battery, SN-T328260C; packaged with 70x70 inches Viewtech manual wall screen	1	69000.0	69,000	2-Nov-05	PhilRice Midsayap	RS Escabarte	W	C	used for training and meetings
6	Handtractor, Model D1800, 2-wheel locally fabricated by Green Valley Machines, 8-hp Mitsubishi diesel engine with 2 rubber tires, paddy wheel, heavy duty, standard-type trailer with brand new tires 1-1.5 tons capacity, tooth harrow, disc plow and single plow	6	96,800	580,800	12-Dec-05					Transferred to DAF-ARMM through a deed of donation; being used for land preparation of demo farms and some farmers also borrowed usage is being monitored by assigned field assistants

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	PERSON RESPONSIBLE	CONDITION (W, NW)	USAGE	Remarks
6-1	Engine No. 805-20179; Body No. (trailer) M07-12050					DAF-Magindanao	KT Usman/ DK Lagasi	W	C (every start of cropping season)	For rice and seed production under the technical assistance of PhilRice
6-2	Engine No. 805-20166; BNo. (trailer) M07-120507					DAF-Lanao Sur	KT Usman/ PA Ballindong	W	C (every start of cropping season)	
6-3	Engine No. 805-20271; BNo. (trailer) M07-120513					DAF-Basilan	KT Usman/ S Guillermo	W	C (every start of cropping season)	
6-4	Engine No. 805-20186; BNo. (trailer) M07-120516					DAF-Sulu	KT Usman/ ME Adjid	W	C (every start of cropping season)	
6-5	Engine No. 805-20188; BNo. (trailer) M07-120509					DAF-Tawi-tawi	KT Usman/ S Tindick	W	C (every start of cropping season)	
6-6*	Engine No. 805-20334; BNo. (trailer) M07-20319					DAF-ARMMIARC	KT Usman/ SB Belongan	W	A, every morning	Used for cutting and carrying grass for feed (for livestock)
7	<b>Television, SANYO CTV (semi-flat) ST-29KX3, 29" color monitor, 220V with remote control, Serial No.14806185-model-ST-29K3</b>	1	15,600	15,600	21-Mar-06	PhilRice Midsayap	RS Escabarte	W	C	being used for training when showing information/lectures in video/CD
8*	<b>Sound system with microphone SENRUN EP2001T power amplifier 75W with tripod, 12V rechargeable battery with charger, 2 wireless microphone, and SENRUN bag Model EP-2001T, Serial No. 781-792MHZ E-406936</b>	1	66,200	66,200	21-Mar-06	PhilRice Midsayap	RS Escabarte	W	C, every Monday	being used for training and other promotional activities outside the station; also for flag ceremony

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	PERSON RESPONSIBLE	CONDITION (W, NW)	USAGE	Remarks
9*	Generator set, Kubota gas generator ARX2500 gasoline, 2.5KVA max output, 2.2 Kw rated output, single phase, revolving field type, 60Hz, 20/10 amperes, 110/220V, insulation class B, direct-coupled to gasoline engine with 14 liter capacity, 1.5 li/hour fuel consumption with AC circuit breaker, voltage selector switch, AC receptacle, ground terminal, engine switch, and AC volt meter, Serial No. GH170F70522	1	47,800	47,800	21-Mar-06	PhilRice Midsayap	RS Escabarte	W	D	not yet used, reserved for back-up power
10	Moisture meter, FARMEX MT-16, portable type, direct readout for 16 grains including rice, averages up to 99 test results with carrying case, strap and manual	6	15,000	90,000	21-Mar-06					being used for determining moisture content of rice seeds and vegetable seeds before storing; being kept by Field Assistants; some farmers borrowed
10-1	Serial No. 1-554005					Tawi-tawi	M Kamaro/ Z Amilassan	W	C	
10-2	Serial No. 2-550205					Basilan	N Abdilla/ K Sarabon	W	C	
10-3	Serial No. 3-553605					Sulu	A Abubakar/ J Baltazar	W	C	
10-4	Serial No. 4-550205					Maguindanao	A Usman	W	C	
10-5	Serial No. 5-554005					Lanao Sur	B Mameco/ J Amer	W	C	
10-6*	Serial No. 6-554005					PhilRice Midsayap	RS Escabarte	W	C	Used every field days

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	PERSON RESPONSIBLE	CONDITION (W, NW)	USAGE	Remarks
11	Grass cutter, Kawasaki Model TD40, portable, 2Hp gas engine with starcard accessories: 2 pcs metal blade, shoulder strap, mixing bottle, tools, and manual, TD040J-CA-06	5	13,400	67,000	21-Mar-06					being used for maintaining nursery and demo farms; being kept by field assistants in the province; some farmers also borrowed
11-1	Serial No. 932226-01					Tawi-tawi	M Kamano/ Z Amilassan	W	C	
11-2	Serial No. 933009-02					Basilan	N Abdilla/ K Sarabon	W	C	
11-3	Serial No. 932765-03					Sulu	A Abubakar/ J Baltazar	W	C	
11-4	Serial No. 932763-04					Maguindanao	A Usman	W	C	
11-5	Serial No. 932222-05					Lanao Sur	B Mamaco/ J Amer	W	C	
12*	Bag closer, J26-1A "JBY", portable type, speed: 3-5 sec/bag, seam: single thread chain stitch, max thickness: 3mm, bag material to be closed: jute, kraft, woven cloth, cotton, hessian with enclosed sealed motor, standard accessories (needle, thread, screw driver, needle bar spanner, wrench, oil, and manual)	1	8,800	8,800	21-Mar-06	PhilRice Midsayap	TG Flores	W	B	being used for sealing sacks of rice seeds before storing
13*	Weighing scale, ARMSTRONG, platform scale beam type, 500 kg, standard weights	1	10,000	10,000	21-Mar-06	PhilRice Midsayap	TG Flores	NW (For repair)	C	being used for weighing harvests and for bagging seeds of 40 kg/bag
14	Multi grain moisture meter, PM400 Kett, capacitance type, 2-40% measuring range, 0.5% accuracy, 220V or 4 pcs AA batteries, dimension: 130L x 190W x 210H mm, weight 1 kg	1	31,000	31,000	21-Mar-06	PhilRice Midsayap	TG Flores	W	C	being used for measuring/determining moisture content of high quality seeds before and while storing; also used in breeding activities

ITEM NO.	ITEM/ DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	PERSON RESPONSIBLE	CONDITION (W, NW)	USAGE	Remarks
15*	<b>Grain moisture meter</b> , PB-1D2 Kett, resistance type, 11-35% measuring range, 0.5% accuracy, 4 pcs 1.5V batteries, dimension: 240L x 250W x 125H mm, weight 3.5 kg	1	140,000	140,000	21-Mar-06	PhilRice Midsayap	TG Flores	W	C	same purpose as above but only requires a small sample which is important in rice breeding and germplasm with only small volume of materials available
	<i>Delivery charge to PhilRice Midsayap for items 7-15</i>	<i>1 lot</i>	<i>29,000</i>	<i>29,000</i>						
16	<b>Thresher</b> , Lakas Kuliglig LK-300, axial flow coupled to a 16Hp Briggs and Stratton engine with V-belt, 2380 kg/hr capacity	1	102,000	102,000	13-Mar-06	PhilRice Midsayap	VF Muyet	W	C	being used for threshing harvest, separating grains from the panicle
17*	<b>Rotary reaper</b> , Lakas Kuliglig Model, LK-1200RR, capacity 3 ha/day coupled to a 6Hp Briggs and Stratton gasoline engine	1	100,000	100,000	13-Mar-06	PhilRice Midsayap	VF Muyet	W	C	being used for mechanized harvesting; also used for demonstration as part of promotional activities of the PhilRice-JICA designed reaper
18*	<b>Flatbed dryer</b> , Lakas Kuliglig flatbed dryer PhilRice Maligaya designed, 6t capacity, drying time 4-6 h/batch (up to 1.4% MC, drying temperature: 43-600 degrees C with complete 12Hp diesel engine with tube axial flow fan blower at 1600 rpm for 0.83m <sup>3</sup> /ton paddy at 30 mm water pressure	1	390,000	390,000	13-Mar-06	PhilRice Midsayap	TG Flores	W	C	being used for drying rice grains, especially during rainy season



ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	PERSON RESPONSIBLE	CONDITION (W, NW)	USAGE	Remarks
19*	<b>LCD Multimedia projector, Epson EMP-S;</b> resolution: 800x600 SVGA; brightness: 1600 ANSI lumens; 2000 lamp hours, 220V with carrying case, audio/video cables, power cable and remote control, SN-GMG5X0447F	1	53,900	53,900	28-Feb-06	PhilRice Midsayap	RS Escabarte	W	C	being used for presenting reports, and other information which facilitate discussion during meetings
20*	<b>Projector screen, 70" x 70"</b> drop down screen	1	3,300.00	3,300	28-Feb-06	PhilRice Midsayap	RS Escabarte	W	C	
21*	<b>Notebook computer, HP Compaq NX6120 business notebook, Intel Centrino mobile technology, Pentium M740, 1.7GHz with 633 MHz bus/ 2MB L2 cache 256MB; 40GB HDD; DVD ROM/CD writer combo drive, intel wireless LAN 802.11g + Bluetooth high speed 56K modem, 10/100/1000 LAN (Broadband ready) with MS Winfows XP Pro, instruction manual, and carrying case, SN-CNU6021C7W</b>	1	73,000	73,000	28-Feb-06	PhilRice Midsayap	RS Escabarte	NW (cannot be repaired)	D, after 3 years of use	being used for storing data, report preparation, presentation of reports during meetings particularly outside station
22	<b>Digital camera, Kodak C360, 5 megapixels, 3x optical zoom, 5x digital zoom, 32 MB with zoom and autofocus and 2 pcs rechargeable AA batteries</b>	6	18,300	109,800	28-Feb-06					being used photo documentation of activities to be used in the reports as part of monitoring
22-1	Serial No. KCKEA52202197					PhilRice Midsayap	RS Escabarte	W	A	
22-2	Serial No. KCKEA52202204					PhilRice Midsayap	S Abdula	W	A	
22-3	Serial No. KCKEA52204462					PhilRice Midsayap	A Tape	W	A	
22-4	Serial No. KCKEA52206467					PhilRice Midsayap	A Pajarito	W	A	



ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	PERSON RESPONSIBLE	CONDITION (W, NW)	USAGE	Remarks
22-5	Serial No. KCKEA52702254					PhilRice Midsayap	I Ayudan	W	A	
22-6	Serial No. KCKEA53300796					PhilRice Midsayap	R Patafen	W	A	
23	<b>Printer, Canon Lasershoot</b> 3200, 18 ppm, 2400 x 600 dpi resolution (AIR), paper cassette tray, 250 sheets, USB interface	6	10,900	65,400	28-Feb-06				being used by ATs/APOs in the provinces	being used for printing reports and other documents as required by the project
23-1	Serial No. KMHA033841					Tawi-tawi	M Kamaro/ Z Amilassan	W	A	
23-2	Serial No. KMHA033842					Basilan	N Abdilla/ K Sarabon	W	A	
23-3	Serial No. KMHA041621					Sulu	A Abubakar/ J Baltazar	W	A	
23-4	Serial No. KMHA041622					Maguindanao	A Usman	W	A	
23-5	Serial No. KMHA033712					Lanao Sur	B Mamaool/ J Amer	W	A	
23-6*	Serial No. KMHA033710					PhilRice Midsayap	RH Patafen	W	A	
24	<b>Desktop computer, HP</b> Compaq business desktop DX2000M base unit, Intel Pentium 4 3.0GHz / 800 MHz with HT 80GB 7200 rpm SMART Ultra ATA/100 HDD 256 MB DDR SDRAM, 1.44MB FDD, 15" HP S5502 CRT color monitor, 52x CD-ROM, HP PS/2 standard keyboard/ HP PS/2 Scroll mouse, VGA video, MS Win XP Pro, MS Office XP SBE with 300W amplified speaker, 500W AVR, UPS 500VA Giant Hi-power UPS	6	60,500	363,000	28-Feb-06				being used by ATs and field assistants in preparing reports and presentations related to the progress of TCP4 activities	
24-1	CPU SN-SSGH548068W; Monitor SN-SCN54634GO					Tawi-tawi	M Kamaro/ Z Amilassan	W	A	

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	PERSON RESPONSIBLE	CONDITION (W, NW)	USAGE	Remarks
24-2	CPU SN-SSGH5490FZD; Monitor SN-SCN54634G3					Basilan	N Abdillia/ K Sarabon	W	A	
24-3	CPU SN-SSGH5490FZM; Monitor SN-SCN54634FX					Sulu	A Abubakar/ J Baltazar	W	A	
24-4	CPU SN-SSGH5480698; Monitor SN-SCN54634FC					Maguindanao	A Usman	W	A	
24-5	CPU SN-SSGH5490FYJ; Monitor SN-SCN54634RW					Lanao Sur	B Mamacol/ J Arner	W	A	
24-6*	CPU SN-SSGH5480695; Monitor SN-SCN54634FG					PhilRice Midsayap	RH Patalen	W	A	
	<i>Delivery charge to PhilRice Midsayap for items 19-24</i>	1 lot	33,000	33,000						
25*	Spokeman Voice Amplifier SN 669605382; 669605383; 669605384; 669605386; 669605391; 669605392; 669605396; 669605397; 663605399; 669605399; 663605400; 663605401; 663605402; 663605403; 663605404; 663605406; 663605418; 663605407; 663605409; 663605393; 669605405; 669605410; 669605394; 669605408; 669605416; 669605395; 669605413; 669605411; 669605412; 669605417; 669605417; 669605419; 669605420; 669605422; 669605424	33	3,876.00	127,908.00	3/15/2006	PhilRice Midsayap	I Ayudan	W	C	Used during field days and station activities
26*	Compound microscope, Olympus BX41-32PO2 laboratory microscope with microscope frame for transmitted light microscopy, ceramic state with condenser, 30W halogen bulb, 220V with dust cover, objectives 4X 100X	1	358,550	358,550	29-Mar-06	PhilRice Midsayap	JT Niones	W	C, used on ave. 3 times a month	being used for specimen examination during technical trainings; counting of insects, diseases, etc.
27*	Camera attachment with adaptor Olympus C5060 5.1 megapixels, 32 MB memory card, standard accessories (battery charger, remote control, etc)	1	75,000	75,000	29-Mar-06	PhilRice Midsayap	JT Niones	W	C, used on ave. 3 times a month	being used to capture actual image of specimen
	<b>Sub-total (FY 2005)</b>			<b>6,683,485</b>						

	<b>TOTAL</b>	<b>11,333,277</b>							
--	--------------	-------------------	--	--	--	--	--	--	--

*[Handwritten signature]*

- \* Mission Team inspected the actual equipment
- \*\* Mission Team inspected equipment through photograph

*Note:* Condition: W - working; NW - not working  
 Usage: A - regularly/daily; B - non-daily (3 x a week); C - occasionally; D - not used

*gm* *[Handwritten initials]*

**Annex-3 List of Counterpart Personnel Assigned**

Name	Field/Position	Task	Assignment Period	Remarks
<b>1.1 PhilRice Main Office (Nueva Ecja)</b>				
1. Dr. Leocadio S. Sebastian	Executive Director	Chair, Joint Coordinating Committee (JCC)	Feb. 2005-June 2008	Retired
2. Atty. Ronilo A. Beronio	Executive Director	Chair, Joint Coordinating Committee (JCC)	June 2008-present	
3. Dr. Madonna C. Casimero	Deputy Executive Director for R&D	Technical Specialist/ Resource Person (Rice-Based Farming Systems/ <i>Palayamanan</i> ), and JCC Member	Feb. 2005-Aug. 2008	Resigned
4. Dr. Eulito U. Bautista	Deputy Executive Director for R (OIC)	JCC Member	Aug. 2008 – present	
5. Mr. Ruben B. Miranda	Deputy Executive Director for D (OIC)	JCC Member	April 2009 – present	
6. Mrs. Karen Eloisa T. Barroga	Program Leader, Technology Promotion	Technical Specialist/ Resource Person (Technology Promotion/Information Campaign), and JCC Member	Feb. 2005-May 2007	on study-leave
7. Engr. Leo C. Javier	Program Leader, Development Support for GMA Rice	Technical Specialist/ Resource Person (Technology Promotion/Information Campaign), and JCC Member	Feb. 2005-Present	Replaced Ms. Barroga; reassigned to different program
8. Mr. Rizal G. Corales	Palayamanan Officer	Technical Specialist/ Resource Person (Rice-Based Farming Systems/ <i>Palayamanan</i> )	Feb. 2005-present	
9. Engr. Artemio B. Vasallo	Training Officer	Technical Specialist/ Resource Person (Training/FFS)	Feb. 2005-August 2007	Reassigned at PhilRice Agusan

10. Ms. Diadem B. Gonzales	Development Communication	Information materials development	June 2006-Jan 2008	On study leave in Australia (Jan 2008-present)
11. Mr. Jaime Manalo	Development Communication	Info Material Development (tech bulletins, radio plugs, etc)	April 2007-present	Was assigned at PhilRice Midsayap (April - Dec 2007)
12. Ms. Kathleen Ruth B. Loresca	Socio-economics	Impact Assessment Survey	July 2007-present	Was assigned at PhilRice Midsayap (April - Dec 2007)
13. Ms. Teodora L. Briones	Project Secretariat	Project Coordination	Feb. 2005-present	
14. Ms. Jocelyn U. Bacolod	Project Secretariat	Financial Management	Feb. 2005-May 2008	Resigned
15. Mr. Maria Agnes Emily S. Suralta	Project Secretariat	Financial Management	May 2008 - present	Replaced Ms. Bacolod
<b>1.2 PhilRice Midsayap Office – including Agricultural Officer/Field Assistants</b>				
1. Engr. Leo C. Javier	Acting Station Manager	Project Director	Feb. -May 2005	Reassigned to PhilRice CES
2. Dr. Rodolfo S. Escabarte, Jr.	Acting Station Manager	Project Director	Feb. 2005-present	Replaced Engr. Javier
3. Mr. Alberto J. Pajarito	Technology Promotion	Asst. Project Director/Project Manager- Maguindanao & Lanao del Sur	Feb. 2005-Sept. 2008	
4. Mr. Ommal H. Abdulkadil	Technology Promotion	Project Manager- Maguindanao & Lanao del Sur	Nov. 2007-present	Replaced Mr. Pajarito/Mr. Abdula
5. Mr. Saillia E. Abdula	Plant Breeder	Project Manager (Tawi-tawi, Basilan, Sulu)	Feb. 2005-April 2008	Resigned as Project Manager
6. Ms. Alona P. Tape	Information Officer	Information/Advocacy Team Member	Feb. 2005-Dec 2006	Resigned
7. Mrs. Rebecca H. Patalen	Training Officer	Training Coordinator/Facilitator	Feb. 2005-present	

8. Ms. Salembai A. Abdullah	Report Officer	Report Officer	Feb. 2005-present	
9. Ms. Jean Somera	Socio-economics	Impact Assessment Survey	July 2007-August 2008	Resigned
10. Ms. Mary Rodelyn V. Andres	Socio-Econ/Adoption Survey	Impact Assessment Survey	January 2009-present	
11. Ms. Rizalina T. Fadera	Financial Assistant	Financial Management	April 2008-present	
12. Mrs. Rochelle Marie P. Bondad	Administrative Officer	Support Staff (Administrative Officer)	Feb 2005-2006	Reassigned to PhilRice Agusan
13. Ms. Lorhybec D. Bugacia	Accounting Clerk	Support Staff (Accounting)	Feb. 2005-present	
14. Mrs. Ma. Teresa A. Escabarte	Bookkeeper	Support Staff (Accounting)	Feb. 2005-present	
15. Mrs. Remedios F. Fuerte	Cashier	Support Staff (Routine Cashiering)	Feb. 2005-Jan. 2008	Deceased
16. Mr. Felipe Deanon	Driver	Support Staff (Driver)	Feb. 2005-present	
17. Mr. William Cayona	Driver	Support Staff (Driver)	Feb. 2005-present	
18. Mr. Mohammed Nasrullah L. Patadon, Jr.		Field Assistant in Maguindanao	Feb. 2005-present	
19. Mr. Datu Ali N. Sumlay		Field Assistant in Maguindanao	May 2006-present	
20. Mr. Mr. Akmad Abdullah		Field Assistant in Maguindanao	Aug 2007-present	
21. Mr. Jamil D. Amer		Field Assistant in Lanao del Sur	Feb. 2005-present	
22. Ms. Bairan Mamacol		Field Assistant in Lanao del Sur	May 2006-present	
23. Mr. Alexander Mangondaya		Field Assistant in Lanao del Sur	Aug 2007-present	
24. Mr. Khamad A. Sarabon		Field Assistant in Basilan	Feb. 2005-present	
25. Mr. Datu Fadh A. Jaljalis		Field Assistant in Basilan	May 2006-Mar 2007	Resigned; transferred to LGU
26. Mr. Nixon A. Abdilla		Field Assistant in Basilan	Aug. 2007-present	



27. Mr. Abdulhalim J. Abubakar		Field Assistant in Sulu	Feb. 2005-present	
28. Mr. Baltazar J. Jauhari		Field Assistant in Sulu	May 2006-present	
29. Mr. Zaldy A. Amilassan		Field Assistant for Tawi-tawi	Feb. 2005-present	
30. Mr. Manuel Saral Kamaro		Field Assistant for Tawi-tawi	May 2006-present	
31. Ms. Kagundahan Abdul		Field Assistant for Tawi-tawi	Nov. 2007-March 2009	Resigned
32. Mr. Reynaldo Iledan		Field Assistant, Palayamanan/ Resource Person	Aug. 2007-present	On training in Japan (Feb- Nov 2009)
<b>1.3 DAF-ARMM</b>				
<b>1) DAF ARMM</b>				
1. Mr. Sajid S. Druz Ali	Regional Secretary	Vice-Chair, JCC	Feb. 2005- October 2008	
2. Dr. Kiese T. Usman, Al-Haj	Regional Secretary	Vice-Chair, JCC	October 2008 to present	Replaced Mr. Druz Ali
3. Mr. Dadtungan B. Radzak		Project Manager for Lanao del Sur	Feb. 2005-present	
4. Mr. Mustapha Daguduban		Asst. Project Manager for Lanao del Sur	Feb. 2005- Mar. 2007	Retired
<b>2) ARMMIARC</b>				
5. Mr. Siya B. Belongan	DAF-ARMMIARC Manager	Co-Asst. Project Director; Overall implementation of nursery at ARMMIARC site	Feb. 2005-present	
6. Ms. Gladys S. Solano	Information Officer	Coordinator, Info Campaign (radio program)	Feb. 2005-present	



<b>3) Provincial Agricultural Officer/Provincial Coordinator</b>					
7. Mr. Daud K. Lagasi	R&D Director/Acting Provincial Agricultural Officer (PAO) for Maguindanao	Co-Project Director & Member, JCC	Feb. 2005-present	Replaced Mr. Keise Usman in Oct. 2005 as Co-Project Director	
8. Prof. Sangkula A. Tindick	Provincial Director/Provincial Agricultural Officer, Tawi-tawi	Provide leadership and personnel in the implementation of the project	Feb. 2005-present		
9. Mr. Muhaimin E. Adjid, Al-Haj	Provincial Officer, Sulu	Provide leadership and personnel in the implementation of the project	Feb 2005-2006 Aug 2009 - present		
10. Mr. David G. Hatang	Provincial Officer, Sulu	Provide leadership and personnel in the implementation of the project	Feb. 2006-Dec. 2007	Replaced Mr. Adjid	
11. Mr. Helmie T. Halim	Provincial Officer, Sulu	Provide leadership and personnel in the implementation of the project	Dec. 2007- Aug 2009	Replaced Mr. Hatang	
12. Mr. Sally A. Guillermo	PAO, Basilan	Provincial Coordinator, Basilan	Jan 2006-present	Replaced Mr. Hussin	
13. Mr. Albert P. Usman	Agricultural Technologist	Provincial Coordinator, Maguindanao & In-Charge, DAF-ARMMIARC Nursery	Feb. 2005-Jan. 2009 (on training in Japan)	Handled Maguindanao until June 2007	
14. Mr. Musa G. Abdulkarim	Agricultural Technologist	Provincial Coordinator, Maguindanao	June 2007-present	Replaced Mr. Usman for Maguindanao	
15. Mr. Mando S. Mama	Agricultural Technologist	Provincial Coordinator, Lanao del Sur	Feb. 2005-Oct 2006		
16. Mr. Tagoranao S. Baguan	Chief of Operations	Provincial Coordinator, Lanao del Sur	Oct. 2006 - present	Replaced Mr. Mama for Lanao Sur	
17. Mr. Jun M. Ammak	Agricultural Technologist	Provincial Coordinator, Sulu	Feb. 2005-present		
18. Mr. Nestor Q. Jumawan	Agricultural Technologist	Provincial Coordinator, Tawi-tawi	Feb. 2005-present		

19. Mr. Nasrullah Dilangalen	Information Officer	Radio program, Maguindanao	Feb. 2005-present
20. Mr. Naga Tocalo	Information Officer	Radio program, Lanao del Sur	Feb. 2005-present
21. Mr. Al-Husayn O. Fernandez	Information Officer	Radio program, Tawi-Tawi	Feb. 2005-present
22. Mr. Edward Non	Information Officer	Radio program, Sulu	Feb. 2005-present
<b>4) Provincial Agricultural Officer/Provincial Coordinator</b>			
23. Agricultural Technologists assigned in the FFS sites			
<b>1.4 Local Government Units</b>			
1. Mr. Hairin S. Abdocarim, Al-Haj	Provincial Agriculturist, Basilan	Provide leadership and personnel in the implementation of the project	Feb. 2005-Dec 2005
2. Mr. Patrimonio Hussin	Agricultural Technologist	Provincial Coordinator, Basilan	Feb. 2005-Dec 2005
<b>1.5 University of Southern Mindanao (USM)</b>			
1. Dr. Virgilio G. Oliva	President	Member, JCC	Feb 2005-Jan 2009 Retired
2. Dr. Jesus Antonio G. Derije	President	Member, JCC	Jan 2009 - present
3. Dr. Rosa Fe D. Hondrade	Professor	Resource Person on Socio Economics	Feb 2005-present
4. Dr. Edwin G. Hondrade	Professor	In-charge, Central Nursery/Palayamanan at USM site	Feb 2005-present
<b>1.6 Mindanao State University (MSU)</b>			
1. Dr. Ricardo de Leon	Acting President	Member, JCC	Feb 2005-Feb 2009
2. Dr. Macapado A. Muslim	President	Member, JCC	March 2009-present
3. Dr. Otinggue M. Masnar	Vice Chancellor for R&D	In-charge, Nursery at MSU site; Resource Person	Feb 2005-Mar 2006
4. Dr. Bagani S. Macabalang	Professor, College of Agriculture	Resource Person	Feb 2005-Mar 2006
5. Dr. Amir Comadug	Director for R&E	Resource Person	Aug 2006-present

*th*

**Annex-4**

**Achievement Grid (As of September 14, 2009)**

**Activities**

		Progress up to September 2009									
Narrative Summary	ACTIVITIES	JFY 2004	JFY 2005	JFY 2006	JFY 2007	JFY 2008	JFY 2009	TOTAL			
1-a. Initial consultation with ATs & implementers	Number of Briefing/consultation meetings among program coordinators	1	3	3	2	4	2	15			
	Remarks	A total of 15 meetings were held at PhilRice CES and Midsayap to discuss status of implementation and accomplishments, and solutions/strategies addressing problems/constraints.									
1-b. Provision of extensive technological training/study tour for agricultural technologists and implementers	(1) Training Courses										
	ACTIVITIES	JFY 2004	JFY 2005	JFY 2006	JFY 2007	JFY 2008	JFY 2009	TOTAL			
	Number of Agricultural Technologies (ATs) received trainings	26	95	94	80	32	30	357			
	Remarks	In 2004 and 2005 trainings were conducted in USM and other venues. From 2006 PhilRice headquarters also started to receive trainees. The total number of personnel who received training is 357, against the target of 300. In terms of the number of person, 224 ATs were trained since some of ATs attended different types of trainings twice or more. According to the schedule, the training was given to the ATs who were assigned to new project sites.									
	(2) Study Tour										
	ACTIVITIES	JFY 2004	JFY 2005	JFY 2006	JFY 2007	JFY 2008	JFY 2009	TOTAL			
	Number of Study Tour and Participants	0	2 times 12 participants	4 times 59 participants	6 times 102 participants	0	0	12 times 173 participants			
	Remarks	Participants of study tours include Provincial Agricultural Officers and Provincial Coordinators (AT). Some study tours were funded by PhilRice. Conducting study tour was not in the PDM at the start of the Project. However, it was included in training plan as one of the effective training methods for those farmers and ATs who had not been exposed to other areas with advanced farming system and innovative farmers in Ilocos, Luzon.									

*CPW* *1/2*

<p>1-c. Monitoring and evaluation of the Project.</p>	<ul style="list-style-type: none"> <li>The Impact Surveys were conducted in 2007 and 2009 to assess: (1) the level and type of adoption of agricultural techniques; (2) the yield performance; and (3) the results of the socio-economic impact after the training. The results in the 2007 Impact Survey were shared among implementers and used to make an analysis in the Mid-term evaluation. With some modification of the question items in the Questionnaire which was agreed between JICA and PhilRice in the Project Consultation conducted in December 2008, the second survey was conducted in April 2009, and the data-analyses were completed in September 2009.</li> <li>At the farmer's (individual) level, the regular monitoring activities for farmers are conducted to monitor the conditions of the farmland of all the trained farmers by the ATs and field assistants from PhilRice hired by the Project. The objectives of this monitoring are to: (1) assess the level of adoption; (2) determine the areas of technical advice and supervision; and (3) further reflect to a plan for next activity. The 2007 monitoring activities were conducted and the analyses were completed in the same year. The 2008 regular basis monitoring activities have also been conducted and the data analysis was already completed. The results of the monitoring activities are normally shared during the implementer's meeting.</li> </ul>																																
<p>2-a. Small-scale training for farmers through the FFS and Palayamanan</p>	<table border="1"> <thead> <tr> <th>ACTIVITIES</th> <th>JFY 2004</th> <th>JFY 2005</th> <th>JFY 2006</th> <th>JFY 2007</th> <th>JFY 2008</th> <th>JFY 2009</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>Number of Farmers received on-site training through FFS and Palayamanan on rice</td> <td>0</td> <td>842</td> <td>775</td> <td>851</td> <td>645</td> <td>656</td> <td>3769</td> </tr> <tr> <td>Number of Farmers received on-site training through FFS and Palayamanan on vegetable</td> <td>0</td> <td>907</td> <td>771</td> <td>948</td> <td>784</td> <td>780</td> <td>4190</td> </tr> <tr> <td>Remarks</td> <td colspan="7">The target was already achieved and surpassed. In case of Tawi-Tawi, it was found that the staple food is root crops, mainly cassava. Thus, the number of trainees in each province has slightly changed according to the needs.</td> </tr> </tbody> </table>	ACTIVITIES	JFY 2004	JFY 2005	JFY 2006	JFY 2007	JFY 2008	JFY 2009	TOTAL	Number of Farmers received on-site training through FFS and Palayamanan on rice	0	842	775	851	645	656	3769	Number of Farmers received on-site training through FFS and Palayamanan on vegetable	0	907	771	948	784	780	4190	Remarks	The target was already achieved and surpassed. In case of Tawi-Tawi, it was found that the staple food is root crops, mainly cassava. Thus, the number of trainees in each province has slightly changed according to the needs.						
ACTIVITIES	JFY 2004	JFY 2005	JFY 2006	JFY 2007	JFY 2008	JFY 2009	TOTAL																										
Number of Farmers received on-site training through FFS and Palayamanan on rice	0	842	775	851	645	656	3769																										
Number of Farmers received on-site training through FFS and Palayamanan on vegetable	0	907	771	948	784	780	4190																										
Remarks	The target was already achieved and surpassed. In case of Tawi-Tawi, it was found that the staple food is root crops, mainly cassava. Thus, the number of trainees in each province has slightly changed according to the needs.																																

*Handwritten signature*

2-b. Assistance for/enhancement of Palayamanan and FFS models

(1) Establishment of Palayamanan and FFS (techno demo)									
ACTIVITIES	JFY 2004	JFY 2005	JFY 2006	JFY 2007	JFY 2008	JFY 2009	TOTAL		
Number of established Palayamanan models	4	4	8	6	0	0	22		
Number of established Farmers's Field Schools, FFS	0	23	21	27	27	26	124		
Remarks	<p>Palayamanan techno demos were established in each province as follows: Magindanao (6); Lanao del Sur (4); Basilan (4); Sulu (4); and Tawi-Tawi (4). Palayamanan actually also served as FFS sites and learning fields of farmers. Initial target for the established of FFS and Palayamanan were 20. FFS techno demos were established in each province as follows: Magindanao (45); Lanao del Sur (34); Basilan (15); Sulu (17); Tawi-Tawi (13). Initial target of the establishment of FFS were 123. Three of them are not functional (1 in Tawi-Tawi due to death of the cooperator, 1 in Sulu due to relocation of the cooperator, 1 in Lanao del Sur due to the evacuation of farmers caused by military operation (AFP)).</p>								
(2) Assistance on Nursery and Seed Production									
ACTIVITIES	JFY 2004	JFY 2005	JFY 2006	JFY 2007	JFY 2008	JFY 2009	TOTAL		
Establishment and maintenance of nursery and seed production	1 site at USM 1 site at ARMMIARC (1 site at MSU)	1 site at PhilRice Midsayap	0	0	0	0	3		
Remarks	<p>The nurseries were established to provide farmers with seedling materials and livestock for the different project sites from 2004 to 2007, as planned. Three nurseries have been maintained at USM (5 ha), PhilRice Midsayap (1 ha), and DAF-ARMMIARC (1 ha). The nursery at MSU is no longer operational. ARMMIARC has produced, packed and delivered seeds of pole sitao, okra, ridge gourd, bottle gourd, squash and hot pepper as planting materials for the FFS-vegetable techno demo sites. USM nursery serves as central nursery for Palayamanan model farms and FFS sites where vegetables, sweet potato, cassava, gabi, corn, ducks and goats were produced. Other nursery at Philrice Midsayap also serves as demo farm for farmers who visit the station and also produce vegetable seeds, ducks, chickens, goats, and some of which are distributed to FFS farmers.</p>								

*Handwritten signature*



Activities	Province	JFY 2005	JFY 2006	JFY 2007	JFY 2008	JFY 2009	Target (only in 2007)	Actual
Training for Bangsamoro Women on Food Processing	Maguindanao	0	0	26	0	0	15	26
	Lanao Sur	0	0	31	0	0	15	31
	Basilan	0	0	0	26	0	15	26
	Sulu	0	0	0	23	0	15	23
	Tawi-tawi	0	0	0	22	0	15	22
	Total	0	0	57	71	0	75	128

(1) Graduation Ceremony and Field Days

The ceremonies for rice and vegetable training sessions are regularly conducted together on all the sites at the end of the training period, in January-February after the FFS-vegetable training session. The ceremonies for the last batch will be conducted in early next year. Before the graduation ceremony, field days are conducted during the harvesting season, inviting government officials and farmers in the barangay and in neighboring barangays to interact and discuss the experiences between farmers and cooperators in the field, and government officials.

(2) Radio Program

A school-on-the air radio program, called Palayamanan, has been implemented to complement with the FFS training. Topics discussed in the FFS have been reinforced in the program. Radio magazines, skits, and plugs have been also aired. Specifically, the radio program titled "Palayamanan radio skit (originally straight talk)" is continuously aired, which are shown in the following table.

Province	Station	Day	Airtime	Radio Program
1. Maguindanao	DXMY	Thursday	6:30-7:00 PM	Straight Talk
2. Lanao del Sur	DxAT Radio Lanao	Monday	8:00-9:00 AM	Straight Talk
3. Basilan	RPN-Zamboanga	Saturday	6:00-6:14 AM	Radio skit (Tagalog)
4. Sulu	DXMM	Friday	11:30-12:00 AM	Radio skit (Tagalog)
5. Tawi-Tawi	DXNN	Saturday	6:30-7:00 PM	Straight Talk

(3) Delivery of Materials

An online newsletter has been produced and sent out to the project implementers this year (2009). A techno-bulletin on the "Production management guide for selected vegetables" was translated into the Maguindanao, Maranao, and Tausug dialects and was distributed to farmers. However, it was found out in the interviews with the Provincial Coordinators (AT) and PhilRice, translation to Tagalog is also underway. Other materials for ATs were distributed and used such as extension kits, i.e. books, manuals, leaf color charts, Compact Disc on water management for both rice and vegetables and extension bags.





for Field Assts/ APOs	28, 2005 (one month)		provinces)			based farming systems; facilitating skills	participants, prepared flipcharts, training reports, and action plan	Very Good (20%)
Vegetable Production Training for ATs	December 3-9, 2006	USM Hostel, Kabacan, North Cotabato	Maguindanao Lanao Sur	<b>35</b> 19 16	Vegetable production	51 (20-77) 72.4 (50-93))	41.9	Very Good (69% of pax) Excellent (20%)
	Jan. 21-27, 2007	Cecille's Pension House, Tumaga Porcentro, Zamboanga City	PhilRice Staff Lanao Sur Basilan Sulu Tawi-tawi	<b>32</b> 1 1 10 11 9	Vegetable production	59 (20 -83) 75.6 (43-93))	28.1	Very Good (48% of pax) Excellent (31%)
Intensive Training on Vegetable Cultivation Technology for Field Assistants/ APOs	June 18 to October 2, 2006	Batac, Ilocos Norte	(1 each from ARMM provinces)	<b>5</b>	Vegetable production (handled by JICA TCP3 Expert Mr. Inoue in Ilocos Norte)	Pre- and post-test not conducted; as outputs of participants, prepared technology bulletins on vegetables, translated into local dialects and being layout for printing; each participant established/maintained 200 sq plot as their learning field		
Off-season Vegetable Product'n Training for ATs	Feb 19-21, 2007	EastWest Seed Company, San Rafael. Bulacan	PhilRice Staff Maguindanao Lanao Sur Basilan Sulu Tawi-tawi	<b>22</b> 2 7 4 3 3 3	Vegetable production	Conducted exam only on disease identification after the training: 32% passed the exam with 60% passing score; scores ranged from 42% to 76%; averaged to 56%		
Specialized	June 17 to	EastWest Seed		<b>22</b>	Vegetable production	Conducted examinations on: Very Good		

Trainings for Agricultural Technologists of ARMM	July 1, 2007	Company, San Rafael, Bulacan PhilRice CES	PhilRice Staff Maguindanao Lanao Sur Basilan Sulu Tawi-tawi	1 8 4 3 3 3	Rice and rice-based farming systems	<ul style="list-style-type: none"> <li>vegetable seed production (32% passed with 60% passing score, scores ranged from 25% to 75% or averaged to 55%)</li> <li>disease identification (50% passed, scores ranged from 37% to 89%, averaged to 60%)</li> </ul>	good								
	July 2-4, 2007	Cecille's Pension House, Tumaga Porcentro, Zamboanga City			Pest management - vegetable	<table border="1"> <tr> <td>50 (theoretical)</td> <td>82</td> <td>64.0</td> </tr> <tr> <td>16 - 80</td> <td>68 - 100</td> <td></td> </tr> <tr> <td></td> <td>53 (practical)</td> <td>20 - 88</td> </tr> </table>	50 (theoretical)	82	64.0	16 - 80	68 - 100			53 (practical)	20 - 88
50 (theoretical)	82	64.0													
16 - 80	68 - 100														
	53 (practical)	20 - 88													
Training on Palayamanan for DAF-ARMMIARC ROS Superintendents & Researchers	July 9-20, 2007	PhilRice CES	(2 per province; except Tawi-tawi-1)	11	Palayamanan	No pre- and post-tests conducted as the training was designed as briefing on palayamanan; as outputs of the participants, prepared a proposal for establishment of Palayamanan model farmers in their respective stations									

Title of training	Date	Venue	No. of participants	Focus/ Contents of the training	Pre-test/ (Range)		Overall rating of training
					Pre-test/ (Range)	Post-test/ (Range)	
Specialized Trainings for Agricultural Technologists of ARMM	August 27 – Sept. 11, 2007	IPB, UP Los Baños PhilRice CES	PhilRice Staff	Crop and vegetable seed production	Pre-test was conducted to determine the level of knowledge of participants; post test was conducted but of different questions from the pre-test however results were not documented as the test papers were returned to participants after discussing the answers for their reference. Three quizzes were given, scores averaged to 73%, ranged from 46 to 96%		Very good
			Maguindanao				
			Lanao Sur				
			Basilan				
			Sulu				
			Tawi-tawi				
Intensive Training on Vegetable Cultivation Technology for Field Assistants/ APOs	Nov. 15-Dec 15, 2008	PhilRice CES (Palayamanan model farm)	(1 each from	Vegetable and rice production (lecture and hands-on)	Pre- and post-test not conducted; as outputs of participants, prepared progress of activities and accomplishments; each participant established/maintained plot as their learning field		
			ARMM provinces except Tawi-tawi)				
Vegetable Production	March 17-19, 2008	CLSU/Nueva Ecija Fruits and Vegetable Center	PhilRice Staff	Vegetable production	Pre- and post tests (25 questions) were conducted to determine the level of knowledge of participants.		
			Maguindanao				
			Lanao Sur				
			Basilan				
			Sulu				
			Tawi-tawi				

Title of training	Date	Venue	No. of participants	Focus/ Contents of the training	Pre-test/ (Range)	Post-test/ (Range)	% knowledge gained	Overall rating of training
Specialized Training Course on Facilitation, Presentation and Communication Skills Cum Training on IPM Vegetables	Dec. 8-12, 2008	USM Hostel, Kaban, North Cotabato	32 Maguindanao Lanao Sur Basilan Sulu Tawi-tawi	IPM vegetables Facilitation, presentation and communication skills	53 (17-77)	81 (57-97)	35 (12-72)	Very good
	June 1-5, 2009	USM Hostel, Kaban, North Cotabato	30 Maguindanao Lanao Sur Basilan Sulu Tawi-tawi	IPM vegetables Facilitation, presentation and communication skills				
			<b>17 batches</b>					
			<b>357</b>					

#### Training for Farmers

Title of training	Date	Venue	No. of participants	Focus/ Contents of the training	Pre-test/ (Range)	Post-test/ (Range)	% knowledge gained	Overall rating of training
Vegetable Production Training for Farmers	Feb. 18-20, 2008	CLSU/Nueva Ecija Fruits and Vegetable Center	13 Maguindanao Lanao Sur Basilan Sulu Tawi-tawi	Vegetable production	Pre- and post tests (25 questions) were conducted to determine the level of knowledge of participants.			
	April 2-4, 2008 *	CLSU/Nueva Ecija Fruits and Vegetable Center	19 Maguindanao Lanao Sur	Vegetable production	Pre- and post tests (25 questions) were conducted to determine the level of knowledge of participants.			





**Summary of study tours**

<b>Participants</b>	<b>No. of pax</b>	<b>Duration</b>	<b>Places visited</b>	<b>Remarks</b>
Farmer-Cooperators	7	Feb. 6-11, 2006	Pangasinan; La Union; Ilocos Norte/Sur; Benguet/ Baguio City Science City of Muñoz, Nueva Ecija	Maguindanao- 2 Lanao Sur 2 Basilan 1 Sulu 1 Tawi-tawi 1 (With community immersion)
Bangsamoro Women	5	March 9-19, 2006	Pangasinan; La Union; Ilocos Norte/Sur; Benguet/ Baguio City Nueva Ecija	Focus on food processing; small-scale cottage industries; with community immersion Maguindanao- 1 Lanao Sur 2 Basilan 2
PAOs and Provincial coordinators and	11	Jan. 10-13, 2007	Ilocos Norte/Sur; Benguet/ Baguio City Science City of Muñoz; IRRI and UP Los Banos, laguna	PhilRice - 1 DAF-ARMM 2 Maguindanao- 1 Lanao Sur 2 Basilan 1 Sulu 3 Tawi-tawi 1
Farmer-Leaders/ Cooperators	14	Jan 14-20, 2007	Pangasinan; Ilocos Norte/Sur; Benguet/ Baguio City Science City of Muñoz, Nueva Ecija	Maguindanao- 2 Lanao Sur 3 Basilan 3 Sulu 3 Tawi-tawi 3 (With community immersion)
ATs	20	Feb. 22-28, 2007	Pangasinan; Ilocos Norte/Sur; Benguet/ Baguio City Science City of Muñoz, Nueva Ecija	Part of the training
Farmer-Leaders/ Cooperators	14	March 12-24, 2007	Pangasinan; Ilocos Norte/Sur; Benguet/ Baguio City Science City of Muñoz, Nueva Ecija	Maguindanao- 3 Lanao Sur 3 Basilan 3 Sulu 3 Tawi-tawi 2 (With community immersion)
ATs	20	June 21-25, 2007	Pangasinan; Ilocos Norte/Sur; Benguet/ Baguio City Science City of Muñoz	Part of the training

Participants	No. of pax	Duration	Places visited	Remarks
DAF-ARMMIARC ROS Superintendents & Researchers	11	July 14-18, 2007	Pangasinan; Ilocos Norte/Sur; Benguet/ Baguio City Science City of Muñoz	Part of the training
ATs	23	Sept. 6-10	Pangasinan; Ilocos Norte/Sur; Benguet/ Baguio City Science City of Muñoz	Part of the training
Farmers	14	Feb. 12-16, 2008	Pangasinan; Ilocos Norte/Sur; Benguet/ Baguio City Science City of Muñoz	Part of the training
ATs *	15	Mar 13-16, 2008	Pangasinan; Ilocos Norte/Sur; Benguet/ Baguio City Science City of Muñoz	Part of the training
Farmers *	19	Mar 28-31, 2008	Pangasinan; Ilocos Norte/Sur; Benguet/ Baguio City Science City of Muñoz	Part of the training

**Number of batches = 12;**

**Number of participants = 173**

*\* funded by PhilRice*

Annex-6: Evaluation Grid

As of 2009/09/14

Evaluation Criteria	Evaluation Items		Data Sources	Results
	Main Items	Sub-Items		
Relevance (To examine the justifiability or necessity for Project implementation)	Policy	Consistency with the development policy of the ARMM	Documents of ARMM Policy	<ul style="list-style-type: none"> <li>The Project's strategy has been consistent with the ARMM policy since the Project started. The ARMM Medium-Term Regional Development Plan 2004-2010 puts an emphasis on the improvement of infrastructure to promote farmers' productivity including, irrigation, rural roads, post harvest services; all done towards the goal of upgrading the farmers' standard of living.</li> <li>Main theme of new ARMM Regional Executive and Legislative Agenda (2009-2011) is "Strengthening Peace-Based Governance and Strategic Initiatives towards Sustainable Development in ARMM" and Development Investment Program 2008-2010 puts significant emphasis on sustainable agri-fishery development program. With these considerations, the Project is in line with the policy and direction of ARMM.</li> </ul>
	Necessity	Consistency with the development policy of the JICA	Documents from Ministry of Foreign Affairs in Japan and JICA	<ul style="list-style-type: none"> <li>The Country Assistance Program for the Philippines formulated by the Ministry of Foreign Affairs in Japan, set up three priority development issues, which are the following: (1) sustainable economic growth aimed at creating employment opportunities, (2) empowerment of the poor, (3) improvement of the living conditions of the poor, and (4) peace and stability in Mindanao. This Project is consistent with "Improvement of basic human needs," and in the goal of the "peace and stability in Mindanao."</li> <li>The priority development issues in the Country Specific Program for the Philippines by JICA are precisely consistent with the above Program. Likewise, tackling peace, stability and development in Mindanao is a key priority for the Japanese aid policy in the Philippines. Thus, the Project, with a focus on the poor in those depressed areas caused by long-lasting conflict is consistent with the Japanese aid policy for the Philippines.</li> </ul>
		Selection of the target group Needs of cooperation for farmers in ARMM	Project documents Impact survey Field survey by Japanese and Philippine evaluation team to farmers and ATs	<ul style="list-style-type: none"> <li>The Project focuses not only on food security but also on improvement of livelihood of farmers in ARMM where they suffer from lower productivity particularly in rice and vegetables. The average yield of rice in ARMM was lower than those of the national average (2.3 ton/ha against 3.2 ton/ha) at the beginning of the Project. In particular, the low level of agricultural productivity is the result of a lack of capital, and limited access to improved farm inputs and support services (a lack of modernized farming practices), a lack of irrigation facilities, and insufficient good planting materials. Thus, Rice-based farming systems including animal and small fishery practices can also respond to their strong need to improve livelihood.</li> <li>Agricultural Technologist (AT)'s great need to (re) learn agricultural technologies is addressed under the Project in a rare opportunity for hands-on typed training.</li> </ul>



Relevance	Sustainability as a means	Japanese technology advantage	JICA related documents	<p>vegetables and animal husbandry. Considering its capabilities in implementation and coordination, it was decided that PhilRice was the most appropriate organization to implement the Project effectively</p> <ul style="list-style-type: none"> <li>Japanese government has been actively promoting agricultural extension activities not only domestically but also in other countries through Technical Cooperation scheme. The Project can effectively utilize lessons and technologies derived from those experiences, especially those from Technical Cooperation Project with PhilRice since 1992.</li> </ul>
	Approach	Synergy Effect	Interviews with DAF-ARMM	<ul style="list-style-type: none"> <li>Based on the selection criteria for selecting Project sites, the sites have no foreign-funded project especially in agricultural sector to give an opportunity to barangays which have not received any project. At present, no foreign-funded project in agricultural sector through DAF-ARMM is implemented. Thus, there is no synergy effect expected. Though there are government funded FFS program through DA such as GMA or Cross Commodity Program and PMGA, the target barangays in the Project are not under those programs.</li> </ul>
Effectiveness	Project Purpose	Achievement and prospect for the Project purpose	Impact Survey (conducted by PhilRice) Field survey by Japanese and Philippine evaluation team	<ul style="list-style-type: none"> <li>Project purpose: Rice-based farming system is improved within the target area.</li> <li>Objectively verifiable indicators are as follows (PDM was revised in the Mid-term Evaluation in December 2007), adoption of at least three rice technologies by over 70% of the target farmers in each province (except for Tawi-Tawi) through extensive training of the Project and adoption of at least one vegetable technology by over 70% of target farmers in each province through extensive training</li> <li>Looking at the results of the Impact Survey, more than 70% (target) of farmers already adopted the technologies they learned. It is very likely to sustain such high accomplishment continuously during the Project period. The following table shows the detailed performance by province</li> </ul>

[Number of Adopted Technologies in Rice Production After the Training]

Province	No of Adopted Technology									Total	Adoption (3 or more) (%)
	1	2	3	4	5	6	7	8	9		
Maguindanao	0	0	0	2	34	39	73	155	303	100.0	
Lanao del Sur	0	24	26	48	80	4	30	74	286	91.6	
Basilan	3	5	21	22	20	30	62	45	208	96.2	
Sulu	0	3	18	12	11	7	41	12	213	98.6	
Total (no. of farmers)	3	32	65	193	145	80	208	286	1010	96.5	
Total (%)	0.3	3.2	6.4	19.1	14.4	7.9	20.4	28.3	100.0	96.5	
Total (incremental) (%)	0.3	3.5	9.9	29.0	43.4	51.3	71.7	100.0	-	-	

Source: Impact Survey 2009



- As shown in the above and below tables, the adoption rates for both rice and vegetables are quite high (96.5% for rice, 97.9% for vegetable). Thus, it can be concluded that the Project purpose has already achieved at this time.

[Number of Adopted Technologies in Vegetable Production After the Training]

Province	No of Adopted Technology			Total	Adoption (1 or more) (%)
	0	1	2		
Maguindanao	3	26	84	297	99.0
Lanao del Sur	20	58	89	284	93.0
Basilan	1	1	3	199	99.5
Sulu	0	1	38	174	100.0
Tawi-Tawi	1	0	16	180	99.4
<b>Total (No of farmers)</b>	<b>25</b>	<b>86</b>	<b>210</b>	<b>852</b>	<b>1173</b>
<b>Total (%)</b>	<b>2.13</b>	<b>7.33</b>	<b>17.90</b>	<b>72.63</b>	<b>100.00</b>
<b>Total (Incremental) (%)</b>	<b>2.13</b>	<b>9.46</b>	<b>27.37</b>	<b>100.00</b>	<b>-</b>

Source: Impact Survey 2009

Effectiveness	Output 1.	Achievement of Output	Impact Survey (conducted by PhilRice) Field survey by Japanese and Philippine evaluation team
<ul style="list-style-type: none"> <li>Output 1: Continuous on-site training is provided by ATIs regarding the transfer of agricultural technologies.</li> <li>Objectively verifiable indicator is: "regular monitoring and on-site training by ATIs"</li> <li>At the start of the Project, no monitoring mechanism and system by ATIs for follow-up throughout the Project period was set up. It was not spelled out in the PDM either. During the Mid-term Evaluation, output of the Project and the indicator were changed to properly reflect the contents of the output. "Regular monitoring and on-site training by ATIs" was included in the PDM as an indicator to assess "Output 1" as addressed above. Accordingly, the Mid-term Evaluation mission recommended that systematic monitoring with a reporting system by ATIs should be set up.</li> <li>After the Mid-term Evaluation, a systematic monitoring system for ATIs has not been set up except the FFS training. During the FFS training, ATIs have submitted monthly monitoring reports for about 8 months from the start of FFS, as required. The procedure of conducting FFS training and monitoring was designed by PhilRice and was implemented by DAF-ARMM and LGUs.</li> <li>It is however important to remark that despite the fact that systematic monitoring system with reporting system by ATIs has not been established, ATIs have undertaken monitoring activities as needed, especially after the training was conducted. It is proven by the questionnaire survey for ATIs and the</li> </ul>	Output 1.	Achievement of Output	Impact Survey (conducted by PhilRice) Field survey by Japanese and Philippine evaluation team



Effectiveness	Output 2.	Achievement of Output	Project documents (PhilRice)	<p>Field Survey done by the Philippine evaluator.</p> <ul style="list-style-type: none"> <li>According to the Field Survey by the Philippine evaluator, in case of Maguindanao, 48% of the respondents said that ATs visit the barangay quarterly in a year before the training (n=31), while 36% said that AT visit once a week, twice a month after the training (16%). In case of Lanao del Sur (n=37), 46% were visited by ATs once a year before the training, while 54% were visited by ATs once a week after the training.</li> <li>Obviously, the frequency of visits by ATs increased after the training, indicating some degree of commitment among ATs. Thus, the Output was already attained to a certain extent.</li> <li>Output 2: Relevant knowledge/technologies are acquired by farmers for the improvement of farming system</li> <li>Objectively verifiable indicators are as follows, 3,450 farmers are trained through extensive training on high productivity farming technology at Palayamanan and FFS. The following table shows the number of participants (farmers) trained and the target for rice and vegetable production.</li> </ul> <p>(Number of Participants (Rice))</p> <table border="1" data-bbox="726 369 997 1276"> <thead> <tr> <th rowspan="2">Province</th> <th>JFY 2005</th> <th>JFY 2006</th> <th>JFY 2007</th> <th>JFY 2008</th> <th>JFY 2009</th> <th colspan="2">Total</th> </tr> <tr> <th>Actual</th> <th>Actual</th> <th>Actual</th> <th>Actual</th> <th>Actual</th> <th>No of Site</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>Maguindanao</td> <td>280</td> <td>287</td> <td>388</td> <td>270</td> <td>274</td> <td>50</td> <td>1,075</td> </tr> <tr> <td>Lanao del Sur</td> <td>210</td> <td>248</td> <td>235</td> <td>223</td> <td>227</td> <td>37</td> <td>875</td> </tr> <tr> <td>Basilan</td> <td>102</td> <td>117</td> <td>90</td> <td>117</td> <td>124</td> <td>18</td> <td>500</td> </tr> <tr> <td>Sulu</td> <td>122</td> <td>123</td> <td>108</td> <td>35</td> <td>31</td> <td>20</td> <td>500</td> </tr> <tr> <td>Tawi-Tawi</td> <td>128</td> <td>0</td> <td>30</td> <td>0</td> <td>0</td> <td>13</td> <td>500</td> </tr> <tr> <td><b>Total</b></td> <td><b>642</b></td> <td><b>775</b></td> <td><b>851</b></td> <td><b>645</b></td> <td><b>656</b></td> <td><b>138</b></td> <td><b>3,450</b></td> </tr> </tbody> </table> <p>(Source: PhilRice)</p>	Province	JFY 2005	JFY 2006	JFY 2007	JFY 2008	JFY 2009	Total		Actual	Actual	Actual	Actual	Actual	No of Site	Actual	Maguindanao	280	287	388	270	274	50	1,075	Lanao del Sur	210	248	235	223	227	37	875	Basilan	102	117	90	117	124	18	500	Sulu	122	123	108	35	31	20	500	Tawi-Tawi	128	0	30	0	0	13	500	<b>Total</b>	<b>642</b>	<b>775</b>	<b>851</b>	<b>645</b>	<b>656</b>	<b>138</b>	<b>3,450</b>
Province	JFY 2005	JFY 2006	JFY 2007	JFY 2008		JFY 2009	Total																																																												
	Actual	Actual	Actual	Actual	Actual	No of Site	Actual																																																												
Maguindanao	280	287	388	270	274	50	1,075																																																												
Lanao del Sur	210	248	235	223	227	37	875																																																												
Basilan	102	117	90	117	124	18	500																																																												
Sulu	122	123	108	35	31	20	500																																																												
Tawi-Tawi	128	0	30	0	0	13	500																																																												
<b>Total</b>	<b>642</b>	<b>775</b>	<b>851</b>	<b>645</b>	<b>656</b>	<b>138</b>	<b>3,450</b>																																																												
				<p>(Number of Participants (Vegetable))</p> <table border="1" data-bbox="1061 380 1332 1288"> <thead> <tr> <th rowspan="2"></th> <th>JFY 2005</th> <th>JFY 2006</th> <th>JFY 2007</th> <th>JFY 2008</th> <th>JFY 2009</th> <th colspan="2">Total</th> </tr> <tr> <th>Actual</th> <th>Actual</th> <th>Actual</th> <th>Actual</th> <th>Actual</th> <th>No of Site</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>Maguindanao</td> <td>308</td> <td>287</td> <td>428</td> <td>270</td> <td>274</td> <td>50</td> <td>1,075</td> </tr> <tr> <td>Lanao del Sur</td> <td>271</td> <td>244</td> <td>210</td> <td>223</td> <td>227</td> <td>37</td> <td>875</td> </tr> <tr> <td>Basilan</td> <td>88</td> <td>117</td> <td>82</td> <td>87</td> <td>124</td> <td>18</td> <td>500</td> </tr> <tr> <td>Sulu</td> <td>112</td> <td>123</td> <td>109</td> <td>114</td> <td>95</td> <td>20</td> <td>500</td> </tr> <tr> <td>Tawi-Tawi</td> <td>128</td> <td>0</td> <td>119</td> <td>90</td> <td>60</td> <td>13</td> <td>500</td> </tr> <tr> <td><b>Total</b></td> <td><b>907</b></td> <td><b>771</b></td> <td><b>948</b></td> <td><b>784</b></td> <td><b>780</b></td> <td><b>138</b></td> <td><b>3,450</b></td> </tr> </tbody> </table> <p>(Source: PhilRice)</p>		JFY 2005	JFY 2006	JFY 2007	JFY 2008	JFY 2009	Total		Actual	Actual	Actual	Actual	Actual	No of Site	Actual	Maguindanao	308	287	428	270	274	50	1,075	Lanao del Sur	271	244	210	223	227	37	875	Basilan	88	117	82	87	124	18	500	Sulu	112	123	109	114	95	20	500	Tawi-Tawi	128	0	119	90	60	13	500	<b>Total</b>	<b>907</b>	<b>771</b>	<b>948</b>	<b>784</b>	<b>780</b>	<b>138</b>	<b>3,450</b>
	JFY 2005	JFY 2006	JFY 2007	JFY 2008		JFY 2009	Total																																																												
	Actual	Actual	Actual	Actual	Actual	No of Site	Actual																																																												
Maguindanao	308	287	428	270	274	50	1,075																																																												
Lanao del Sur	271	244	210	223	227	37	875																																																												
Basilan	88	117	82	87	124	18	500																																																												
Sulu	112	123	109	114	95	20	500																																																												
Tawi-Tawi	128	0	119	90	60	13	500																																																												
<b>Total</b>	<b>907</b>	<b>771</b>	<b>948</b>	<b>784</b>	<b>780</b>	<b>138</b>	<b>3,450</b>																																																												

*Handwritten signature*

*Handwritten initials: CP, F, K*

		Contributing Factors	Contributing factors to enhance the achievement of the Output and/or Project Purpose	<ul style="list-style-type: none"> <li>Farmers learned training technology through the Palayamanan and FFS framework. The number of farmers trained also increased from the original target. This is attributed to an increased number of participants in FFS in one site (planned number of the participant was 25, while actual number was around 30 in one class). Target number of sites (138 in total) has not been changed</li> <li>Within this Output, the record that farmers received training indicates that they acquired (learned) farming technologies. Thus, the Output 2 has been already achieved the target.</li> </ul>
		Contributing Factors	Impact Survey Report (conducted by PhilRice) Field Survey by Japanese and Philippine evaluation team	<p>&lt;Project Management&gt;</p> <ul style="list-style-type: none"> <li>All implementers are closely working together to achieve common goal of the Project. Issues and problems identified during the Project implementation were thoroughly discussed and solved during the Implementers' meeting and even during the implementation process, recommendations were made to provide solutions to the immediate problems.</li> <li>According to the Field Survey by the Philippine Evaluator, selection of cooperator (a leader of FFS) is one of the factors for success. If there are active, dynamic and respected Palayamanan and FFS cooperators with strong leadership, it is likely that the farmers follow him, which leads to high adoption rates for agricultural technologies.</li> </ul> <p>&lt;Market&gt;</p> <ul style="list-style-type: none"> <li>Existence of attractive market for their products is a driving factor to adopt the technologies, considering the fact that some farmers can increase income by selling vegetables and rice</li> </ul> <p>&lt;Training Methods&gt;</p> <ul style="list-style-type: none"> <li>Teaching method, more hands-on type training rather than lecture type training, by setting up techno demo, is very effective. Techno-demo serves as a showcase for farmers in or outside the barangay.</li> <li>Though there is a package of FFS training modules, the modules were modified based on the results of training needs assessment and situation analysis through a FGD conducted by Field Assistants before the training.</li> <li>Teaching materials with the use of flipcharts in local dialects also ensured a higher level of understanding for the participants.</li> <li>Radio program (reviewing lecture) is effective to reinforce the level of understanding of farmers.</li> <li>Field tour in Luzon (Ilocos) for ATIs and farmer leaders help them to enhance their technical capability and increase their level of understanding, having some additional insights in diversified farming technologies and basic knowledge on how to establish a Palayamanan model.</li> </ul>

*[Handwritten signature]*

*[Handwritten initials]*

				<p>&lt;Extension Service and Government Assistance&gt;</p> <ul style="list-style-type: none"> <li>• According to the Field Survey by the Philippine Evaluator, all the respondents in Maguindanao and Lanao del Sur indicated that they observed changes in ATs' work attitude. These are seen in their more frequent visits and increased competency in teaching rice and vegetable technologies (the training program was rated "Excellent" by 71-89%) of the respondents.</li> <li>• In all provinces, priority for seed subsidy (50% is shouldered by the government under the GMA-Rice program, 1200 peso per 40 kg will be 600 peso per 40 kg) was given to those farmers who attended to FFS in the Project.</li> <li>• Field Assistants assigned to each province (mostly 3) assisted ATs for smooth implementation of the Project in the sites, and coordinate with implementers including PhilRice and Provincial Coordinators for the Project (ATs).</li> <li>• Some trained ATs in the Project are assigned to other FFS sites, while other ATs who are not trained by the Project take over the sites in charge. In this case, monitoring by AT is not continued. As a result, farmers have difficulty in getting further technical assistance.</li> <li>• Insufficiencies in the budget, and accessibility problems impeded ATs from regular monitoring activities.</li> <li>• Security condition negatively affected the Project. Military operation in Datu Plang, in Maguindanao since last August caused about 700,000 Internally Displaced Persons including farmers under the Project. In some cases, rido (family feud) has also led farmers to leave the areas. In Sulu, two demo sites have been affected by a terrorist group (Abu Sayyaf Group).</li> <li>• Natural calamity also affected on farming. In Maguindanao, flood this year (it occurs every year) washed out farm lands. In some barangays at a lower level than the river, farmers could not plant rice.</li> <li>• Farmers get used to being given any kind of public services and materials free of charge by the government. This "Dole-out" mentality impedes the Project implementers to charge farmers on rice and vegetable seeds, and other agricultural input (fertilizer), even after the training.</li> <li>• No Japanese experts have been dispatched. Counterparts (implementers) have been assigned as follows:</li> </ul>
	Hindering Factors	Factors to hindering the achievement of the Output and/or Project purpose	Impact Survey Report (conducted by PhilRice) Field Survey by Japanese and Philippine evaluation team	Project documents (PhilRice)
	Input (manpower)	Enhancement of the output from the viewpoint of counterpart personnel assigned		
	Efficiency (To examine project efficiency)			

*Handwritten signature*

*Handwritten initials: cm*



including the ripple effects in the long term)

Field survey by Japanese and Philippine evaluation team

increases in income from rice and vegetable production after the trainings. Average income increase is 96% (rice) excluding Tawi-Tawi and 103% (vegetable) on average of five provinces. Annual gross income from rice and vegetable production is 23,308 peso.

[Annual Gross Income from Rice and Vegetable Before and After Training, Peso]

Indicators	Unit	Province					Average
		Maguin-danao	Lanao del Sur	Basilan	Sulu	Tawi-Tawi	
Rice	Gross income before	Php 38,977	24,976	30,547	8,887	N.A	25,847*
	Gross income after	79,382	58,037	52,743	15,655	N.A	51,454*
	Gross income increased	40,405	33,061	22,196	6,768	N.A	25,608*
	Increase rate	% 104	132	73	78	N.A	96*
Vegetable	Gross income before	Php 1,541	1,871	2,846	1,461	6,016	2,727
	Gross income after	4,058	4,825	5,805	2,850	10,809	5,548
	Gross income increased	2,517	2,954	2,959	1,389	4,793	2,822
	Increase rate	% 163	135	112	95	78	103
Total	Rice + Vegetable	Php 42,922	35,715	25,155	8,157	4,593	23,308**

\*average of four provinces (excluding Tawi-Tawi), \*\*average of five provinces  
Source: Impact Survey 2009

- According to the results of the Impact Survey as shown in the table below, more farmers are achieving increases in gross income after the trainings. Income increase is 86.4% on average of five provinces. The increase is attributed mainly to the growth of yield of rice (as shown in the following Table) and the increase of volume of rice for marketing. Vegetable production also contributes to increasing income.

[Annual Gross Income from All Income Sources Before and After Training, Peso]

Effective item	Unit	Province					Average
		Maguidanao	Lanao del Sur	Basilan	Sulu	Tawi-Tawi	
Income before Training	Php	59,789	30,064	55,027	42,935	46,714	46,906
Income after Training	Php	107,873	67,832	84,974	60,893	68,585	78,032
Income increase	Php	48,084	37,768	29,947	17,959	21,871	31,126
Income increase	%	80.4	125.6	54.4	41.8	46.8	66.4



	<p>Impacts occurred as ripple effects</p>	<p>Policy, Technical Aspect, Environment, Socio-economy Organization, finance</p>	<p>Impact Survey (conducted by PhilRice) Field survey by Japanese and Philippine evaluation team</p>	<p>*No adjustment with Consumer Price Index Source: Impact Survey 2009</p> <ul style="list-style-type: none"> <li>According to the results of the Impact Survey conducted in 2009, nearly all the farmers increased the productivity of rice as shown in the below Table.</li> </ul> <p>[Yield for Rice Before and After Training]</p> <table border="1"> <thead> <tr> <th rowspan="2">Yield</th> <th rowspan="2">Unit</th> <th colspan="5">Province</th> <th rowspan="2">Average</th> </tr> <tr> <th>Maguindanao</th> <th>Lanao del Sur</th> <th>Basilan</th> <th>Sulu</th> <th>Tawi-Tawi</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Upland</td> <td>Yield before</td> <td>1.36</td> <td>0.95</td> <td>1.34</td> <td>0.42</td> <td>N.A</td> <td>0.83</td> </tr> <tr> <td>Yield after</td> <td>2.43</td> <td>1.72</td> <td>1.87</td> <td>0.66</td> <td>N.A</td> <td>1.67</td> </tr> <tr> <td>Yield increase after</td> <td>76.7</td> <td>81.1</td> <td>39.6</td> <td>57.1</td> <td>N.A</td> <td>101.9</td> </tr> <tr> <td rowspan="3">Rainfed Lowland</td> <td>Yield before</td> <td>2.15</td> <td>1.84</td> <td>1.53</td> <td>1.11</td> <td>N.A</td> <td>1.56</td> </tr> <tr> <td>Yield after</td> <td>3.49</td> <td>3.57</td> <td>2.02</td> <td>2.02</td> <td>N.A</td> <td>2.77</td> </tr> <tr> <td>Yield increase after</td> <td>62.3</td> <td>94.0</td> <td>31.6</td> <td>82.0</td> <td>N.A</td> <td>77.4</td> </tr> <tr> <td rowspan="3">Irrigated Lowland</td> <td>Yield before</td> <td>2.92</td> <td>1.84</td> <td>1.81</td> <td>1.13</td> <td>N.A</td> <td>1.93</td> </tr> <tr> <td>Yield after</td> <td>5.07</td> <td>3.57</td> <td>2.67</td> <td>2.25</td> <td>N.A</td> <td>3.39</td> </tr> <tr> <td>Yield increase after</td> <td>73.6</td> <td>94.0</td> <td>47.5</td> <td>98.6</td> <td>N.A</td> <td>76.4</td> </tr> <tr> <td rowspan="3">Total</td> <td>Yield before</td> <td>2.54</td> <td>1.61</td> <td>1.76</td> <td>0.63</td> <td>N.A</td> <td>1.63</td> </tr> <tr> <td>Yield after</td> <td>4.34</td> <td>2.82</td> <td>2.56</td> <td>1.11</td> <td>N.A</td> <td>2.71</td> </tr> <tr> <td>Yield increase after</td> <td>70.8</td> <td>75.2</td> <td>45.6</td> <td>75.1</td> <td>N.A</td> <td>66.7</td> </tr> </tbody> </table> <p>Source: Impact Survey 2009</p> <ul style="list-style-type: none"> <li>According to the Field Survey by the Philippine Evaluator, there was a significant increase in the number of farmers growing vegetables after the training. Yield increase in vegetables range from 18% (tomato) to 599% (squash) indicating that application of knowledge taught and learned were highly applicable in vegetable production.</li> </ul> <p>&lt;Individual&gt;</p> <ul style="list-style-type: none"> <li>According to the Field Survey by the Philippine Evaluator, the respondents (farmers) are unanimous in emphasizing that they gained extra income from due to adoption of agricultural technologies taught to them. It is validated by the results of the Impact Survey that the extra income realized from adopting the technologies was spent on food (37.8%), farming (19.8%), and education of children and relatives (18.4%) on average of all five provinces. The rest was spent for purchasing medicine and clothes, paying loans, and building houses. It is observed that the living conditions of the target farmers have significantly improved after the training.</li> </ul>	Yield	Unit	Province					Average	Maguindanao	Lanao del Sur	Basilan	Sulu	Tawi-Tawi	Upland	Yield before	1.36	0.95	1.34	0.42	N.A	0.83	Yield after	2.43	1.72	1.87	0.66	N.A	1.67	Yield increase after	76.7	81.1	39.6	57.1	N.A	101.9	Rainfed Lowland	Yield before	2.15	1.84	1.53	1.11	N.A	1.56	Yield after	3.49	3.57	2.02	2.02	N.A	2.77	Yield increase after	62.3	94.0	31.6	82.0	N.A	77.4	Irrigated Lowland	Yield before	2.92	1.84	1.81	1.13	N.A	1.93	Yield after	5.07	3.57	2.67	2.25	N.A	3.39	Yield increase after	73.6	94.0	47.5	98.6	N.A	76.4	Total	Yield before	2.54	1.61	1.76	0.63	N.A	1.63	Yield after	4.34	2.82	2.56	1.11	N.A	2.71	Yield increase after	70.8	75.2	45.6	75.1	N.A	66.7
Yield	Unit	Province					Average																																																																																																		
		Maguindanao	Lanao del Sur	Basilan	Sulu	Tawi-Tawi																																																																																																			
Upland	Yield before	1.36	0.95	1.34	0.42	N.A	0.83																																																																																																		
	Yield after	2.43	1.72	1.87	0.66	N.A	1.67																																																																																																		
	Yield increase after	76.7	81.1	39.6	57.1	N.A	101.9																																																																																																		
Rainfed Lowland	Yield before	2.15	1.84	1.53	1.11	N.A	1.56																																																																																																		
	Yield after	3.49	3.57	2.02	2.02	N.A	2.77																																																																																																		
	Yield increase after	62.3	94.0	31.6	82.0	N.A	77.4																																																																																																		
Irrigated Lowland	Yield before	2.92	1.84	1.81	1.13	N.A	1.93																																																																																																		
	Yield after	5.07	3.57	2.67	2.25	N.A	3.39																																																																																																		
	Yield increase after	73.6	94.0	47.5	98.6	N.A	76.4																																																																																																		
Total	Yield before	2.54	1.61	1.76	0.63	N.A	1.63																																																																																																		
	Yield after	4.34	2.82	2.56	1.11	N.A	2.71																																																																																																		
	Yield increase after	70.8	75.2	45.6	75.1	N.A	66.7																																																																																																		

*Handwritten signature*

*Handwritten initials/signature*



	<ul style="list-style-type: none"> <li>To the farmers, the knowledge they gained in the training is something that is lasting. The training gave them an opportunity to learn useful practices in farming which they did not know at all before and which they have limited or no access at all. Some of them were able to buy motorcycle as a means of transportation making it easy to market their products, and to gain as additional source of income. On the other hand, some agricultural technologies were not adopted.</li> <li>One of the farmer cooperators in Madaya, Malabang, Lanao del Sur, an ex-commander of MNLF, is now a nominee for "Outstanding High-Value Commercial Crop Farmer" of DA at the national level due to success of vegetable production after the training. He has been receiving many farmers to his Palayamanan techno demo and sharing his knowledge and experiences with them.</li> </ul>																																																	
	<p>&lt;Household&gt;</p> <ul style="list-style-type: none"> <li>At the household level, a significant increase in income was realized aside from being food secured, as seen in the increased volume of production and percent of products (rice and vegetable) sold.</li> <li>Increased in standard of living was achieved as they are able to buy some appliances and go to vacation within the island.</li> <li>The income generated enable them to send their children to school, buy more food and clothes, invest on farm machinery, buy animals, home appliances, medicines and renovate/built house.</li> </ul>																																																	
	<p>&lt;Community&gt;</p> <ul style="list-style-type: none"> <li>A very significant impact on the community is the working together of Christians and Muslims in Maguindanao where there was no opportunity to interact with each other before the training. Ties among farmers in the community became stronger than before. The farmers started sharing their knowledge and experiences on rice and vegetable production among them. In other cases, farmers became organized. One of the farmer groups in Lanao del Sur is in the process of registration as a cooperative with the assistance from DA.</li> <li>Farmers became busier than before, because they started farming after undergoing the training. Many visitors are coming to the sites to observe the farm and to learn their experiences. According to the Impact Survey, the participants share the technologies they learned with about five farmers inside and outsidess the barangay on average. It appears that "farmer to farmer" approach has been taken place.</li> <li>Though economic impact from vegetable production is big, it was observed in the Field Survey by the Japanese and Philippine Evaluators that some farmers are opening the lands and encroaching. Landownership in ARMM is complicated. More importantly, it is very sensitive issues to ask. If the scale of the encroachment gets bigger, it might negatively affect ecological system in the area in the future.</li> </ul>																																																	
	<p>&lt;USM &gt;</p>																																																	

<p>Sustainability (To examine the sustainability after the termination of JICA's cooperation)</p> <p>*Sustainability is focused on the future of targeted 3,450 farmers</p>	<p>Policy</p> <p>Organizational Aspect</p>	<p>Potential of the responsible organization to manage the project outputs after the project ends</p>	<p>Document of ARMM Policy</p> <p>Field survey by Japanese and Philippine evaluation team</p>	<ul style="list-style-type: none"> <li>USM had upscaled/outscaled the JICA-funded nursery maintenance and seed production in the University into the DA funded project in Mindanao. This will assure continuous source of vegetable seeds and planting materials of the cash crop in ARMM.</li> <li>Direction and approaches that the Project activities applied are on the same track with the aims of the ARMM Regional Development Plan 2004-2010 and the ARMM Regional Executive Agenda &lt;DAF-ARMM&gt; <ul style="list-style-type: none"> <li>The primary mandate of DAR-ARMM is to deliver agricultural extension service to farmers in the ARMM and to provide ATs with supervision at the provincial and municipal levels. Although the 224 targeted ATs (person-wise) were able to enhance their capabilities in agriculture technologies, it is difficult for ATs to continue monitoring activities and on-site training in the target areas due to budget constraint for the operation.</li> </ul> </li> </ul> <p>&lt;ARMMIARC&gt;</p> <ul style="list-style-type: none"> <li>ARMMIARC, as an institution involved in research, development and extension, has a comprehensive structure with a technical and managerial department, and a satellite station in each province. The present role of ARMMIARC in the Project is to provide farmers with vegetable seeds. It can be continued as a part of their mandate.</li> </ul> <p>&lt;Farmers- Seeds&gt;</p> <ul style="list-style-type: none"> <li>According to the Field Survey by the Philippine Evaluator, for vegetable seeds, about 90% of farmers believe that they can access vegetable seeds by producing their own, from Agri-suppliers, seed producers (East-West Seeds) and market. During the Mid-Term evaluation, seed-reproduction training was one of the recommendations made to sustain seed sourcing. PhilRice incorporated the training for seed-reproduction in the FFS topics/modules from 2008.</li> <li>According to the Field Survey by the Philippine Evaluator, about 50% of the respondents believe that rice can be continuously accessed from PhilRice and DAF-ARMM, although they are faced by limited capital to buy the seeds and the very far distance from the source.</li> </ul> <p>&lt;DAF-ARMM &amp; LGU&gt;</p> <ul style="list-style-type: none"> <li>A lack of funding for monitoring by ATs is a constraint to the Project's sustainability in the long-run.</li> <li>DAF-ARMM allocates a large proportion of the budget (more than 66%) to personnel services as opposed to activities. It is quite unlikely that the budget in the agricultural sector will increase.</li> <li>However, under the several DA-funded agricultural programs such as GMA (for all commodity under DA), PGMA (for vegetable under the President Office) changed the name to "Cross Commodity Program", DAF-ARMM has a plan to allocate some fund to conduct training and monitor.</li> </ul>
---	--	---	---	--

<ul style="list-style-type: none"> <li>• DAF-ARMM has its' own program under the regional governor in promoting agricultural production, called "Promotion of Upland Rice Program" which will be launched in 2010. The Program will also adopt the FFS and Pajayamanan framework. The detail plan will be formulated soon</li> </ul> <p>&lt;PhilRice &amp; DAF-ARMM&gt;</p> <ul style="list-style-type: none"> <li>• The Philippine government has a plan to start a "Rice Self-Sufficiency Master Plan" from 2009-2013 covering all provinces in ARMM.</li> <li>• PhilRice is included in the plan for implementation and DAF-ARMM will also benefit from some funding for rice cultivation. Massive training sessions for ATs and farmers have been planned. The next batch of rice specialists' training courses (dry season of 2010) will include Rice Self-Sufficiency Officers to be assigned in ARMM provinces. These RSOs will help in the continuous implementation of FFSs, and the development and promotion of location-specific technologies in the region. Despite the fact that this does not ensure financial sustainability in the long term, it does help, at least in the medium term, to continue the monitoring activities.</li> </ul>		<ul style="list-style-type: none"> <li>• Farmers have realized a higher level of productivity and an increased income indicates sustainability. During trainings, a wide range of agricultural technologies were introduced regardless of the level of agricultural technologies the farmers were familiar with. As a result, farmers could apply the suited technologies in terms of economical effects, local practices, application easiness, availability of premises condition and labor force requirement.</li> <li>• As show in the following table, according to the Impact Assessment, 76.5% of the farmers who were trained in 2005 adopted agricultural technologies in 2006 on average, while 78.0% of them still continue to apply them in 2008. Thus, it is expected that technical sustainability is ensured.</li> </ul> <p>(Adoption Rate in 2006 and 2008 of Training Participants in 2005)</p>	<table border="1"> <thead> <tr> <th rowspan="2">Technology</th> <th colspan="2">In 2006</th> <th colspan="2">In 2008</th> </tr> <tr> <th>Adopted</th> <th>Not</th> <th>Adopted</th> <th>Not</th> </tr> </thead> <tbody> <tr> <td>1. Seed Quality</td> <td>84.5</td> <td>15.5</td> <td>82.8</td> <td>17.2</td> </tr> <tr> <td>2. Land Preparation</td> <td>87.2</td> <td>12.8</td> <td>98.5</td> <td>1.5</td> </tr> <tr> <td>3. Seed Management</td> <td>70.7</td> <td>29.3</td> <td>68.2</td> <td>31.8</td> </tr> <tr> <td>4. Crop Establishment</td> <td>77.7</td> <td>22.3</td> <td>76.4</td> <td>23.6</td> </tr> <tr> <td>5. Irrigation and Water Management</td> <td>67.7</td> <td>32.3</td> <td>69.1</td> <td>31.0</td> </tr> <tr> <td>6. Field Management</td> <td>87.9</td> <td>12.1</td> <td>98.2</td> <td>1.8</td> </tr> <tr> <td>7. Integrated Nutrient Management</td> <td>48.6</td> <td>51.4</td> <td>38.5</td> <td>61.5</td> </tr> <tr> <td>8. Harvest/Postharvest</td> <td>88.0</td> <td>12.0</td> <td>92.5</td> <td>7.5</td> </tr> <tr> <td><b>TOTAL (Average)</b></td> <td><b>76.5</b></td> <td><b>23.5</b></td> <td><b>78.0</b></td> <td><b>22.0</b></td> </tr> </tbody> </table>	Technology	In 2006		In 2008		Adopted	Not	Adopted	Not	1. Seed Quality	84.5	15.5	82.8	17.2	2. Land Preparation	87.2	12.8	98.5	1.5	3. Seed Management	70.7	29.3	68.2	31.8	4. Crop Establishment	77.7	22.3	76.4	23.6	5. Irrigation and Water Management	67.7	32.3	69.1	31.0	6. Field Management	87.9	12.1	98.2	1.8	7. Integrated Nutrient Management	48.6	51.4	38.5	61.5	8. Harvest/Postharvest	88.0	12.0	92.5	7.5	<b>TOTAL (Average)</b>	<b>76.5</b>	<b>23.5</b>	<b>78.0</b>	<b>22.0</b>
Technology	In 2006		In 2008																																																						
	Adopted	Not	Adopted	Not																																																					
1. Seed Quality	84.5	15.5	82.8	17.2																																																					
2. Land Preparation	87.2	12.8	98.5	1.5																																																					
3. Seed Management	70.7	29.3	68.2	31.8																																																					
4. Crop Establishment	77.7	22.3	76.4	23.6																																																					
5. Irrigation and Water Management	67.7	32.3	69.1	31.0																																																					
6. Field Management	87.9	12.1	98.2	1.8																																																					
7. Integrated Nutrient Management	48.6	51.4	38.5	61.5																																																					
8. Harvest/Postharvest	88.0	12.0	92.5	7.5																																																					
<b>TOTAL (Average)</b>	<b>76.5</b>	<b>23.5</b>	<b>78.0</b>	<b>22.0</b>																																																					
Technology	Technical Capacity of farmers	Field survey by Japanese and Philippine evaluation team Impact Survey (conducted by PhilRice)																																																							

				<p>Source: Impact Survey 2008</p> <ul style="list-style-type: none"> <li>• According to the Field Survey by the Philippine Evaluator, though the participants realized that they learned a lot from the training, they accepted that they have not internalized all those taught to them. 71% of them suggested having a refresher course and continuously receiving technical assistance after the training is over.</li> <li>• The Farmer's Text Center at the PhilRice with five full-time staff can answer any and all queries on rice (nationwide) from the participants in the Project.</li> <li>• The present technical level of ATs is sufficient for achieving the Project's. One of the contributing factors of the high adoption rate of agricultural technologies by farmers can be attributed to the AT's efforts.</li> <li>• However, to sustain the overall goal, the support system for farmers operated by the ATs should be strengthened and more ATs should be trained, considering the needs of farmers.</li> <li>• The end-users or staffs are responsible in ensuring the proper use and maintenance of the equipment.</li> </ul>
			<p>Field survey by Japanese and Philippine evaluation team Questionnaire survey for ATs</p>	
	Technical Capacity of AT		<p>Field survey by Japanese and Philippine evaluation team</p>	
	Technical capacity to appropriately maintained equipment			

*Handwritten signature*

*Handwritten initials/signature*

## **Annex-7 Analysis of Technology Adoption**

### **1. Significance and Purpose**

According to the PDM objective verifiable indicators of the Project purpose, on average 96.5 % of the target farmers adopted at least three rice technologies in all provinces except Tawi-Tawi, 97.9% of the target farmers adopted at least one vegetable technology in all provinces. These high adoption rates come from excluding technologies that are not applicable to the sites from the training modules by the holding focus group discussion (FGD) with selected farmers. Looking at individual technology in the results of the Impact Survey, however, there are differences of adoption rates. For further increase of technology adoption of more than three rice technologies and more than one vegetable technology, the details of adoption rates should be analyzed.

This paper aims at obtaining recommendations to increase technology adoption rates by analyzing the details of technology adoption rates on rice and vegetables. Since we have a very big number of samples in the Impact Survey, i.e. 1010 for rice and 1173 for vegetables, the recommendations will be highly reliable

### **2. Methodology of Analysis**

There are three steps of the analysis. Firstly, adoption rates and reasons of high adoption and low adoption were analyzed for rice and vegetables individually. In the analyses, opportunities of increasing the adoption rates were studied, and the reasons were categorized. Secondly, the common reasons of high/low adoption to rice and vegetables were studied and requirements of high adoption were obtained. Finally the results of studying the opportunities and reasons were summarized and recommendations were derived.

For the degree of adoption on rice, it was directly derived from the adoption rate of individual technology item on total 31 items applied in the questionnaire of the Impact Survey. The average adoption rate was counter-studied with the Field Survey done by the Philippine evaluator.

For the degree of adoption on vegetables, however, it could not directly be derived from the Impact Survey. Since different crop applies different technology except a few commonly applied technologies such as organic fertilizers and some technologies can be applied only for specific crops and/or site conditions, the Impact Survey asked three most preferred technologies to farmers. Each farmer responded to nominate three preferred technologies. The responses on each technology were summarized and the rate of the response number for each technology to total number of responses was computed in the Impact Survey. For instance in Maguindanao, the rate of trellising is 29.8%: it means that 29.8% of 3 (nominated technologies)  $\times$  297 (total number of samples) = 26552 responses indicated trellising as their preferred technology. The rate is referred to "preferring rate" hereinafter. Since the preferred technologies are deduced to be those technologies which are highly adopted, comparison of the degree of preferring rates among the nominated technologies indicates relative





degree of adoption. In order to exclude the low preferring rate due to the intensive crop/location specific trait of a technology (hereinafter referred to "crop/location intensive trait"), the crop/location intensive technologies were excluded from the Impact Survey data. These excluded technologies were Hilling-up, Transplanting, Manual pollination, Soak seed in a clean water and Direct planting (zero tillage). Although relatively broad-applicable technologies were selected, influences from the crop/location intensive traits on low preferring rates could not totally be avoided.

For analyzing the reasons of the high adoption and low, we conducted interviews to two specialists at PhilRice headquarters and Midsayap to make the draft of reasons. Then we discussed the draft with five provincial coordinators from five provinces on Sept. 10, 09 at PhilRice Midsayap and finalized the reasons. In order to find positive reasons and negative, we classified the technologies into high adopting/preferring technologies and low with the average adoption/preferring rate, and reasons of the high rates and low were analyzed.

### 3. Analysis

#### 3.1 Rice

##### 3.1.1 Opportunity analysis of adoption

Table 1 and Figure 1 summarize the adoption rate of each technology item on rice by province. Figure 2 summarizes the adoption rate of inland provinces (Maguindanao and Lanao del sur) and island provinces (Basilan and Sulu Kan). These figures and tables indicate the following.

- 1) Table 1 and Figure 1 show the overall technology adoption rate of 75% on average. It indicates an opportunity of increasing the adoption for  $100-75=25\%$ . The Philippine evaluator conducted in-depth survey of the adoption and the results are summarized in Table 2. The table indicates the adoption rates of 78% for Maguindanao and 71% for Lanao del sur respectively while 88% and 81% in Table 1. The in-depth survey shows smaller adoption rates at 10% than the Impact Survey. Since farmers tend to respond positively without in-depth interviews, the opportunity of increasing the adoption is deduced to be  $75\%-20\%=55\%$  despite the very limited sample number of the in-depth survey.

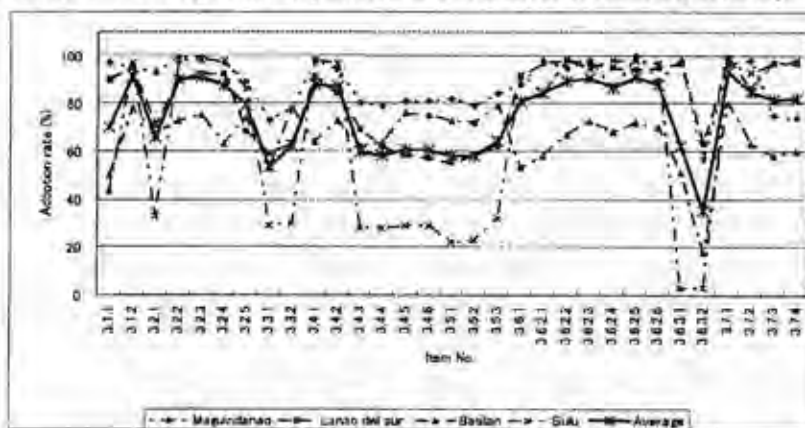


Figure 1 Summary of technology adoption rate of each province on rice

*[Handwritten signature]*

*[Handwritten signature]*



Table 1 Summary of technology adoption rate (%) on rice

No.	Item No.	Maguindano (303)	Lanao del sur (286)	Basilan (208)	Sulu (213)	Average (=1010)
1	3.1.1	97	90	50	43	70
2	3.1.2	95	95	78	97	91
3	3.2.1	93	71	67	33	66
4	3.2.2	99	90	73	98	90
5	3.2.3	99	92	75	98	91
6	3.2.4	97	92	63	98	88
7	3.2.5	89	69	74	86	79
8	3.3.1	73	59	53	29	54
9	3.3.2	78	63	78	30	62
10	3.4.1	98	91	64	98	88
11	3.4.2	94	84	73	97	87
12	3.4.3	80	89	62	28	60
13	3.4.4	79	52	64	28	58
14	3.4.5	81	58	76	29	61
15	3.4.6	81	57	75	29	61
16	3.5.1	82	95	73	22	58
17	3.5.2	79	58	72	23	58
18	3.5.3	84	62	79	32	64
19	3.6.1	88	91	53	92	81
20	3.6.2.1	98	97	58	84	84
21	3.6.2.2	95	98	67	98	90
22	3.6.2.3	98	97	73	85	91
23	3.6.2.4	86	95	88	98	87
24	3.6.2.5	100	94	72	96	91
25	3.6.2.6	90	95	70	97	88
26	3.6.3.1	98	97	51	3	62
27	3.6.3.2	57	63	18	3	35
28	3.7.1	97	99	80	97	93
29	3.7.2	88	86	63	93	85
30	3.7.3	75	97	56	97	82
31	3.7.4	74	97	60	98	82
Average		88	81	66	66	75

Note: Bold average figures shows the rates of less than the average.  
 : ( ) shows number of samples and \* shows total number of samples.

Table 2 In-depth survey's technology adoption rate (%)

Item No.	Maguindano (21)	Lanao del sur (19)
1	95	85
2	95	68
3	95	94
4	95	94
5	95	88
6	95	88
7	95	82
8	62	53
9	71	53
10	90	84
11	90	71
12	62	71
13	48	53
14	47	47
15	52	29
16	61	25
17	81	6
18	90	29
19	80	71
20	95	84
21	90	100
22	95	59
23	71	100
24	85	84
25	90	100
26	95	100
27	52	47
28	76	100
29	86	41
30	29	71
31	31	88
Average	76	71

Note: ( ) shows number of samples

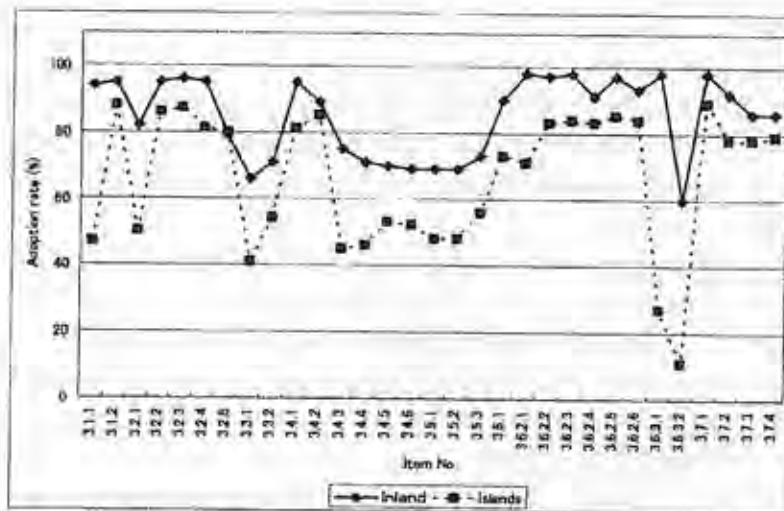


Figure 2 Technology adoption rates of island provinces and inland on rice

*Handwritten signature*

*Handwritten signature*

- 2) Figure 1 shows that there are big differences of adoption rates among 31 items. Table 1 shows that total 12 items out of 31 (39%) are lower adoption rates than the average of 75%. These 12 items indicate prior opportunities of modifying the technologies for increasing the adoption rate. "3.6.3.2 Manage N needs based on LCC and assesses other nutrients based on MOET or Nutrient Omission Plot" is low rate of only 35% in particular.
- 3) In Figure 2, the trend of adoption rates over 31 items is same for both island provinces and inland except Item 3.6.3.1. It indicates that the suggested opportunities in above 2) can be applied for both inland provinces and island provinces.
- 4) Figure 2 shows that adoption rates of island provinces are smaller than inland provinces. Since inland provinces are provided with irrigation facilities on rice much more than those in island provinces, it indicates prior opportunities of modifying the technologies for the locations of rainfed fields and upland on increasing the adoption rate. Since the trained rice technologies are mainly based on irrigated land, location specific technologies are required for Mindanao situation.

### 3.1.2 Reasons for technology adoption

Table 3 summarizes the reasons of high adoption and low adoption with categorization. We defined the high adoption with the adoption rate of the average (75%) or more and the low with less than the average. Table 1 shows the high adoption items with bold figures. In order to generalize the reasons easily, we indicate key words with bold in each category.

## 3.2 Vegetables

### 3.2.1 Opportunity analysis of technology adoption

Table 4 and Figure 3 summarize the preferring rates on each technology. Figure 4 shows the average preferring rates of inland provinces and island provinces; only low rate technologies from No. 5 to 24 are shown to clearly compare the values with the large graph scale. These figures and tables indicate the following.

- 1) Table 4 and Figure 3 show an approximate trend of preferred technologies despite a relatively big variation of rates among provinces. It indicates the opportunity of increasing adoption by modifying the low preferred technology (ex. basal application).
- 2) The rates are much smaller than the adoption rates of rice technologies due to influences from the crop/location intensive traits and the big total number of responses for asking three preferred technologies per farmer.
- 3) There is no clear difference of preferred technologies between island provinces and inland on vegetables.

Table 3 Adopted items/practices and the reasons with categorization on rice

No.	Item/practice adopted at less than 80%	No.	Probable reasons of its adoption	Categorization of the reasons
1	3.1.1 Used certified/good seeds of a recommended variety	70.0	Seeds are not readily available in markets of inland-producers due to constraints of producers. Private cannot deliver small volumes even if requested. Some farmers cannot buy the seeds due to flood damage.	Application constraints on irrigation facility
2	3.2.1 Cleaning and repairing dikes and ditches - inspected and properly maintained 15cm high x 20cm wide to prevent rat burrowing	46.0	Due to high labor there required, it is not practical.	High labor requirement
3	3.3.1 Recommended seedling size of 100g/m <sup>2</sup> /ha.	51.5	Farmers used to save the space of nursery. They use high density of seedlings.	Disagreement with local practice
4	3.3.2 Proper weeded location - near the water source, protected from pests and with good drainage	62.3	Finding the proper location is difficult where irrigation facilities are not available. Only few farmers near the water.	Application constraints on irrigation facility
5	3.4.2 Sufficient number of healthy seedlings - for transplanted 20-40g/ha for inbred and 15-20g/ha for hybrid	58.8	The indicated density of transplanting is different from local practice. Farmers need more seedling per hill due to this plant. Inbred are too many that farmers want more seedlings.	Disagreement with local practice
6	3.4.4 Recommended 1-3 seedling/hill	36.1	Controlling transplanters is not easy to follow the seedling density because they want finish it quickly.	Disagreement with local practice
7	3.4.5 20 to 23 day-old seedlings	41.8	Local practice apply bigger size of seedlings than the instructed to be safe against pests, especially mite.	Disagreement with local practice
8	3.4.6 Use a 20cm planting distance	40.7	Local practice prefer random planting in bush the job quickly.	Disagreement with local practice
9	3.5.3 Avoided excessive water or drought stress	78.0	Controlling water without availability of irrigation facilities is difficult.	Application constraints on irrigation facility
10	3.5.2 Achieved 3-cm water depth every irrigation time from early tillering until 1-2 weeks before crop maturity harvest	39.0	Controlling water without irrigation facilities is difficult.	Application constraints on irrigation facility
11	3.5.3 Reduce water/stop irrigation 1-2 weeks before harvest	44.7	Watering amounts are hard to follow the instruction.	Disagreement with local condition
12	3.6.3.1 Sufficient nutrients at early P1 in flowering	62.1	Fertilizer costs are high.	High cost
13	3.6.3.2 Manage 2 weeks based on LCC and assess other nutrients based on NPKS or Harvest Decision File	63.3	LCC is given to only for groups but all the participants. Farmers can not buy it due to not available in market.	Application constraints on LCC
14	3.1.2 Chose a variety with yield potential, market demand and tested in technology demonstrations or adaptability trials	51.3	People like rice taste and know the specific variety. Farmers follow the people to sell the products. Before FSS, farmers' knowledge is limited, especially about new variety.	Income increase
15	3.2.2 Bubbles and weeds well decomposed	90.0	Organic sources are good for soil as fertilizers and for saving chemical fertilizers.	Cost reduction
16	3.2.3 Proper plowing - allowed under weeds and stubbles 10-15cm deep	91.0	Related to 3.2.2, compost will be made.	Cost reduction
17	3.2.4 Proper harrowing - at least twice at 1 week interval. 1st harrowing done a week after plowing and the 2nd harrowing across the direction of the 1st plow	87.5	Reducing weed problems reduces the cost.	Cost reduction
18	3.2.5 Proper leveling - should have 2-7 cm water depth and no high and low spots after final leveling	79.3	Leveling reduces weed growth, reduce soil and water evaporation under management.	Labor saving and pest reduction
19	3.4.1 Synchronise planting after a fallow period of at least 1 month from harvest to establishment of the next crop.	67.8	Farmers know that pests and diseases are easily transferred to young plants and it is better to avoid them covering channels.	Cost reduction
20	3.4.2 Follow the local planting calendar	87.0	It can minimize spraying pesticide.	High effect of controlling pests and diseases
21	3.6.1 Practice Agro Ecological System's Analysis (AES)	81.0	Farmers can reduce costs of controlling pests and diseases.	High effect of controlling pests and diseases
22	3.6.2.1 No significant yield loss due to pests	84.1	Proper pest/mite control of having proper management reduces costs of controlling them.	High effect of controlling pests and diseases
23	3.6.2.2 Control botanical/vegetation	89.5	Farmers can minimize costs of pest controlling.	High effect of controlling pests and diseases
24	3.6.2.3 Use resistant varieties for major pests in the area	90.9	Farmers can minimize cost of pest controlling. The price of resistant varieties is similar to common varieties.	High effect of controlling pests and diseases
25	3.6.2.4 Integrated Rodent (Rat) Management	66.6	Rat sign diversity storage crops to avoid destruction and infestations become very much.	Avoiding to reduce income
26	3.6.2.5 Integrated Weed Management	91.0	Farmers know the benefit of reducing the cost of weed control (herbicides).	High effect of controlling pests and diseases
27	3.6.2.6 Integrated Disease Management	88.0	They know the benefit of reducing the cost of pest and disease control.	Cost reduction
28	3.7.3 Harvested when 80-85% of the grains are ripe	91.1	Good timing of harvest brings good quality of paddy and good price of rice. Loss of grains can be minimized.	Income increase
29	3.7.2 Thresh paddy not later than 1 day after harvest	85.0	Timely harvest and paddy has good quality and good price when they are immediately threshed.	Income increase
30	3.7.3 Proper seed storage - good aeration, away proper storage materials	81.8	It results to good quality and good price of grain, and prolong the viability.	Income increase
31	3.7.4 Proper drying method - achieved 14% MC during storage for seeds	82.1	It results to good quality and good price of grain, and prolong the viability.	Income increase
Average		75.8		

Note: A percentage rate of 100/600 in the total number of sample farmers

*Handwritten signature*

*Handwritten initials/signature*

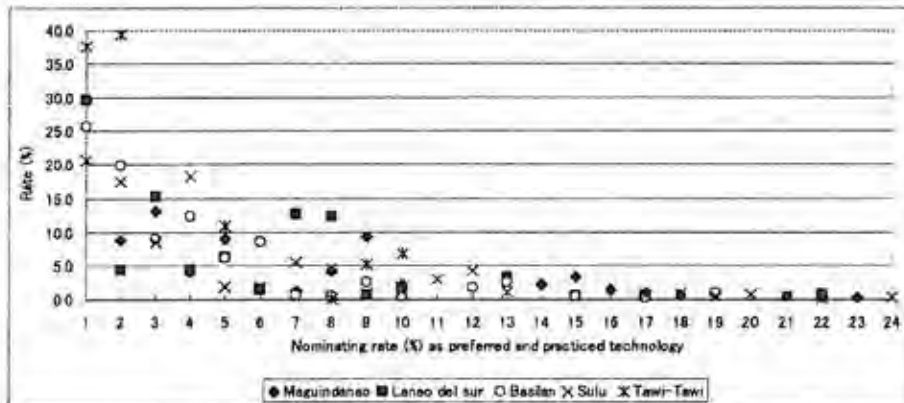


Figure 3 Preferring rates of vegetable technologies

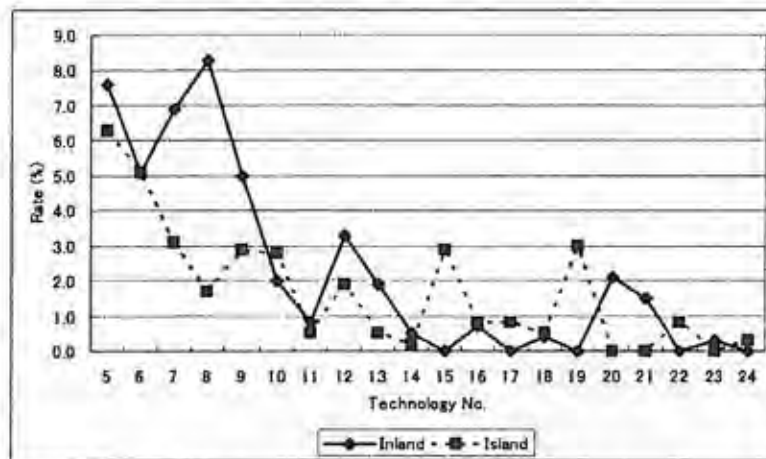


Figure 4 Preferring rates in island provinces and inland

### 3,2,2 Reasons for technology adoption

Table 5 summarizes the reasons of the high preferring and low with categorization. We defined the high preferring with the average preferring rate of 5% or more and the low with less than the average. In order to generalize the reasons easily, we indicate key words with bold in each category.

Table 4 Preferring rates of vegetable technologies

Technology	No	Province					Average (1173)*	
		Maguindanao (297)	Lanao del sur (284)	Basilan (199)	Sulu (213)	Tawi-Tawi (180)		
High preferring rate at 5% or more	Trellising	1	29.6	29.6	25.7	20.7	37.6	28.7
	Planting distance	2	8.8	4.4	19.8	17.5	39.3	18.0
	Use of organic fertilizer	3	13.1	15.3	9.0	8.5		11.5
	Pruning	4	4.2	4.4	12.4	18.2		9.8
	Garden plot cultivation	5	9.0	6.3	6.1	1.8	10.9	6.8
	Sown in seedling tray	6	8.7	1.5	8.5	1.8		5.1
	Pricking	7	1.2	12.7	0.7	5.5		5.0
Low preferring rate at less than 5%	Mulching	8	4.3	12.3	0.5	4.5	0.2	4.4
	Identification of insect/pest	9	9.2	0.7	2.5	0.8	5.2	3.7
	Weeds management	10	2.3	1.8	0.5	1.2	6.7	2.5
	Use of biological pesticide	11	0.9	0.7	0.3	0.7		0.7
	Basal application	12		3.3	2.5	1.2		2.3
	Proper application of fertilizers	13	3.4	0.5	0.5			1.5
	Seed selection	14	0.3	0.8		0.2		0.4
	Training of vines	15			1.7	4.2		2.9
	Pest/disease monitoring	16	0.7			0.8		0.8
	Bagging	17			1.0	0.5		0.8
	Thinning	18	0.4			0.5		0.5
	Rejuvenation	19				3.0		3.0
	Furrowing method	20	2.1					2.1
	Scarification	21	1.5					1.5
	Hardening	22				0.8		0.8
	Crop rotation	23	0.3					0.3
	Proper handling of pesticide	24				0.3		0.3
Average							4.7	

Note : ( ) shows number of samples and \* shows total number of samples.

Table 5 Reasons of high and low preferred technologies and categorization

No	Technology/practice	**%	Probable reason	Category of the reasons
1	Trellising	28.7	Market values are increased.	Income increase
2	Planting distance	18.0	Seed amounts are reduced and growth is increased.	Cost reduction
3	Use of organic fertilizer	11.5	Chemical fertilizer costs are reduced and soil fertility is maintained.	Cost reduction
4	Pruning	9.8	Market values are increased and yields are also increased.	Income increase
5	Garden plot cultivation	6.8	The garden plots are popular.	Agreement with local practice
6	Sown in seedling tray	5.1	Seed amounts are reduced, management is easier, labor requirements are reduced and it can protect plants against animals.	Cost reduction and labor force increase
7	Pricking	5.0	Seed amounts are reduced.	Cost reduction
8	Mulching	4.4	Mulching materials are not readily available. Vinyl sheets are introduced but expensive.	Application constraints on procuring materials, and cost increase
9	Identification of insect/pest	3.7	The processes are complicated due to knowledge intensiveness. It is hard to see the tiny insects.	Application constraints on sophisticated processes
10	Weeds management	2.5	Labor intensive jobs are required. Applicability depends on the type of crops.	Labor force increase
11	Use of biological pesticide	0.7	The processes are complicated. In some case, it is not effective. Farmers want automatically and long time effective measures.	Application constraints on sophisticated processes and low effect
12	Basal application	2.3	Farmers do not want basal application due to the risk of damaging roots. It is also costly. Farmers can not find the plants. Effects differ among farmers.	Negative/low effect and application constraints on sophisticated processes
13	Proper application of fertilizers	1.5	Computation procedures are sophisticated. Non commercial farmers prefer organic fertilizer.	Application constraints on sophisticated processes
14	Seed selection	0.4	Farmers prefer hybrid seeds. Other reasons are high costs of seeds.	Cost increase and not as high effect
15	Training of vines	2.9	Daily jobs are heavy. Tawi Tawi and Suba do not apply it because training is automatically done for their plants.	Labor force increase and crop selective trait
16	Pest/disease monitoring	0.8	Recording jobs are heavy for small scale.	Labor force increase
17	Bagging	0.8	Labor requirements are big for small farmers. Big (commercial) farmers prefer spraying due to light labor requirements.	Labor force increase
18	Thinning	0.5	Thinning is not necessary in applying trays. For direct seeding, farmers think that it is wasting plants.	Disagreement with local practice
19	Rejuvenation	3.0	Necessity of it is low.	Low necessity
20	Furrowing method	1.5	Labor requirements are big. Most farmers do not have calabao and plows.	Increasing labor requirement and application constraints on equipment
21	Scarification	1.5	The target crops are limited.	Low necessity
22	Hardening	0.8	Although farmers do not understand, it is practiced. Probably farmers did not understand.	Low necessity
23	Crop rotation	0.3	Farmers practice it.	Low necessity
24	Proper handling of pesticide	0.3	Small farmers seldom use pesticide due to the cost. If they use, they will follow it. Majority is small farmers except Tawi Tawi.	Cost increase
Average		4.7		



### 3.3 Analyses of rice and vegetables

In order to know the general requirements of technology adoption, Table 3 and 5 include six keywords, i.e. labor, cost, effect, application, local, and income. Cost and effect can be jointly analyzed for the close relation, and thus total five keywords were nominated. Studying the categories with these key words, we derived five general requirements for rice and vegetable cultivation technologies as shown in Table 6, which will help for developing technologies with high adoptability; the development will be done by modifying the original ones.

Table 6 Summary of requirements for adopting technologies

No.	Requirements (Keyword)	Description	No. of technologies*			
			Rice	Veg.	Sum	%
1	Cost-effective (Cost and Effect)	The technology should be cost-effective. This requirement includes measures of reducing costs and increasing effect on cultivation (ex. controlling pests and diseases) and avoiding negative effect (ex. root damage by basal application of chemical fertilizer).	14	7	21	39
2	Application easiness (Application)	The technology/practice should be easy for application without constraints of required physical conditions/devices or sophistications of use.	5	6	11	20
3	Local agreement (Local)	The technology should agree with local practices and natural conditions. If the technology/practice disagrees with the farmers' local practices or local natural conditions, it is hard to be adopted.	7	2	9	17
4	Income increase (Income)	The technology should increase farmers' income. This requirement includes measures of selecting high quality seeds, adopting proper post harvest measures, avoiding negative effect of the application, etc	5	2	7	13
5	Labor saving (Labor)	The technology should be able to save labor force requirements. This requirement includes that adopted technology/practice does not require heavy jobs and intensive actions and/or can reduce the present labor use.	1	6	7	13
Total			32	22	54	100

Note: \*No is counted by summing number of technologies that include the related key words.

One technology of rice and three of vegetables show two keywords among total 55 technologies.

Bold figures indicate the requirement having higher number of technologies than the average.

When developing technologies for rice and vegetables, it should be considered that rice production increase contributed the increase of gross income at 25,608 Php/year/farmer while vegetable contributed only at 2,822 Php/year/farmer. Income increase opportunities will be much more for rice than for vegetables.

## 4. Summary and Recommendations

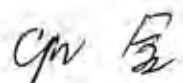
### 4.1 Summary

- 1) Developing location specific technologies for Mindanao has opportunities of increasing technology adoption rates as well as increasing yields and incomes.

- 2) Rice is put the priority to vegetables on the development for the bigger opportunity of income increase.
- 3) Rice technologies for rainfed and upland should be developed, in particular.
- 4) Five requirements should be considered to develop high adoption technologies, i.e. cost-effectiveness, application easiness, local agreement, income increase and labor saving.

#### **4.2 Recommendations**

Development of location specific technologies is recommended for further increase of yields and incomes of the trained farmers as well as non-trained farmers, for rice production of rainfed and upland areas in particular. Five requirements will guide evaluation of the adoptability. This development will also increase the speed of extension for the quick adoption.



### Annex-8 Project Design Matrix

Project Name: Rice-Based Farming Systems Training and Support Program for ARMM  
 Project Area: ARMM

Project Period: February 1 2006 - January 31 2010  
 Target Group: Farmers (3,450) and Agricultural Technologists (ATs) in ARMM

Overall Goal	Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Living Standards for farmers are improved in the target area.		1. Increase income from farming activities	Socio-Economic Survey by Philrice/ARMM-DAF Training Record/Monitoring Reports	1. Agricultural policy on food production does not change considerably. 2. Agricultural development in the ARMM is given due priority and sustained attention.
Project Purpose Rice-based farming system is improved within the target area.		1. Adoption of at least three rice technologies promoted by over 70% target farmers in each province (except for Tawi-Tawi) through extensive training of the Project. 2. Adoption of at least one vegetable technology by over 70% of target farmers in each province through extensive training of the Project.	Production Survey by Philrice/ARMM-DAF Project Record / Training Record/Monitoring Reports/Accomplishment Reports	Access to market and stable selling price of products are secured. Access to and availability of planting materials are sustained.
Outputs 1. Continuous on-site training is provided by ATs regarding the transfer of agricultural technologies. 2. Relevant knowledge/technologies are acquired by farmers for the improvement of farming system.		Regular monitoring and on-site training by ATs 3,450 farmers are trained through extensive training on high productivity farming technology at Palayanmanan and FPS.	Reports /Accomplishment Reports Project Record / Training Record/Monitoring	Agricultural technologists and farmers will remain committed to the Project even after training.
Activities 1-a. Initial consultations with ATs & implementers. 1-b. Provision of extensive technological training/study tour for agricultural technologists and implementers 1-c. Monitoring and evaluation of the Project. 2-a. Small-scale training for farmers through the Farmers' Field School (FFS) and Palayanmanan 2-b. Assistance for enhancement of Palayanmanan and FPS models. 2-c. Practical training in accordance with existing needs of farmers. 2-d. Information campaign regarding the Project and rice-based technologies.		Inputs 1) Training cost (overall/general) 2) Cost of establishment of facilities at Palayanmanan System, 20 sites. 3) Cost of establishment of facilities at Farmers' Field School: 136 sites. 4) Cost of establishment of Nursery: 5 sites. 5) Cost of production: 1 lot. 6) Cost of Training Equipment: 1 lot. 7) Cost of Information Campaign 7) Cost of monitoring/evaluation activities	Philippine Side 1) Assignment of Counterpart staff 2) Preparation for land for Program facilities 3) Necessary local cost for Operation	Pre-conditions 1. Continued enforcement of the Philippine Government's current policy on rice production. 2. The release of the budgets for Philrice from the Central Government and the DAF from the ARMM Government are properly secured without major delay. 3. Assurance of sustained peace and order within activity sites.

## 面談記録

No1. 議事録\_キックオフ\_20090824

No2. ARMMIARC\_20090825

No3. AT\_ODS\_20090826

No4. Paramalayan Farmer\_20090826

No5. ARMMIARC\_20090826

No6. FA\_PhilRice\_20090827

No7. 面談票\_DAF-ARMM\_20090828

No8. Internal Meeting\_20090906

No9. ARMMIARC\_20090907

No10. PhilRice Midsayap\_20090907

No11. DAF-ARMM\_20090908

No12. DAF-ARMM-Secretary\_20090908

No13. USM\_20090909

No14. Provincial Coordinator\_AT\_20090910

No15. Minutes\_JCCMeeting\_20090915

## 議事録 (No.1)

国名	フィリピン	業務担当者名	谷口 美代子
日時	2009年8月24日(月) 14:00-17:00		
テーマ	評価調査全体の説明、村レベルでの調査方法の確認		
出席者	Dr. Clarita P. Aganon, Center for Agricultural Resources and Environmental Studies, Central Luzon State University Teodora L. Briones, Development Management Officer PhilRice JICA フィリピン事務所 天池麻由美所員 JICA フィリピン事務所 Maria Celestina Tonanes 所員 アイ・シー・ネット(株) コンサルタント 谷口		
場所	JICA フィリピン事務所会議室		

## 概要：

- 配布資料に沿って評価調査全体の説明、スケジュールの確認、評価グリッドの説明(実績、実施プロセス、評価5項目)、関係機関への質問票の説明、インパクト調査の実施状況の説明、現地調査案の提示など。
- プロジェクト目標の評価指標については、70%以上の農家が3技術(米)、1技術(野菜)を適用することとする(公式な合意内容の確認)。
- 関係機関への質問票は、JICA側から送付、フィルライスはフィルライス全体として提出する予定。現在、USMのみ回収あり。
- インパクト調査については、PhilRice同調査担当のキャサリーンが谷口の再指示に基づいて集計表を作成中。同氏は今週現地調査に同行すべく本日コタバト入りしている。25日の会議に参加してもらうように要請済み。
- 普及員への質問票については、PhilRice本所からミッドサヤップに送付後、各フィールドアシスタントを通して普及員に配布(DAF-ARMMを通していない)。研修を受講した権普及員の延べ人数は357であるが、実際の人数は224である。回収状況は、マギンダナオは約90%、ラナオデルスールは100%。島嶼部については、配布すること自体に時間を要し、さらに送付に最低3日を要する。どれだけ回収できるかは不明。
- 研修実施サイトレベルでの調査についての決定事項は以下のとおり。
  - 基本的には前回の調査方法論を踏襲する。しかし、今回は、ラマダン中につき、調査実施時間がかなり制約されるため(前回調査の半分以下の調査実施時間となる)、前回よりもスケールダウンした調査規模とする。アクセスと治安を選定基準とし、現地フィールドアシスタントの推薦により明日具体的に調査対象地を決定する。
  - 前回は、11サイトで、80人の農民に対する調査を実施した。今回は、移動時間などを考慮し、1日、1サイト実施し、合計8日間、8サイトとする。1サイトの個人レベルの調査対象者は5人、合計40人とする。2州(マギンダナオ、ラナオデルスール)で、各4サイト。1州につき、自立発展性を検証する目的から2005年に研修を受講した2サイト、種子再生産に関する研修効果を計測する目的から、2007年に研修を受講した2サイトの合計4サイトとする。
  - 調査を簡略化するために、普及員の質問票調査の実施状況を確認し、すでに普及員

が回答していれば、現地での調査は実施しない。回答していなければ、現地で調査を実施する。

□ サイトでの基本的な作業工程は以下のとおりである。

(1) 導入のためのオリエンテーション

(2) FGD の実施（予め普及員に依頼して研修受講者を一箇所に集める）（特に、有効性（技術の適用状況）、インパクト、自立発展性を中心とし、調査項目は谷口が準備したものを使用）

(3) 農民レベルの個別インタビュー（2007年12月に決定した質問票を使用）

(4) 調査結果の集計は、前回の形式を踏襲（フォーマットを確認済み）



Field Interview Memo (No.2)

Country	Philippines	Person in Charge	Miyoko Taniguchi
Date	2009/8/25 (Tuesday)16:00-16:30, due to time constraint, the interview will be conducted on September 7 2009		
Theme	Evaluation Survey		
Interviewee	ARMMIARC-Siya B. Belongan, Manager, Co-assistant Project Director, Overall implementation of nursery at ARMMIARC site		
Interviewer	IC Net ltd, Taniguchi		
Accompany	Dr. Clarita P. Aganon, Center for Agricultural Resources and Environmental Studies, Central Luzon State University Teodora L. Briones, Development Management Officer PhilRice JICA Field Staff		
Place	Estosan Hotel		
<p>[General] (Questionnaire will be filled in and submitted on September 7, 2009)</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> There are 32 staff in total.</li> <li><input type="checkbox"/> 7 Satellite stations (2 Maguindanao, 5 each province)</li> <li><input type="checkbox"/> Mandate is research and development</li> <li><input type="checkbox"/> Present on-going programs are mostly funded by BAR (Bureau of Agricultural Resaerch)-DA <ul style="list-style-type: none"> <li>-Community Based Participatory Action Research,</li> <li>-Values training ins different sites</li> <li>-Site specific nutrition</li> <li>-Organic fertilizer</li> </ul> </li> <li><input type="checkbox"/> Techno-demo vegetable, Joint Venture with East West company for planting materials (just started one month ago)</li> <li><input type="checkbox"/> 100,000 peso was given by Mr. Abe, the JICA senior adviser for ARMM regional government before for purchasing goats (32), presently above 20 goats</li> </ul> <p>[O&amp;M]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Budget for maintenance is 100,000 monthly (50,000 added from this year after changing Director, Jalika D. Mangacop, Arthis) to cover for maintenance of all the facilities</li> <li><input type="checkbox"/> Maintenance for nursery has been financially assisted by PhilRice (3,000 peso X 3 person X 12 months = 108,000 peso, plus X =100,000 per year). This is from the PhilRice regular fund not from the JICA project.</li> <li><input type="checkbox"/> It seems that PhilRice financially assists ARMMIARC one way or other.</li> <li><input type="checkbox"/> (I asked him about the fund for maintenance of the nursery without PhilRice). He replied that the ARMMIARC tried to apply to get some fund from the cross commodity program under DA. If not, it allocated some budget from the regular budget (P. 100,000 per month).</li> </ul> <p>[Training Center]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> It is supposed to be completed this month. But due to Ramadan (according to him), the construction has been delayed. Hopefully it will be completed next month. This training center</li> </ul>			

under SRI-ARMM Social Fund will be used to conduct trainings for ATs and farmers and to do any social event (like multi-purpose center). However, there is no specific business plan of how to manage and maintain the center yet. It will be determined after the construction.

[ATI]

- ATI-ARMM is located in the ARMMIARC compound. But it does not have a training center. Normally ATI conducts training at the sites or any other facilities available such as USM. Thus, ATI can also use the training center of the ARMMIARC.

[Nursery Management]

- As described, at this moment, maintenance cost is from PhilRice. Aside from the training conducted by the JICA project, seeds produced in the nursery are given to farmers who want to avail of free of charge (if they are poor, according to them. But there is not objective criterion to determine the poor). This shows that there is no system of how to handle the nursery.
- Now the nursery produces: amparaya, tomato, eggplant, opo, okura, etc.

[Observation]

- I have recommended him to have a financial plan for maintaining nursery and newly constructed training center to generate income to ensure the sustainability. The ARMMIARC seems no concrete plan for income generation. Instead, it always looks for other fund to bring in. It should be internally generated first before asking some fund for other agencies.

Field Interview Memo (No.3)

Country	Philippines	Person in Charge	Miyoko Taniguchi
Date	2009/8/26 (Wednesday) 9:15-9:45		
Theme	Evaluation Survey of Training for Agricultural Technologists		
Interviewee	AT assigned in Datu Odin Sinsuat Alonto Abdulk Arim (1), Kayan La Diang (2)		
Interviewer	IC Net Ltd, Taniguchi		
Accompany	Dr. Clarita P. Aganon , Center for Agricultural Resources and Environmental Studies, Central Luzon State University Teodora L. Briones, Development Management Officer PhilRice, APO (PhilRice), ARMMIARC-Siya B. Belongan, Manager, Co-assistant Project Director, Overall implementation of nursery at ARMMIARC site		
Place	Margues, Datu Odin Sinsuat Palayamanan site		
<p>[General]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> (both) Majored in Agronomy at University of Southern Mindanao</li> <li><input type="checkbox"/> (1) 30 years working as AT, (2) 25 years</li> <li><input type="checkbox"/> There are 34 barangay and 4 ATs, one AT assigned in 8 barangay on average</li> <li><input type="checkbox"/> (2005) Attended training for Specialized Training Course on RBFS for ATs of ARMM</li> <li><input type="checkbox"/> (2006) Attended training for Vegetable Production Training for ATs</li> <li><input type="checkbox"/> (2007) Study Tour</li> </ul> <p>[Training Effect]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Trainings were very good, because the trainings were more specific than those conducted by other agencies such as ATI. While ATI's training is more general about agricultural technology and extension service (lectured type), the trainings provided by PhilRice are more technical. Those training are complimentary. Before the JICA's project, ATI was the one which conducted training for ATs server times in a year.</li> <li><input type="checkbox"/> They are confident of especially teaching farmers IPM training.</li> <li><input type="checkbox"/> Now, they conduct 3 days general training for farmers, if they are interested. But normally, if ATs don't provide them with seeds, they are not willing to participate in.</li> <li><input type="checkbox"/> Among 30 farmers, all (100%) of the trainees adopted the technology of rice and vegetable.</li> </ul> <p>[Extension Service]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Before the JICA Project, AT visits once barangay once a week (based on the FGD once a month), now twice a month. Because there is no travel allowance since the ARMM regional government was created in 1986. Before that time, NAPCI was the one which provided ATs with travel allowance 75 peson per month per AT. That was enough for them to visit covering barangays in once a week. (ask how much it would be needed now: answered by AT: 1000 peso per month)</li> <li><input type="checkbox"/> They use public transportation for monitoring (no motorcycle) to go to the sites. There is</li> </ul>			

no problem for accessibility to the barangay in terms of security and geographical conditions.

[Impact]

- They see really changes in terms of the living condition of farmers. Most of them gain extra income from vegetable production. Some of them used the extra income to purchase a vehicle (used for transportation) and motorcycle, to spend for education and wedding, etc.

[Observation]

- Lack of transportation allowance will be a problem in future, since it is shouldered by ATs. However, it is not realistic that the ARMM regional government will allocate budget for travel allowance. Thus, the strategy should be that trained farmers will sustain the technologies they learned and expand them to other farmers.

Field Interview Memo (No.4)

Country	Philippines	Person in Charge	Miyoko Taniguchi
Date	2009/8/26 (Wednesday)10:30-11:30		
Theme	Observation of vegetable field and Palayamanan		
Interviewee	FFS Palayamanan participant, Sultan Kudarat		
Interviewer	IC Net ltd, Taniguchi		
Accompany	Musa G. Abdulequisim, ARMMIARC staff JICA Provincial Coordinator, DA Maguindanao Rodult S. Escabarte, PhilRice, Midsayap Office, Project Director		
Place			
<p>[Training Effect]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> All the participants applied agricultural technologies they learned from the JICA project (30 participants all)</li> <li><input type="checkbox"/> Before the training conducted, they used to plan only corn and mongo. Now more varieties have been planted such as squash, string beans, butter gourd, cucumber etc.</li> </ul> <p>[Impact]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> They gain more income and spent that increased income for sending children to school and holding wedding ceremony (Php. 70,000).</li> <li><input type="checkbox"/> There are many visitors coming to the site from other barangays to learn about the technologies.</li> <li><input type="checkbox"/> There is sort of a group of vegetable growers who collect vegetables to bring them to the market in Cotabato (kind of cooperative, though this is informal) to save transportation cost. This was formulated by their own initiatives. The person in charge of bringing the vegetable to the market get some allowance from the farmers but the rate is not fixed.</li> <li><input type="checkbox"/> There are so many training before. But this JICA training is the best in terms of lack of labor and cost-effectiveness (low cost).</li> </ul> <p>[Observation]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Though sloping areas were open to cultivate vegetables, the land ownership is not so clear. Though they know whose land, it does not have a legal document. Some farmers who do not have land rent lands from others for scale-up of the vegetable production.</li> </ul>			

Field Interview Memo (No.5)

Country	Philippines	Person in Charge	Miyoko Taniguchi
Date	2009/8/26 (Wednesday) 12:00-12:30		
Theme	Observation of nursery and other facilities at ARMMIARC Nursery management for sustainability		
Interviewee	Jalanie P. Pagutal, ARMMIARC Staff		
Interviewer	IC Net Ltd, Taniguchi		
Accompany	Teodora L. Briones, Development Management Officer PhilRice		
Place	ARMMIARC		
<p>[Discussion on Nursery Management for Sustainability]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 1.2 ha nursery for vegetable (at present, mano, okura, tomato, sitao, amparaya, musterd, string beans etc).</li> <li><input type="checkbox"/> This was used for distributing seeds for participants of the JICA Project. PhilRice has conducted the last butch for training from May to November.</li> <li><input type="checkbox"/> There is an agreement between ARMMIARC and PhilRice on assistance of maintenance of nursery aside from the JICA project.</li> <li><input type="checkbox"/> PhilRice asked them to come up with a plan for management, then approved. This is one-year contract between them. It is likely that PhilRice assists ARMMIARC even after the JICA Project (according to PhiRice)</li> <li><input type="checkbox"/> I proposed both PhilRice and ARMMIARC that ARMMIARC has to come up with a plan for income generation for nursery management instead of asking other agencies to financially assist.</li> </ul> <p>[Utilization of Satellite Station]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Regarding access to seeds, it will be a problem for farmers in the islands (basilan, sulu, tawi-tawi), while those in Magundanao and LDS provinces may not have a serious problem due to availability of the market. Although seeds given for the training purpose will be reproduced several times, quality of seeds will be deteriorated. Thus, farmers have to purchase new seeds soon or later.</li> <li><input type="checkbox"/> Thus, satellite stations of ARMMIARC can be utilized as distributors of seeds. In fact, ARMMARC has a plan to put up nursery in each station, though it has not been materialized. This might be a way of looking at to ensure sustainability of distributing seeds. Once farmers know that they can get extra income from vegetable sale, they will purchase the seeds, by allocating some generated income to it.</li> </ul> <p>[Other opportunity for Income Generation]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Since this year, ARMMIARC put up a rice seedling field with 6 ha. This is a program technically assisted by PhilRice (with seeds) for certified and registered varieties. It is a plan of selling those seeds to farmers and DA. Through GMA problem, DA subsidies farmers for seeds. Thus, DA purchases seeds from distributors, which means that ARMMIARC can also be a distributor. In any case, there is a market for selling seedlings and seeds for ARMMIARC.</li> <li><input type="checkbox"/> Php 60,000 /ha (net income from seedling) X 6 ha = Php 360,000 (this will be expected to</li> </ul>			



generate)

- It can be sold at Php 1600 per 1 sac (40kg) for certified seeds and Php 1400 for registered.

[Training Center]

- It is unlikely that the construction will be completed next month. According to the ARMMIARC staff, a problem lies in delayed disbursement of the fund. (not sure of the truth)

[Collected Information]

- ARMMIARC Profile

[Observation]

- I have recommended ARMMIARC to look into an opportunity to generate income within the organization. It is quite ensured that there is a demand for vegetable and rice seeds in the market and a possibility to put up nursery at the satellite station for distributing seeds (charged to farmers).
- It might be a challenging to ask farmer to pay for it in the beginning due to the practice until now. However, the mentality of farmers can also change as long as they gain extra income.

Field Interview Memo (No.6)

Country	Philippines	Person in Charge	Miyoko Taniguchi
Date	2009/8/27 (Thursday) 10:30-11:30		
Theme	Evaluation Survey with Field Assistants assigned in Maguindanao Province		
Interviewee	(1) Mohammed Nasrullah L. Patodon Jr, Field Assistant in Maguindanao, PhilRice Midsayap, (2) Akmad Dbdulah, Field Assistant in Maguindanao, PhilRice, Midsayap		
Interviewer	IC Net ltd, Taniguchi		
Accompany	JICA Field Staff		
Place	PhilRice, Midsayap		
<p>[Background]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> (1) since 2005, majored in Farming system, worked at DA-research station before the TCP4</li> <li><input type="checkbox"/> (2) since 2007, majored in Agronomy, hybrid rice problem at DA before TCP4</li> </ul> <p>[Related to TCP4]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> They came to know a job as Field Assistant through advertisement in local newspaper</li> <li><input type="checkbox"/> There are 12 Field Assistant (FA) in total, that is, 3 in Maguindanao, 3 in LDS, 2 in Basilan, 2 in Sulu, and 2 in Tawi-Tawi.</li> <li><input type="checkbox"/> Roles and responsibilities are basically to assist ATs to facilitate for training, while ATs are the ones who conducted training and monitoring. Besides, ATs will be responsible for meeting the request from PhilRice, since ATs are not directly under PhilRice. Lack of mobility of ATs causes a delay of project implementation.</li> </ul> <p>[Selection of the Sites]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> There are criteria to follow. First, ATs who are assigned in the area will recommend the potential sites. Then PhilRice including FA will validate the recommended sites and determined together with DAF-ARMM</li> </ul> <p>[Training Effect]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Useful trainings for farmers are: i) spacing; ii) land preparation, iii) proper amount of fertilizer to be used.</li> <li><input type="checkbox"/> The constraint for effective implementation lies lack of AT's participation and monitoring, while ATs have changed their working attitude after the training. Now, AT are more confident of delivering service and feel closer to farmers in general.</li> <li><input type="checkbox"/> Least applied training was IPM (especially in agro ecosystem analysis) due to laziness.</li> </ul> <p>[Agricultural Extension System in ARMM]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> ARMM has a bit complicated agricultural extension system. DAF-ARMM is still centralized the extension service at the level of the Regional Government. There is a Provincial Agricultural Officer in each province under the DAF-ARMM, then, a Municipal Agricultural Officer in each Municipality. At the same time, Provincial LGU has their own Provincial Agriculturist under the Provincial Governor. Then, sometimes there is a Municipality Agricultural Officer in Municipal LGU. Then, those ATs are under supervision of MAO in line</li> </ul>			

with the ARMM-Regional Government

[External Factor]

- There was a big flood in July this year. It occurs almost once in a year. Those barangays located in a lower land level are affected. Farming field in one of the sites was partially washed out. In this case, most of the farmers did not feel a need to continue the training. Then, FA confirmed a willingness of the farmers for continuation. If now, FA intended to move to other barangay. In this case, FA convinced farmers to continue, by saying that once they put up a field again, they would be able to utilize technologies. Then, the farmers were convinced to continue the training.
- In reality, it is very hard for the farmers to re-start doing farming activities without financial assistance. Normally, they do not have extra capital for farming with them.
- Security is also a problem, especially since last year when the MOA-AD was not formalized and conflict between AFP and MILF was intensified.

[Hindering Factor]

- [Training methods] Sometimes it is hard to change farmer's way of thinking towards adoption of the training, because they stick to traditional practice.
- [Training methods] There should be some distribution material for each training conducted, since it takes a bit time for some farmers who are just elementary graduates to take notes. This point was improved a bit by publishing Techno-Bulliten in local language.
- [AT transferring] Some trained ATs in the Project are assigned to other barangay, while another AT who is not trained by the Project takes over the barangay in charge. In this case, monitoring of AT is not ensured. Then, farmers have a problem to ask about technical question.

[Contributing Factor]

- Radio problem (once in a week) helps farmers to deeply understand by repeating what they have learned in the training. This is a kind of complementary assistance to be given to farmers.
- A key determinant of whether a group is active or not depends on type of cooperators. If the cooperators are very much respected by participants in the barangay, it is likely that the training will be smoothly implemented.
- It is important to build a sense of trust among stakeholders for smooth implementation
- Setting up a techno-demo is very effective methods for farmers. Conducting "lecture typed training" does not help farmer to practice. (not convincing). Demo site is used as show-case for all the farmers in the barangay and outside barangay.
- [Needs based training methods] before training is conducted, FGD is always conducted by FAs who are trained by PhilRice Midsayap staff. Three FAs assigned in the same province conduct FGD as a team. Based on the situation analysis and needs of farmers, training module is modified, though there is a package of FFS training course.

[Observation]

- Transfer of ATs cause a problem to ensure sustainability of the Project effect.

Field Interview Memo (No.7)

Country	Philippines	Person in Charge	Miyoko Taniguchi
Date	2009/8/28 (Friday) 8:30-10:30		
Theme	Evaluation Survey and Situation of AT		
Interviewee	Daud K. Lagasi, Acting Provincial Agricultural Officer for Maguindanao, DAF-ARMM		
Interviewer	IC Net ltd, Taniguchi		
Accompany	JICA Field Staff		
Place	DAF-ARMM, Maguindanao Provincial Agricultural Officer		
<p>[Background]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Working in DA related agency even before the ARMM was created. Previously, assigned as center manager of ARMMIAC. Assistant Director of ARMM for TCP4</li> </ul> <p>[Agricultural Extension System in ARMM]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> All the DAF-ARMM officials are in line with DA and paid by the Central Government though the ARMM Regional Government. The ARMM Regional Government holds authority for human resource management (recruitment and transfer of the staff)</li> <li><input type="checkbox"/> Regarding agricultural extension system in ARMM, refer to the PhilRice FA's interview (Field Interview Memo No.6). According to him, though Provincial Agriculturalist is appointed by the Provincial Governor, there is no Municipal Agricultural Officer assigned by Municipal LGU. All ATs are under supervision of MAO under the regional government of ARMM (this should be clarified).</li> <li><input type="checkbox"/> All the programs and activities initiated by DAF-ARMM are done through coordination with Provincial Agriculturalist who belongs to Provincial LGU. There is no problem to implement any programs.</li> </ul> <p>[Agricultural Extension in Maguindanao Province]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> There are 83 ATs in maguindanao covering 32 plus 3 newly created municipalities. Thus, AT tend to lack for new municipalities. Normally one AT is assigned in 5-6 barangays.</li> </ul> <p>[AT's recruitment system]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Only when there is vacancy, recruitment will be done. The process is as follows: DAF-ARMM, Maguindanao             <ol style="list-style-type: none"> <li>1) set up a screening board chaired by administrator</li> <li>2) put advertisement on local news papers</li> <li>3) check eligibility (graduated from 4 year college, majored in agriculture related course, pass the exam of civil service commission, with certification of agricultural technologist* This was stated in AFMA)</li> <li>4) score the candidate based on the standard criteria of the Civil Service Commission (government procedure)</li> </ol> <p>*priority is given to those who are from the area to smoothly work and associate with farmers</p> <li>5) recommend several candidates to the Regional Government of ARMM (Though political influence is not denied, PAO is trying to minimize it and to ensure the competency at least by meeting those qualifications shown above.)</li> </li></ul>			

[AT capacity development]

- Once AT is recruited, s/he is trained at the Provincial Agricultural Office for at least one month before being dispatched in municipality. (not skilled training in agricultural extension)

[AT monitoring in Maguindanao]

- Travel allowance is given to ATs (2800 peso per year) and MAO (3800 peso per year) through regular fund to give incentive for monitoring farmer (HOWEVER, no ATs mentioned about this travel allowance). This was started in 2007. Besides, ATs obtain other travel allowance, if they get involved in the government funded projects such as GMA and PGMA. This was decided by PAO in Maguindanao to make ATs more effectively work in the field. Not sure of what is doing in other provinces. Even within the ARMM areas, system will be determined at provincial level.
- ATs have to submit a monitoring report (monthly) and MAO collects and submits to PAO.
- Besides, questionnaire survey is conducted quarterly report to know the situation of AT's performance. The items of the survey are: i) no of field visit, ii) acceptance from the barangay and municipality, iii) training conducted, etc. Then, if MAO fails to submit those monitoring forms filled in by AT, sanction is enforced (no allowance for MAO (6500 peso) will be given). This is to strengthen supervision role of PAO.

[AT transfer]

- All will be transferred in cases that: i) regional government is asked to detail the personal to the regional office (this is done by political decision, then can not be avoided); ii) AT is not accepted by the Municipality and barangay (personal problem and rido-related in case of LDS); iii) AT is not effective, which is determined by MAO mainly and with dialogue with PAO; and iv) when special program is required more manpower.

[Relationship and Communication: Implementation Process]

- JCC is one of the characteristics in the Project. All the stakeholders could discuss and make decisions through a series of meeting.
- Regarding MSU which practically dropped out from the Project in the middle, it has a problem of changing leadership, more on management side. Once the president changes, all the other staff under the President also changed, which is not done in other University such as USM. Though MSU failed to deliver their service in the Project in the beginning, the negative impact caused by them was minimum. The Project could get vegetable seeds from DAF-ARMM and others, instead of MSU.

[Training Effect]

- [for farmers] Study tour for farmers was very effective, which other government funded problem/project does not do.
- [for AT] The Project helped ATs to improve the skills and knowledge through a number of training. ATs are motivated to get involved in their work by observing that farmers are gaining extra income.

[Impact]

- [According to the Impact Assessment Survey conducted this time, yield for rice has significantly increased in Maguindanao from 2.56 ton/ha to 4.06 ton/ha, then I asked the reason] The reasons are: i) technologies provided to them are very applicable and appropriate; ii) farmers here are more open-minded than others; iii) maguindanao is one of the top 10

province for rice production in the country; iv) irrigation coverage is bigger than other provinces; v) weather condition is better than others; and vi) priority for seed subsidy (50% is shouldered by the government, 1200 peso per 40 kg will be 600 peso per 40 kg) is given to those farmers who attended to FFS in the JICA Project.

[Sustainability]

- DAF-ARMM will sustain the Project through conducting regular monitoring and implementing other training program funded by GRP (mainly DA, such as GMA for rice, PGMA for vegetable, and Rice-self sufficient master plan 2009-2013 that Maguindanao is one of the prioritized province)
- Farmer in Maguindanao would not have any problem to access to seeds for rice and vegetable. There are 36 seeds provider (farmers) who are accredited by the Bureau of Planting Industry and private companies.
- Farmers know how to reproduce seeds for vegetable through training.
- [However, farmers in the Islands would have a problem, then, I questioned whether satellite centers of the ARMMIARC in the Island are utilized to provide farmers with seeds for vegetables by regulation] [Mr. Legasi replied] it is by regulation possible to charge farmers for seeds. But the problem lies more in psychological part that farmers get use to having “dole-out mentality”. If it is related to the government, they feel that it should be given by free of charge. It should start by changing the way that farmers look at the things little by little. It is not easy to change it over night. But it is important to think of how access to seeds even in the Islands will be ensured in the longer term.

[External Factor]

- For those who have suffered from flood this year, DA provided free vegetable seeds.
- Security condition negatively affected the Project, especially since last August. Military operation in Datu Piang, and other caused 700,000 IDP there including farmers under the Project.
- To secure ATs, DAF-ARMM made T-shirts with logo of “DA” so that AFP can recognize who they are.

[Contributing Factor]

- The reason for high adoption rate is that training is conducted through hands-on typed methods. Before the TCP4, other trainings were done through more lecture typed method.

[Observation]

- Though DAF-ARMM is trying to motivate AT for monitoring activity through regular work, by giving them extra allowance and setting up sanction in case of not submitting monitoring report, it does not seem to be effective yet.
- On the JICA side, it could have been made some arrangement that trained ATs are designated to the barangays which are under the Project at least during project implementation period in order to promote project effects and impact.



Field Interview Memo (No.8)

Country	Philippines	Person in Charge	Miyoko Taniguchi
Date	2009/9/6 (Sunday) 15:00-16:30		
Theme	Internal Meeting (sharing the field survey results with the Philippine Evaluator)		
Interviewee	Dr. Clarita P. Aganon, Philippine Evaluator		
Interviewer	Dr. Hideyuki Kanamori, Mission Team Leader Ms. Miyoko Taniguchi, Evaluation Analysis Ms. Maria Celestina Totanes, Evaluation Planning		
Accompany	JICA Cotabato Field Staff		
Place	Estosan Hotel, Catabato City		
<ul style="list-style-type: none"> <li><input type="checkbox"/> Dr. Aganon explained that there are 8 sites (4 in Maguindanao and 4 in Lanao del Sur).</li> <li><input type="checkbox"/> For the FDG there are 31 respondents from Maguindanao and 37 from Lanao del Sur.</li> <li><input type="checkbox"/> For the Farmer's Adoption Survey, there are 21 in Maguindanao and 19 in Lanao del Sur.</li> <li><input type="checkbox"/> On the visitations of ATs, based on her survey, the ATs are now more frequently visiting the sites compared before the project.</li> <li><input type="checkbox"/> One of the problem discussed was the transfer of ATs, such that during the FFS, no ATS visited 2 sites, in particular, Penaring in Sultan Kudarat and Tambo in Sultan Mastura</li> <li><input type="checkbox"/> Another problem for ATs is the sustainability of monitoring. The following factors are problematic: no allowance, lack of transportation and no motivation.</li> <li><input type="checkbox"/> On a positive note, all farmers trained are helping other farmers who did not attend the FFS. Thus, there was knowledge sharing/ farmer-to-farmer extension. This was done based on the initiatives of farmers themselves.</li> <li><input type="checkbox"/> On adoption, there is an adoption rate of 70-95% in Maguindanao.</li> <li><input type="checkbox"/> For rain fed and upland ecosystems, farmers prefer to use traditional methods.</li> <li><input type="checkbox"/> On Income, in Lanao 67% are now in commercial level for vegetables.</li> <li><input type="checkbox"/> Spending trends (from extra income) show that the top three priorities are: Food, Education and Clothing.</li> <li><input type="checkbox"/> As regards to the impact, it was observed that farmers became organized and are ready to share the knowledge from the project; they view knowledge as lasting, such that whatever happens, they will never lose it. Moreover, farmers claim that Muslim and Christian farmers work together since the project provided a venue for cooperation. Also, now there are more diverse vegetable at home and in the market. Lastly, extra income allowed others to buy farm machineries and renovate houses.</li> <li><input type="checkbox"/> ATs suggested that similar training be done, however, focusing more on hands-on training.</li> <li><input type="checkbox"/> Farmers suggested that monitoring and training of ATs be continued.</li> <li><input type="checkbox"/> Some farmers also expressed their desire to know more about technology for vegetables as nutrient requirement of crops differ.</li> <li><input type="checkbox"/> On the sustainability for seed production, rice seeds are a problem due to the distance of farmers to source. However, for vegetables, they can produce their own seeds and also have</li> </ul>			

access to vegetable seed in the market; it is not expensive unlike rice seeds.

- Some farmers attended training outside the project, such as Natural Farming sponsored by an NGO.
- 50% of site visited showed that farmers have organized, particularly in Tambo, Mamasapano, Tugaya and Mandaya
- It should be clarified with DAF-ARMM the training of ATs, whether only half of ATs were trained

Field Interview Memo (No.9)

Country	Philippines	Person in Charge	Miyoko Taniguchi
Date	2009/9/7 (Monday), 8:00-9:00		
Theme	Received the Questionnaire and clarification on nursery		
Interviewee	Siya Belongan, Center Manager, ARMMIARC		
Interviewer	IC Net Ltd, Taniguchi		
Accompany	Evaluation Study Team (Dr. Kanamori, Ms. Bing) JICA Cotabato Field Office staff		
Place	Estosan Hotel, Cotabato City		

[Background]

- ARMMIARC has 7 satellite stations in total (Basilan: 3, Sulu: 2, LDS: 1, Tawi-Tawi: 1). Out of 7, LDS and Tawi-Tawi have nurseries in the station. Satellite stations are under PAO.
- The role of ARMMIARC in the Project is to produce vegetable seeds and planting materials.

[Nursery Management]

- ARMMIARC produces seeds for training based on request by PhilRice. In the beginning of each fiscal year (April), all stakeholders come up with an annual plan for training (number of training course and participants etc). PhilRice is the one which requests the volume and kinds of seeds to be produced to ARMMIARC and (40% out of the total) and USM. ARMMIARC send the produced seeds either to PhilRice or to PAO, DAF-ARMM.
- ARMMIARC has 150,000 per month peso to maintain all the facilities.
- ARMMIARC also gives farmers vegetable seeds free of charge, if they come to the center.
- There are several kinds of DA funded projects which are as follows.
  - PGMA: President Graria Macapagal Arroyo for vegetable and High Value Crops started in 2006, now it is called “Cross Commodity Program” in 2008
  - GMA: Ginintuang Masaganang Ani (to increase agricultural productivity) for Rice, High Value Crops, Livestock etc)
- Under the national program, DAF-ARMM has to come up with a proposal to avail of those funds.
- Keise Usman is the one who makes a decision from the ARMM sides to apply to other national program.
- Under the PGMA program, satellite stations put up the nurseries by receiving 20,000 peso from PAO.
- It is very hard to charge to farmers due to “dole out” mentality of farmers.

[Plan for next]

- At present, ARMMIARC is receiving some fund for maintaining nursery from PhilRice. But it will end upon the completion of the Project. Thus, ARMMIARC will come up with a plan for maintenance of nursery by December when ARMMIARC conduct a ceremony for anniversary. The plan will be submitted to the regional secretary (Usman) to get an approval to avail of some fund for the maintenance.

[Observation]

- It seems to be very difficult for them to generate income by selling vegetable seeds, because farmers used to be dole out. At the same time, ARMMIARC has no sense of maintaining the facilities by themselves (always asking for other budget to be allocated). In the long term, they may have to formulate a plan to be more self-sustained.
- If the seeds can not be sold to farmers, they might be able to sell them to seed company directly to secure the fund for maintenance.

Field Interview Memo (No.10)

Country	Philippines	Person in Charge	Miyoko Taniguchi
Date	2009/9/7 (Monday) 10:00-11:00		
Theme	Clarification on the Answered Questionnaire		
Interviewee	Dr. Rodolfo S. Escabarte, Jr, Acting Station Manager, Project Director, PhilRice Midsayap		
Interviewer	IC Net Ltd, Taniguchi		
Accompany	Evaluation Study Team (Dr. Kanamori, Ms. Bing) JICA Cotabato Field Office staff		
Place	PhilRice Midsayap		
<p>[Nursery Management]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> PhilRice is the one which decides volume and kinds of vegetable seeds to be produced (USM, PhilRice Midsayap, and ARMMIARC). There are “must” five (squash, okra, string bean, egg-plant, buttergurd) vegetable seeds to be produced.</li> <li><input type="checkbox"/> ARMMIARC distributes seeds mainly to Maguindanao and the Island, while USM covers all the provinces. PhilRice Midsayap distribute them mainly to LDS. (All the records are provided tomorrow)</li> <li><input type="checkbox"/> Seeds for rice are distributed to farmers though PAO. Especially in the case of Basilan, PAO requests PhilRice to send the seed to them (farmers pay for it). In case of the inlands, farmers purchase from mainly PhilRice and seed growers. In case of Basilan, farmers can purchase them from seed-growers, while there are no seed –grower in Sulu and Tawi-Tawi. There are some cooperators of Palayamanan who started to sell the seeds to famers who want to buy (that was an original idea).</li> </ul> <p>[ATI]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> ATI-ARMM used to have an office in Zamboanga, and moved to Cotabato in 2004. The role of ATI is to conduct trainings to AT and farmer leaders.</li> <li><input type="checkbox"/> Under the GMA-RICE program, FIELDS (Fertilizer, Irrigation, Extension, Loan, Development, Seeds) program will be implemented. Under that program, ATI is in charge of conducting training for all ATs in ARMM.</li> <li><input type="checkbox"/> Under the rice sufficiency program, a series of the FFS trainings been conducted by ATI (palay check).</li> <li><input type="checkbox"/> There are 7-8 technical staff there at ATI.</li> </ul> <p>[AT’s situation ]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Before the Project started, any training by the government has not been conducted for ATs in ARMM. Thus, the capacity of AT was limited. After the Project, ATs seem to have more confidence with their work.</li> </ul> <p>[Agricultural Extension System in ARMM]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> There are two lines of agricultural extension systems in ARMM. Under DAF-ARMM, there are a PAO (Provincial Agricultural Office) and a MAO (Municipal Agricultural Office), and ATs.</li> </ul>			

ATs report to MAO. The other is that there is a Provincial Agriculturist (PA) under the Provincial LGU and Municipal Agriculturist (MA) under the Municipal LGU, and ATs. The latter case occurs in the case of newly created municipal LGU, which has been occurred in the last 10 years. In case of Maguindanao, 20 municipality were nearly created in the last five years.

- The Project has targeted only ATs under DAF-ARMM (it was estimated about 500 persons), not ATs under LGUs except Basilan. It can be estimated that ATs under LGU are accounted for 40%, while ATs under DAF-ARMM are accounted about 60% in total. But it is hard to figure out the number of ATs from LGUs, because it should be clarified with Provincial or Municipal LGU directly.

[Training for Root Crop Production]

- According to the recommendation from the Mid-term Evaluation, in Tawi-Tawi where staple food is cassava, training for root crop production was included as a part of training in FFS. Western Mindanao State University based on Zamboanga provides the Project with resource person for training and planting materials.

[Constraint of the Project]

- There is lack of support from municipal LGU to share financial and technical assistance.
- Report that is supposed to be submitted by DAF-ARMM tends to be delayed.
- Problems encountered by the Project are: (i) accessibility; (ii) peace and order; (iii) change of participants; (iv) decrease of attendance; (v) technical problem (disease control etc)
- [Palayamanan: Techno Demo]
- Palayamanan costs P100,000 to establish, while it is maintained by a cooperator in each site.
- It can be viewed that about a half of the techno demos at Palayamanan are not properly maintained, though establishment of Palayamanan is an effective method for farmers to adopt new agricultural technologies, since most of them have not exposed to it.



Field Interview Memo (No.11)

Country	Philippines	Person in Charge	Miyoko Taniguchi
Date	2009/9/8 (Tuesday) 8:30-9:30		
Theme	Clarification on the Answered Questionnaire		
Interviewee	*Supposed to be an interview with Secretary of DAFARMM, Mr. Salik B. Panalunsong, Director for Operations Mr. Siya Belongan, ARMMIARC		
Interviewer	Dr. Clarita P. Aganon, Philippine Evaluator Dr. Hideyuki Kanamori, Mission Team Leader Ms. Miyoko Taniguchi, Evaluation Analysis Ms. Maria Celestina Totanes, Evaluation Planning		
Accompany	JICA Cotabato Field Staff		
Place	DAF-ARMM Office, ARMM Compound, Cotabato City		
<p>[AT in ARMM]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> ATs in ARMM are follows:</li> <li><input type="checkbox"/> Regional Office plus detailed: 83, Sulu: 129, Tawi-Tawi: 103, Lanao: 234, Maguindanao: 254, Basilan: 11 (However, these figures were revised twice later one. It seems that the figures provided by DAF-ARMM are not reliable). DAF-ARMM has not data of the number of ATs under the LGUs. But it can be estimated that there are about 30 in each province.</li> <li><input type="checkbox"/> Two types of ATs: one under ARMM and the other under LGUs.</li> <li><input type="checkbox"/> Average of 30 ATs per province (under provincial LGU).</li> <li><input type="checkbox"/> ATs under provincial LGUs report to MAO but are directed to Provincial Agriculturist under the provincial LGUs (under governor's office).</li> <li><input type="checkbox"/> Under the Project, both types of ATs are equally trained under the Project (no disaggregated data between ATs under DAF-ARMM and LGU). Normally a Provincial Agriculturist and PAO are coordinating each other (in theory, but it was found in the interviews with the ATs, provincial coordinators assigned by the Project, that there is not coordination effort between them).</li> <li><input type="checkbox"/> According to the government regulation, travel allowance can be provided if the area for monitoring is above 50km from the municipality property (which is very strict regulation considering the reality). The regulation is determined by the Commission on Audit.</li> </ul> <p>[GMA program and Project ]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> On the GMA program, the budget is very specific. The GMA program funded by the National Government (through DA) will support the seed production for ARMMIARC. However they do have close collaboration with other national and DAF-ARMM projects.</li> <li><input type="checkbox"/> The operation director of DAF-ARMM recognized the importance of monitoring of the Project by ATs and trained ATs under the Project have been utilized in other agriculture-related program/project such as GMA.</li> </ul>			

- GMA program have a training component. Thus, more ATs will be trained.

[Contest in Field Day]

- [Dr. Kanamori] The Mid-term Evaluation team recommended that the Project is to conduct a context where farmers compete with each other and the recognition of farmers may encourage them to produce more. But Mr. Panalunsong (DAF-ARMM ) has not observed any contests during field days.

[Budget]

- The evaluation team member, Ms. Taniguchi was instructed to gain the data on budget and expenditure at the Planning division. However, no data was provided without knowing about the reason (It was very hard to understand the reason why the budget and expenditure can not be available the government office)

[Collected materials]

- Organizational Chart.
- Annual report (but returned since no data on budget)

Field Interview Memo (No.12)

Country	Philippines	Person in Charge	Miyoko Taniguchi
Date	2009/9/8 (Tuesday) 16:00-16:40		
Theme	Evaluation Survey (questionnaire was not returned beforehand)		
Interviewee	Mr. Keise Usman, Regional Secretary DAF-ARMM		
Interviewer	Dr. Hideyuki Kanamori, Mission Team Leader Ms. Miyoko Taniguchi, Evaluation Analysis Ms. Maria Celestina Totanes, Evaluation Planning		
Accompany	JICA Cotabato Field Staff		
Place	DAF-ARMM Office, ARMM Compound, Cotabato City		

[Introduction]

- Dr. Kanamori began the meeting by explaining the purpose of the evaluation mission and a brief description of TCP4. He also introduced the mission team.
- Dr. Kanamori also explained the schedule and requested for the confirmation of attendance by DAF-ARMM. Mr. Usam confirmed his attendance on Sept. 14 and 15, he will be joined by the Research & Development director Jalika,
- The Mission Leader reported the salient points on the results of the impact survey, i.e. the yield and income of farmers have increased. As such, JICA hopes that after this project ends in 2010, the Philippine side will be able to sustain the project.
- The mission leader explained the recommendations for DAF-ARMM.
- It is recommended that ATs continue to go to the field sites for monitoring and teaching. Dr. Kanamori emphasized the importance of follow-up.
- Based on the survey some ATs are not able to do follow-up monitoring because they are transferred to a different municipality. Thus, it is recommended that DAF-ARMM consider carefully the transfer of ATs such that continued training and monitoring will not be hampered.
- Another recommendation is the need for financial support for monitoring to ensure frequent site visits by ATs.
- Lastly, a framework must be developed by DAF-ARMM for DAF-ARMM to effectively continue the system of TCP4.

[Plan for Agriculture Program (Promotion of Upland Rice Program) by DAF-ARMM ]

- Mr. Usman also shared their plans for 2010. DAF-ARMM will implement the “Promotion of Upland Rice Program” next year, which uses seven rice varieties. With this program, they will use the Palayamanan approach. This will cover all ARMM areas.
- The program aims to improve native upland rice and increase its production. Initial fund for this program will be provided by the Regional Government. However, in October Mr. Usman plans to meet with Dr. Montecarbo, the Mindanao Rice Coordinator (DA) and Dr. Malabanan, the National Rice Coordinator (DA) to provide a budget for this program under the GMA rice program.

- Mr. Usman also explained that the Bureau of Agricultural Research provided initial fund for upland rice research which was the basis for the “Promotion of Upland Rice Program” as the study showed that all 7 varieties will grow in ARMM.
- Mr. Usman also said that he intends to conduct a 3-day re-tooling training for all rice technicians, soon after the Ramadan. This will be held in Iligan City. He is inviting JICA to observe the training.
- For the trainings, ATI will continue to conduct the training and lecturers from PhilRice will be invited.

Field Interview Memo (No.13)

Country	Philippines	Person in Charge	Miyoko Taniguchi
Date	2009/9/9 (Wednesday) 9:00-10:30		
Theme	Evaluation Survey and Observation of the Nursery funded by JICA		
Interviewee	Dr. Edwin G. Hondrade, Project Leader, USM Dr. Rosa Fe D. Hondrade, Extension Coordinator, USM		
Interviewer	Dr. Clarita P. Aganon, Philippine Evaluator Dr. Hideyuki Kanamori, Mission Team Leader Ms. Miyoko Taniguchi, Evaluation Analysis Ms. Maria Celestina Totanes, Evaluation Planning		
Place	USM campus		
<p>[Nursery Management]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> “Pagkain para sa Masa” and JICA TCP4 project is maintaining a nursery at USM. 15 hectares under the “Pagkain para sa Masa” and 5 hectares for JICA Project.</li> <li><input type="checkbox"/> USM has separated the achievements for each project as seen in the report.</li> <li><input type="checkbox"/> USM intends to upscale TCP4 at the end of the project to cover non-ARMM areas through the National Government Project “Pagkain para sa Masa” since the DA project is long-term.</li> <li><input type="checkbox"/> From 2005 to 2007, USM has provided training and seeds to 6,052 farmers, including FFS and non-FFS farmers.</li> <li><input type="checkbox"/> “Programang Gulayan Para Sa Masa” program of the DA adopted the TCP4 system.</li> <li><input type="checkbox"/> In 2003, USM received P5M from the national government (DA), however last year they did not receive any budget from DA for 10 months. But end of last year, DA provided budget again. Because of this USM had to stretch their existing budget to maintain the nursery while lobbying to the DA for fund.</li> <li><input type="checkbox"/> In 2008, we did not receive fund from DA they sold seed P200,000 to Provincial government to sustain the nursery.</li> <li><input type="checkbox"/> USM charges PhilRice for orders of seed. For livestock, they only give to those who are qualified (identified farmers).</li> <li><input type="checkbox"/> USM usually get orders from PhilRice, sometimes PAO orders directly, or farmers’ organization accompanied by ATs. When farmers go to USM, they receive the seeds for free.</li> <li><input type="checkbox"/> USM gives farmers a pack of 8-10 kinds per person</li> <li><input type="checkbox"/> JICA clarified whether giving farmers free seed may make them dependent on USM, Dr. Hondrade explained that Farmers know that USM is a research institution and the fact that they come here from far away, it shows their commitment to farming. Therefore, USM give free seeds to farmers who are very committed to their work.</li> <li><input type="checkbox"/> LGU, farmers org, NGOs provide transportation/food allowance to farmers for training at USM.</li> <li><input type="checkbox"/> JICA prepared 1M per year for seeds production for FFS and non-FFS.</li> <li><input type="checkbox"/> FFS means participants are brought to USM by PhilRice, these participants are given free seeds. Otherwise, PhilRice is charged. This set up was discussed before with Dr. Sebastian.</li> </ul>			

- USM provides the nursery showcase and its maintenance. They also provide training and provision of seed kits.

[Sustainability of Nursery]

- Once the project is terminated, USM plans to continue the project using DA fund (5M/year).
- Currently, P6M per annum is given to USM, P1M from JICA project and P5M from DA. After the JICA Project, USM intends to create a fiscal management plan to be able to address the P1M budget gap after the JICA project. Before they provide seeds free, now they have to schedule and manage the distribution of seeds. If the farmers are funded, they charge them.

- [General Condition of Farmers under the Project]

- Structural problem: during the FFS, farmers complain that they are asked by land owners to produce rice/vegetables and when their yield increases and become productive, the land they work on is taken away from them by the land owners.
- Although during evaluation, farmers often tend to lie about the land, saying that they own the land because they are afraid that if they don't own the land, they will be disqualified from the project. But in reality they don't own the land.
- Education of farmers by JICA program is an influential tool for peace in Mindanao. It opened the minds of the farmers that there is a way to develop themselves. They realize that there are other means to earn money not just in kidnapping or joining the war.
- The criteria for the project on land ownership and age must be re-assessed.
- ARMM farmers are generally poorer than those outside. Farmers outside ARMM are also more experienced and educated.

[Project Management]

- DAF-ARMM wanted to manage the funds. Dr. Sebastian explained that this is the project of JICA with PhilRice and that this is the arrangement/system. If DAF-ARMM does not agree with this, then PhilRice will just end the project. DAF-ARMM agreed to continue the project.
- [Agriculture Related Project/Extension Service by USM]
- DA funded a lot of programs; USM is also involved in some of the trainings under the national government project.
- The relationship of USM and ATI: (1) USM always been tapped for resource persons, (2) USM is the formal training ground of ATI staff (courses for advance degrees for ATI staff).
- For FFS training, concentrate on the needs of the farmers based on the needs analysis in FGDs. FFS by USM is much shorter but focus on the critical areas of farming.

[Equipment provided by JICA]

- On the equipment provided by the project, the LCD projector (Canon LV-53) was inspected and confirmed to be with USM, it is currently being used for the palay-check system training. The said equipment is in good condition.



Field Interview Memo (No.14)

Country	Philippines	Person in Charge	Miyoko Taniguchi
Date	2009/9/10 (Thursday) 9:00-13:00 including break		
Theme	Evaluation Survey		
Interviewee	<p>Mr. Ommal Abdulkadil, Asst. Program Manager for Maguindanao and Lanao del Sur, DAF-ARMM</p> <p>Tawi-Tawi: Mr. Nestor Jumawan (T)</p> <p>Basilan: Mr. Sally A. Guillermo (B)</p> <p>Maguindanao: Mr. Musa Abdukarim (M)</p> <p>Lanao Del Sur: Mr. Taguranao Baguan (L)</p> <p>Sulu: Mr. Jun Ammak (S)</p>		
Interviewer	<p>Dr. Clarita P. Aganon, Philippine Evaluator</p> <p>Dr. Hideyuki Kanamori, Mission Team Leader</p> <p>Ms. Miyoko Taniguchi, Evaluation Analysis</p> <p>Ms. Maria Celestina Totanes, Evaluation Planning</p>		
Place	PhilRice Midsayap		
<p>[AT's Conditions by Province]</p> <p><input type="checkbox"/> (Basilan) No AT has been transferred during project implementation. In fact, they have extended their services to some of the barangays while they continue to monitor their original sites. ATs under Provincial Governor's office are tapped as resource persons and not facilitators. 9 ATs (30) under provincial government, 9 extension workers.</p> <p><input type="checkbox"/> (Tawi-Tawi) 7 municipalities have FFS, 2 areas are very far and have no regular transportation so they are not able to visit frequently. All ATs (36) were trained. All of which are under DAF-ARMM.</p> <p><input type="checkbox"/> (Sulu) 35 ATs were trained. 3 ATs are under LGU, the rest are under DAF-ARMM.</p> <p><input type="checkbox"/> (Lanao del Sur) There are 44 ATs in Lanao del Sure. 2 are from Provincial government and the rest are from DAF-ARMM.</p> <p><input type="checkbox"/> (Maguindanao) About 10% AT(79) are from LGU</p> <p>[Maintenance of Palayamanan ]</p> <p><input type="checkbox"/> (Basilan) On Palayamanan, there are 4 sites. All are still operational. For Atuk-atuk, the area is affected by the conflict which hinders the monitoring of ATs due to security reasons. For the livestock, Chicken, Goat and Ducks are already dispersed, except for Atuk-atuk. The goats have not been dispersed due to the lack of management because their personnel cannot reach the area due to security reasons.</p> <p><input type="checkbox"/> (Tawi-Tawi) 2008 conflict erupted in Magsargao due to family feud and the family member of one cooperators was killed. In this area, operation of Palayamanan was stopped.</p> <p><input type="checkbox"/> (Maguindanao) Mr. Musa became coordinator in 2007. There are 6 Palayamanan sites but was established before 2007. He handles only 1 site, the rest was handled by a different person. For the vegetables, all are sustained. However, for the livestock, not able to avail the fingerlings.</p>			

In Datu Pian, there is conflict and therefore, they cannot visit it.

- ❑ (Sulu) 4 palayamanan sites. 3 of which are sustained. One is not functional due to the relocation of cooperators.
- ❑ (Lanao del Sur) 4 Palayamanan sites. One (in Picong) is not completely sustained as some of the farmers are transferred to another place because of peace and order situation. They are afraid of the war between MILF and GRP because the farmers are Christians.

[Difference before and after the Project]

- ❑ (Sulu) Organized farmers and have schedule monthly meeting and introduce to them the improved technologies. For JICA, the farmers organization prioritize the FFS. We can meet weekly and hands-on activities regarding the introduced technologies. Not registered in **CDA (Cooperative Development Authority)/SEC (Securities and Exchange Commission)** only in the DA. 12 Barangays covered. Before ATs are not so prepared. At present, we are because of training before implementation. Before, National government giving a lot of seeds but they are not trained how to use them. With JICA, they are trained first so when they are given seeds they know what to do. They never received training prior to JICA project. For training, MAO is the facilitator and not ATs. It is the Mao who recommends the ATs for training. Limited trained ATs due to the distance. Although, they do undergo training at ATI on rice production, but it is not very often. The provincial coordinator recommends the ATs to be trained, since he is the president of ATs organization. He prioritizes the ATs who show capability and industriousness in performing their job. The PAO ultimately decides.
- ❑ (Basilan) Before TCP4, they did not experience trainings like this. But they do go to the field and monitor/assist farmers in rice and other crops. But they lack new technologies because of lack of trainings. With TCP4, they were given training and new technology, so their trainings with farmers are now better. And because they were trained very well in the subject matter, they are tapped as resource persons. TCP4 has continuity in training and support for facilitators, ATs and farmers. They have attended some training with ATI but it has been 10 years since they had training before TCP4. Recommendations for training for ATs come from provincial government. For MAO, he is the one who recommends. For rice-based farming, he recommends ATs whose specialization is rice. Therefore recommendation is based on specialization.
- ❑ (Lanao del Sur) The conditions of farmers have definitely improved. When farmers train at JICA, the technology they learn is shared to other farmers. Before, there was training but no follow-up, unlike JICA where there is a follow-up so they see the difference and appreciate it. Farmers are organized by contacting the barangay for coordination. They have one federated farmers organization is registered to SEC. Suggests that TCP 4 will be continued and the training be conducted by province considering the age of the farmers/ATs.
- ❑ (Maguindanao) Many training for ATs because ATI is very accessible to them. Sometimes, they train 3 times a year. So by the time of the Project they are already much trained. MAO has the discretion on whom to send for training. The provincial coordinator also can recommend ATs

for training, prioritize the ATs who are performing well, regularly going to field and not just staying at home and waiting for their salary. ATs are very old and physically are old and get tired easily.

[Selection of Barangay for FFS site: what criteria]

- (Maguindanao) First choose the municipalities with ATs well-trained in irrigated area, then the group of people near the site (accessibility). They recommend farmers near the training site. They choose the barangay without any conflict among the people.
- (Lanao del Sur) Choose the site for FFS, along the main road, peace and order (rido). Prefer to choose farmers not connected to any politician. The barangay captain invites farmers and they conduct a briefing/orientation for them so they can see if they want to join or not. But they Barangay captain recommends which farmer.
- (Tawi-Tawi) APOs and him try to discuss and the consult the MAO and then to PAO. They look for the area for vegetables have access to training.
- (Sulu) Meet with MAO. Criteria used area Accessibility, active farmers and active ATs assigned in the area, supportive barangay captains and mayors.
- (Basilan) They follow the criteria set by the PhilRice during the implementer's meeting. They do not experience any conflict among the farmers despite the ethnic and religious diversity. The relationship of farmers becomes closer during the training.

Field Interview Memo (No.15)

Country	Philippines	Person in Charge	Maria Totanes
Date	2009/9/15 (Tuesday) 8:00-12:00		
Theme	Joint Coordination Meeting		
Participant	Executive Director Ronilo Beronio Dr. Rodolfo Escabarte USM, MSU, DAF-ARMM, ARMMIARC, Provincial Coordinators, DA and NEDA JICA Evaluation Study Team JICA Philippine Office (Senior Representative: Mr. Nagaishi, Ms. Amaike)		
Place	Estosan Hotel, Catabato City		

I. Opening Remarks

Atty. Beronio opened the session with a brief remark on the success of TCP4. He said that ARMM is the poorest region in the country, thus they are the one that need help the most. He provided a glimpse of the impact of TCP4 to the farmers and highlighted the fact that the farmers formed organizations which is a strong building block for development. Atty. Beronio thanks the implementers for their efforts in making this project a successful one. He added that PhilRice is now contemplating on new projects to help more farmers. However, the challenges faced by TCP4 and the lessons learned must be taken into consideration in planning future projects. For instance, the high price for seeds and challenges in management. Lastly, Atty. Beronio said that PhilRice is very much willing to continue the partnership with JICA and is looking forward to more projects in the future.

II. Highlights of Accomplishments

Dr. Escabarte, Branch Manager of PhilRice Midsayap, enumerated the accomplishments of TCP4. Foremost is the trainings conducted on rice and rice-based farming systems, training on vegetable production, study tours, FFS and Palayamanan models, the establishment and maintenance of three nurseries, and the monitoring and evaluation of activities.

III. Presentation of the Terminal Evaluation Report

Dr. Kanamori, Team Leader of the Terminal Evaluation Mission, presented the results of the evaluation. Highlighting the impact, recommendations and lessons learned.

IV. Open Forum

The following points were raised during the open forum:

From MSU, Dr. Amer I. Comandug: MSU has been inactive for 4 years due to the change in leadership. While the presidents of MSU do not know about the project, he continued to support the project. Dr. Kanamori explained that in comparison to the contributions of other implementing agencies, MSU's involvement is very minimal. Dr. AGanon added that the report is based on the evaluation criteria. MSU confirms and accepts that they have been inactive for 4 years.

From DA, Ms. Adamar Estrada: With regard to the statement that there are no foreign-funded

projects, Ms. Estrada said that there are in fact foreign-funded projects in support of livelihood in Tawi-Tawi and Sulu. It was however, clarified by the Mission Team that there were no foreign-funded projects when the project started.

From Mr. Eduardo Anudin, Chief of Operations Tawi-Tawi: The Project really helped a lot of farmers and they promised that they will maintain and sustain the project in Tawi-Tawi.

From Mr. Naga Tucalo, PIO (ビンちゃんに確認) DAF-Lanao del Sur: He salutes JICA for the TCP4, which helped a lot of people. Although ARMM is problematic due to the hostilities, they are still very thankful that despite the conflict, their farmers were given the technical know-how.

From Mr. Wilfredo dela Penarrio, PMS (Project Monitoring Staff), NEDA (National Economic Development Authority): Suggests that to appreciate the project, absolute numbers should be used instead of percentages. This will highlight the massive numbers helped by this project. Dr. Kanamori clarified that the detailed description of the results of evaluation is in the annexes. Moreover, Mr. dela Pena explained that the statement “the project achieved the goal” should be changed to “the project contributed to the goal” because projects generally just contributes to the goal but not necessarily achieve them. The Chairman of the JCC however, explained that since the goals of this project is very specific, the targets are clearly achieved, and thus, the original statement is categorically correct.

From MSU, Dr. Amer I. Comandug: Recommends that all involved in the project must be given recognition, especially the ATs. Giving them a plaque of recognition will encourage their morale. The Chairman of the JCC announced that PhilRice will re-engage the ATs in the upcoming location-specific program as rice-sufficiency officers because they have exemplified good work and dedication to TCP4. He added that a plaque of recognition will be given to them, as recommended.

From DA, Ms. Cristy Polido: Suggests that a follow-up evaluation after 3 years should be conducted to monitor the impacts, whether it is sustained. Moreover, she recommends that the market should also be studied vis-a-vis the production. Based on experience, at the onset of projects, normally there is an increase in income since the market has not been saturated as of yet. However, since farmers now have increased their yield and will perhaps continue to do so, there may be an oversupply in the future. A balance between production and the market must be given attention. Dr. Kanamori explained that during the mid-term evaluation, the market was also discussed, however, the focus of this project is food security. He added that eventually the market will be considered as the project expands. Ms. Polido also commended the TCP4 as it paved the way for the DA’s project in Maguindanao and have strengthened the necessary factors (such as farmers’ technical know-how, and farmers’ organization) for an effective project implementation. Currently, the DA is considering projects that will integrate irrigation and agriculture.

Representative of the APOs: thanks and appreciates the trust and confidence given to them by JICA and the implementing agencies. They promise to work harder and confirm their

dedication to this project.

From DAF-ARMM, Dir. Jalika Mangacop: As regards to production, it is always reflected that DAF-ARMM is short of its target levels. The Chairman of the JCC responded that while DAF-ARMM has a deficit in production, it should be noted that the deficit has been reduced and we should continue to reduce this deficit.

#### V. Message from DAF-ARMM

Dir. Jalika Mangacop, on behalf of Regional Secretary Keise Usman of DAF-ARMM said that DAF-ARMM has learned a lot from this project, especially the fact that evaluation needs to be done, since they have never experienced evaluation from the DA. Moreover, due to this project, ARMM ricw yield has increased. They plan to continue the project through the DA funds from the GMA rice program. She added that the ARMMIARC implements seed production and they promise to continue this production to cater to all FFS and eventually solve the problem on seed requirement. They intend to require all centers of ARMM to produce seeds through the funding from “Programang Gulayan ng Masa” of the Regional Secretary. According to Dir. Mangacop, the Regional Secretary instructed ARMMIARC to include the FFS and Palayamanan model farms in the 2010 work plan. The DAF-ARMM cannot, however, commit to the P1,200 per month monitoring allowance for ATs due to budget constraints, they can only afford P500 per month.

#### VI. Signing of the Minutes of Meeting

The signatories namely, Mr. Nagaishi, Dr. Kanamori, Atty. Beronio and Dir. Mangacop, signed the Minutes of the Meeting which officially approves the Joint-Terminal Evaluation Report for TCP4. Since Sec. Usman of DAF-ARMM was not present at the meeting, Dir. Mangacop placed her initials on the document and was agreed that Sec. Usman, shall sign the document in Manila.

In the afternoon of September 15, 2009, Sec. Usman, with Atty. Beronio present, signed the Minutes of Meeting in Manila.

#### VII. Closing Remarks

Mr. Nagaishi, Senior Representative of JICA, gave the closing remarks. He commended the implementers of the project for their hard work and dedication. Moreover, he highlighted the remarkable impacts of TCP4. He also encouraged the Philippine government to sustain and continue the support for this fruitful project to cover more farmers and more areas.



収集資料

- 1 . TARGETS AND ACCOMPLISHMENTS, JFY 2004-2010 (Breakdown by Province)  
(州別・活動目標値と実績)
  
- 2 . List of Publication Provided to Field Assistance and Agricultural Technologist  
(フィールドアシスタントと農業普及員に提供された普及関連の出版物)
  
- 3 . フィリピン側評価者報告書

Rice-Based Farming Systems Training and Support Program for the Autonomous Region in Muslim Mindanao (JICA-TCP4)  
(February 2005-2010)

1. TARGETS AND ACCOMPLISHMENTS, JFY 2004-2010 (Breakdown by Province)

ACTIVITY	PERFORMANCE INDICATOR	Province	COMPLETED (Follow-Up Support Program)										ACCOMPLISHMENTS/TARGETS (JFY 2004-2009) (Technical Cooperation)					
			JFY 2002	JFY 2003	JFY 2004	JFY 2005	JFY 2006	JFY 2007	JFY 2008	JFY 2009	TOTAL TARGETS	ACCOMP (as of September 2009)						
			Jan-Mar 03	Jan-Mar 04	June-Oct 04 <sup>a/</sup>	Apr-Mar 06	Apr 06-Mar 07	Apr 07-Mar 08	Apr 08-Mar 09	Apr 09-Feb 10								
1. Conduct training for ATs	300 ATs trained (10 batches)	Maguindanao	6	7		35	27	26	9	8			88	117				
		Lanao Sur	6	6		23	22	13	9	7			86	76				
		Basilan	6	7		8	14	10	5	5			43	46				
		Sulu	6	8		9	15	9	4	5			44	46				
		Tawi-tawi	6	3		15	13	10	5	5			39	52				
		PhilRice Staff				5	3	12						20				
		<b>Total</b>	<b>30</b>	<b>31</b>	<b>26</b>	<b>95</b>	<b>94</b>	<b>80</b>	<b>32</b>	<b>30</b>	<b>300</b>	<b>357</b>						
2. Conduct training for farmers/farmer-leaders	200 farmers/farmer-leaders trained	Maguindanao	100					13										
		Lanao Sur	65					5										
		Basilan	9					5										
		Sulu	10					5										
		Tawi-tawi	9					4										
		<b>Total</b>	<b>193</b>	<b>31</b>	<b>26</b>	<b>95</b>	<b>94</b>	<b>80</b>	<b>32</b>	<b>30</b>	<b>300</b>	<b>357</b>						
3. Conduct of "madrasah sa basak" (on-site training/farmers' field schools)	138 Madrasah sa basak (FFS) conducted (25 farmer-participants per site)	Maguindanao	6	7		10	9	13	9	9			43	50				
		Lanao Sur	-	3	6	7	8	8	7	7			35	37				
		Basilan	-	2	2	3	4	3	4	4	4			20	22			
		Sulu	-	2	4	4	4	4	4	4	4			20	20			
		Tawi-tawi	-	2	2	4	-	4	4	3	2			20	13			
		<b>Total</b>	<b>0</b>	<b>15</b>	<b>21</b>	<b>28</b>	<b>25</b>	<b>32</b>	<b>27</b>	<b>26</b>	<b>138</b>	<b>142</b>						
				191	233	280 / 308	287 / 287	388 / 428	270 / 270	274/274	1075	1499/1567						
Number of farmer-participants in the FFS (rice/vegetable)		Lanao Sur	92	183		210 / 271	248 / 244	235 / 210	223 / 223	227/227			875	1143/1175				
		Basilan	65	51		102 / 88	117 / 117	90 / 82	117 / 87	124/124			500	550/498				
		Sulu	57	115		122 / 112	123 / 123	108 / 109	35 / 114	31/95			500	419/553				
		Tawi-tawi	67	63		128 / 128	-	30 / 119	/ 90	/60			500	158/397				
		<b>Total</b>	<b>472</b>	<b>645</b>	<b>842 / 907</b>	<b>775 / 771</b>	<b>851 / 948</b>	<b>645 / 784</b>	<b>656/780</b>	<b>3450</b>	<b>3769/4190</b>							



ACTIVITY	PERFORMANCE INDICATOR	Province	COMPLETED (Follow-Up Support Program)										ACCOMPLISHMENTS/TARGETS (JFY 2004-2009) (Technical Cooperation)				
			JFY 2002	JFY 2003	JFY2004	JFY 2004	JFY 2005	JFY 2006	JFY 2007	JFY 2008	JFY 2009	TOTAL TARGETS	ACCOMP (as of September 2009)				
			Jan-Mar 03	Jan-Mar 04	June-Oct 04 <sup>a/</sup>	Feb-Mar 05	Apr-Mar 06	Apr 06-Mar 07	Apr 07-Mar 08	Apr 08-Mar 09	Apr 09-Feb 10						
7. Conduct of study tours for PAOs, ATs, farmers and women	PAOs with coordinators/ ARMMIARC personnel	ALL					11									22	
		ALL					20	58								78	
		ALL				7	28	33								68	
		ALL				5										5	
		<b>Total</b>					<b>12</b>	<b>59</b>	<b>102</b>							<b>173</b>	

ACTIVITY	PERFORMANCE INDICATOR	Province	COMPLETED (Follow-Up Support Program)										ACCOMPLISHMENTS/TARGETS (JFY 2004-2009) (Technical Cooperation)				
			JFY 2002	JFY 2003	JFY2004	JFY 2004	JFY 2005	JFY 2006	JFY 2007	JFY 2008	JFY 2009	TOTAL TARGETS	ACCOMP (as of September 2009)				
			Jan-Mar 03	Jan-Mar 04	June-Oct 04 <sup>a/</sup>	Feb-Mar 05	Apr-Mar 06	Apr 06-Mar 07	Apr 07-Mar 08	Apr 08-Mar 09	Apr 09-Feb 10						
a/ funded by PhilRice	Training of ATs		July11-21'05	Nov21-Dec 05	Feb-06	June-Oct 06	Dec-06	Jan-07	Feb-07	Jun-07	Jul-07	Aug-07					
b/ Updating/refresh course for all trained ATs in 2007	Maguindanao		13	15	7	1	19			8	4	8					
c/ no new FFS and Palayamanan sites established in Tawi-tawi for 2006 due to limited rainfall; activities focused on monitoring of previous sites and maintenance of Palayamanan models, and training ATs	Lanao Sur		9	8	6	1	16	1	4	4	2	4					
	Basilan		1	4	3	1		10	3	3	2	3					
	Sulu		5	3	1	1		11	3	3	1	3					
	Tawi-tawi		5	5	5	1		9	3	3	2	3					
	PhilRice Staff		5 *					1	2	1		3					
	<b>TOTAL</b>		<b>38</b>	<b>35</b>	<b>22</b>	<b>5</b>	<b>35</b>	<b>32</b>	<b>22</b>	<b>22</b>	<b>11</b>	<b>24</b>					
			* July-Sept for field assistants										not targeted; need to further train ATs on vegetable production				
	Maguindanao									Nov-Dec	Feb/Mar 17-1	TOTAL					
	Lanao Sur										6	26					
	Basilan										3	13					
	Sulu										2	10					
	Tawi-tawi										2	9					
	PhilRice Staff									4	4	12					
	<b>TOTAL</b>									<b>4</b>	<b>19</b>	<b>80</b>					

## JICA TCP 4

### List of Publications Provided to APOs & ATs

#### TECHNO BULLETINS

1. Ecological Rice Farming
2. Modified Dry Direct Seeding Technology
3. Rice Post Production Practices
4. Integrated Farm and Household Waste Mangement
5. Rice-based Microbial Inoculant
6. Carbonized Rice Hull
7. Armyworm and Cutworm
8. Integrated Nutrient Management for Rice Production
9. Hybrid Rice Seed Production
10. Matatag lines: Farmer's Partners in Rice Tungro Disease Mgt.
11. Wet Seeded Rice Production
12. Use of Indigo as Green Manure
13. Management Options for Ricefield Weeds
14. Management of Planthoppers and Leafhoppers
15. Pagpaparmi ng Purong Binhi ng Palay
16. MOET: Nutrient Deficiency Test Made Easy
17. Controlled Irrigation: A water-saving technique for transplanted rice
18. 40 kg certified seeds per hectare
19. Equipment for Rice Production and Processing
20. 10 Steps in Compost Production
21. Leaf Color Chart
22. PALAYAMANAN: Making the most out of rice farms
23. Management of Field Rats
24. Rice Stem Borers in the Philippines
25. Pilipino version, 10 Hakbang sa Paggawa ng Kompost
26. Palayamanan technology bulletins in 3 local dialects (10 vegetables)

#### BOOKS / MANUALS

1. Rice Integrated Crop Management: Towards a RiceCheck System in the Philippin
2. Hybrid Rice Seed production Training Manual
3. Highland Rice Production
4. Field Guide in Harmful and Useful Organisms in the Phil. Ricefield
5. Rice Chemistry and Quality
6. Field Guide on Major Disorders of the Rice Plant in the Philippines
7. Virus and Virus-like Diseases of Rice in the Philippines
8. GO-NGO Collaboration: Towards People Empowerment

9. Palaytandaan (Guide to Rice Farming)
10. Technoguide for Wet-Seeded Rice Production
11. Palaycheck System for Irrigated Lowland Rice
12. Insects and Their Natural Enemies with Vegetables and Soybean in Southeast Asi
13. Rice-based Crop Production Manual

#### POSTERS

1. Synchronous Planting Poster
2. Useful Orgnisms in the Philippine Ricefields
3. Harmful Organisms in the Philippine Ricefields
4. Major Disorders and Diseases of Rice Plant in the Philippines

PHILRICE NEWSLETTER (Rice S&T Magazine) selected issues

#### FLIPCHARTS ON VEGETABLE PRODUCTION

translated in local dialects (ampalaya, eggplant, okra, tomatoes, stringbeans, pechay, upo)



**Terminal Evaluation Report**  
**Rice-Based Farming Systems Training and Support Program for the ARMM**  
**Output from Philippine Side**

**I Scope of Evaluation**

**II Objectives of Evaluation**

A Third Party Evaluator was requested to be a member of the Terminal Evaluation Team headed by JICA with the following objectives:

- 1) to verify the degree of achievement based on the Project Design Matrix (hereinafter referred to as “the PDM”) in the inland provinces (Maguindanao and Lanao del Sur) of ARMM
- 2) to verify the implementation procedures
- 3) to conduct the evaluation comprehensively using five evaluation criteria,

**III Methodology of Evaluation**

To carry out the evaluation two methods of data collection was employed; a) formal survey and focus group discussion (FGD). Formal (adoption) surveys were conducted with FFS/Palayaman cooperators/participants and ATs as respondents. Two sets of questionnaire were used for each type of respondents. The questionnaires for farmers were designed specifically to assess the extent of adoption of the agricultural technologies in rice and vegetables taught during FFS as well as the effects of adoption on farm productivity. The questionnaire for ATs is meant to assess the effectiveness, impacts and sustainability of the training program to them and to the farmers. The FGDs were conducted with farmer group in the field survey sites to assess the effectiveness, impacts and sustainability of the training program to them and to the ATs.

The AT respondents were purposely selected since they are the once who facilitated in FFS sites where the formal survey were conducted. There were 14 ATs interviewed for the purpose. FGD in each sites was held before the formal survey. The formal survey respondents were randomly selected from the FGD group after holding the FGD. Four sites each in Maguindanao and Lanao del Sur were selected based on accessibility, peace and order and the ear when FFS was conducted. Each site in the represents year 2006, 2007 and 2008. Table 1 presents the survey sites and the number of respondents for the formal (adoption) surveys and FGDs.

Table 1. Study Sites and Respondents in FGD and Formal Survey

PROVINCE	TOWN	BARANGAY /YEAR	Number of Respondents		
			FGD	Survey	TOTAL
MAGUINDANAO	Sultan Kudarat	Pinaring/2005	6	6	12
	Sultan Mastura	Tambo/2006	11	5	16
	Datu Odin Sinsuat	Margues/2007	5	5	19
	Mamapasapano	Manungkaling/2008	9	5	14
<b>Subtotal</b>			<b>31</b>	<b>21</b>	<b>52</b>
LANAO DEL SUR	Buadiposo Buntong	Manacab/2008	17	5	22
	Marantao	Bubong Camalig /2006	5	3	8
	Tugaya	Pantar-Lumbac/2007	8	6	14
	Malabang	Madaya/ 2005	7	5	12
<b>Sub-total</b>			<b>37</b>	<b>19</b>	<b>56</b>
<b>TOTAL</b>			<b>68</b>	<b>40</b>	<b>108</b>

## Summary of Findings on Focus Group Discussion

### General Information

A total of 31 farmer trainees in Maguindanao representing four sites/towns were invited for the purpose of focus group discussion re effectiveness and impacts/sustainability of JICA project with PhilRice and DAF-ARMM. Out of the 31 farmers, 28 are males and three are females. Only one of them was a Palayamanan cooperater. Nineteen percent of them are 20-30 years old, thirty two percent each for aged 31-40 and 41-50 and sixteen percent more than 51 years old.

Almost all the farmers are selling rice to millers/traders with only 16% selling to middlemen. On the contrary most of them sell vegetables to middlemen (52%) and the rest are selling directly in the barangay (Table 2).

In Lanao del Sur, 37 farmers participated in focus group discussion. Four were Palayamanan /FFS cooperators and 33 are farmer participants. The respondents were dominantly male (86%) with only 14% female. The farmers were relatively young with age range 20-30 years old (41%) and 31-40 years (32%) made up 73% of the respondents.

Rice are sold to the market and millers. In Malabang, Madaya farmers are selling milled rice instead of rough rice since the farmer cooperater has a milling machine. Vegetables are sold to middlemen, market or directly sold in the barangay.

## **Effectiveness**

In Maguindanao the frequency of ATs' visit before FFS, were: 48% said they were visited by ATs quarterly, 16% once a month, and 36% once a week. After FFS, 36% said they are visited once a week, twice a month (16%). However, there was a case where ATs are visiting them once a year since the ATs who facilitated the FFS in 2005 and 2006 were transferred at the regional office of DAF-ARMM.

In Lanao del Sur, 46% were visited by ATs once a year before FFS, 40% once a month and 14% once a week. Obviously, the frequency of visits increased after FFS indicating some degree of commitment among ATs.

All the respondents in both provinces are one in saying that they saw changes in ATs work attitude after FFS. These are seen in their more frequent visits increased competency in teaching rice and vegetable technologies and conduct of weekly classes particularly in Manangkaling, Mamasapano. Because of the knowledge shared by the AT facilitators, the training program was rated Excellent by 71- 89% of the respondents. Not all the technologies taught during the training were practiced by the respondents for reasons of non-adaptability to rainfed and upland rice farming and because it is too time consuming. Five farmer respondents from Maguindanao and nine from Lanao del Sur have attended trainings other than the JICA which are held 2005, 2007 and 2008. DAF-ARMM, ATI and an NGO were sponsors of trainings on Rice Technology and Natural Farming. They mentioned that the JICA training is more of hands-on and an individualized instruction strategy compared to lecture type in other trainings attended by them (Table 3). Likewise, after the JICA training seeds were provided to the participants as starting materials. While the participants realized that they learned a lot from the training, they accepted that they have not internalized all those taught to them. In effect 71% of them are suggesting to have a refresher course and likewise to continuously receive technical assistance after the training is over.

The knowledge gained on rice and vegetable production during the training which which they tried, their belief that their income will increase and cost of production will decrease by using the technologies and their trust on the facilitators altogether contributed to the achievement of goals and use of the technologies taught. Although it was emphasized by the participants that the absence of trained ATs affected the adoption of technologies particularly at times when they do not know what to do about the problems at hand (diseases). Likewise, the unpredictability of rainfall made it difficult for them to adopt transplanting and water management technologies.

## **Impact and Sustainability**

The respondents are unanimous in emphasizing that they gained extra income due to technologies taught to them. The extra income realized from adopting the technologies were spent on

food (77% and 84%), Education (68% and 22%) of children, niece and nephews, clothes (52% and 14%), medicine (25% and 3%), paying loans (26% and 22%), purchase of seeds (13% and 5%), house maintenance and purchase of agricultural inputs. It was evident that in terms of allocating the added income from adoption of the technologies, purchase of seeds and inputs are not the top priority of the respondents. However, about a quarter of them are conscious on paying their loans.

Indeed the farmer participants did not keep the knowledge they learned for themselves. They taught co-farmers who are not able to participate in FFS. A great majority of them taught 2-5 farmers. To them the positive effects after the training were: acquired knowledge which is lasting (100%), increased in income which lessened the number of farmers asking for credit, learned best practices in farming, farmers became organized and ties was strengthened, Christians and Muslims work together, increased standard of living, people became busy, built a house, utilized idle lands, bought motorcycle and paid some loans.

There was an issue on the sustainability of accessing seeds of rice by the farmer participants. Only 65% and 35% respectively of farmer respondents believe they will not have problem on accessing rice seeds because of lack of capital and very far distance of their farm to source of seeds. Those who are capable of buying will source the seeds from PhilRice, co-farmers who have new varieties, seed producers, and DAF – ARMM in that order of preference. For vegetable, all of the respondents said they can continuously access it producing their own, market and agri-suppliers (Table 3). In two sites surveyed (Camalig Bubong, Marantao and Lumbac, Tugaya, farmers are using (100%) native variety because of its good eating quality.

In spite of the knowledge gained during the training, 94 and 100% of the participants still feel the need for technical assistance particularly as regard plant diseases management (66%) and recent technologies in rice and vegetables (59%).

The ATs are still the most reliable person to seek for instruction about agricultural techniques, followed by FFS/Palayaman co-farmers and neighbor (Table 4).

## **Comment**

Among the comments obtained the FGD were: Continue the project but include topics on goat production, other livelihood projects and marketing; training on livelihood, food processing, marketing and provision of gardening tools, farm equipment and irrigation pumps; Training on banana, fruit trees production and soil conservation. AT assigned should have a field in Agriculture in order to be competent. The AT facilitator was transferred to other assignment and the one who took over do not have an agriculture background.

Table 2. Focus Group Discussion Participants Profile

	MAGUINDANAO		LANAO DEL SUR	
	N=31		N= 37	
	TOTAL	%	TOTAL	%
<b>GENERAL INFORMATION</b>				
<b>Type of Respondent</b>				
Palayamanan Cooperator	1	3.23	4	10.81
FFS Cooperator			33	89.19
Participant	30	96.77		
<b>Sex</b>				
Male	28	90.32	5	13.51
Female	3	9.68		
<b>Age</b>				
20-30	6	19.35	12	32.43
31-40	10	32.26	5	13.51
41-50	10	32.26	4	10.81
51-60	4	12.90	1	2.70
>60	1	3.23		
<b>Where/Whom Rice is sold</b>				
Middlemen				
Market	5	16.13	30	81.08
Millers	16	51.61	29	78.38
Trader	15	48.39		
Others				
<b>Where/Whom Veggies is sold</b>				
Middlemen	16	51.61	13	35.14
Market	15	48.39	17	45.95
Millers				
Trader				
Others (Selling)	3	9.68	5	13.51

Table 3. Effectiveness of Training Program

	MAGUINDANAO		LANAO DEL SUR	
	N=31		N= 37	
	TOTAL	%	TOTAL	%
<b>Number of ATs visit before FFS</b>				
1x a week	11	35.48	5	13.51
1x a month	5	16.13	15	40.54
1x /3 mos	15	48.39		
1x /yr			17	45.95
<b>Number of ATs visit After FFS</b>				
1x a week	11	35.48	20	54.05
2x/mo	5	16.13		
1x /yr	15	48.39	17	45.95
No more ( transferred)				

<b>Changes in ATs work attitude</b>				
<b>Yes</b>	31	100.00	37	100.00
<b>How</b>				
Visit more often	11	35.48	15	40.54
More competent to teach	22	70.97	37	100.00
Conducting weekly classes	9	29.03		
<b>No</b>				
<b>Rating of training Program</b>				
Excellent	22	70.97	33	89.19
Average	9	29.03	4	10.81
Poor				
<b>Agricultural Technologies not practiced</b>				
Reason (technology not suited for upland /rainfed rice )	15	48.39	20	54.05
Time consuming			10	27.03
<b>Training/s attended before</b>				
<b>Yes</b>	5	16.13	9	24.32
<b>No</b>	26	83.87	28	75.68
<b>Sponsor</b>				
NGO Natural Farming)	1	3.23	8	21.62
DAF-ARMM	4	12.90		
ATI			1	2.70
<b>When</b>				
2005, 2007	5	16.13		
2008			9	24.32
<b>Difference with JICA Program</b>				
Lecture vs hands-on for JICA	5	16.13	1	2.70
Well-explained	5	16.13		
No provision of seeds			8	21.62
<b>Suggestions to improve the training program</b>				
Repeat to superimpose the tech/Refresher	22	70.97	24	64.86
Continuous Tech'l Assistance	16	51.61		
Include tech on upland rice culture				
More training on fertilizer and mulching			8	21.62
<b>Factors that contributes to achievement</b>				
Technologies taught for veggies	16	51.61	24	64.86
Technologies taughtfor rice	16	51.61	24	64.86
Knowledge gained and practiced	22	70.97	15	40.54
Believe that income will increase	6	19.35	5	13.51
Reduce cost	4	12.90		
Believe in what the facilitators teach	10	32.26		
To see is to believe			7	18.92
<b>Factors that hindered achievement</b>				
AT assigned was transferred at DAF-	15	48.39		

ARMM				
Transplanting and water mgt not manageable			13	35.14
in upland farming				
Weather (rainfall and flood)			15	40.54

Table 4. Impacts of Training Program

	MAGUINDANA0		LANAO DEL SUR	
	N=31		N= 37	
	TOTAL	%	TOTAL	%
<b>Gained income from rice and veggies</b>				
Yes	31	100.00	26	70.27
No				
Due to rats			6	16.22
Did not plant after FFS			5	13.51
<b>How spent</b>				
Food	24	77.42	31	83.78
Clothes	16	51.61	5	13.51
Education for children	21	67.74	8	21.62
Medicine	8	25.81	1	2.70
Purchase of seeds	4	12.90	2	5.41
Other aggie inputs/materials	1	3.23		
Savings	1	3.23		
Others (specify)	1	3.23		
Pay loans	8	25.81	8	21.62
Cellphone			1	2.70
House Maintenance			5	13.51
<b>How many farmers did you share technologies</b>				
2-5 within the barangay/participant	16	51.61	29	78.38
6-10 within the barangay	14	45.16	6	16.22
11-15	1	3.23		
>15			2	5.41
<b>Positive Effects after training</b>				
<b>Yes</b>	31	100.00	<b>37</b>	<b>100.00</b>
Increased income	27	84.38	29	78.38
Obtain new knowledge, lasting	31	100.00	37	100.00
Learned best practices in farming	22	68.75	25	67.57
Use of idle areas	3	9.38		
Bought motorcycle	3	9.38		
Built house	1	3.13		
People became busy	6	18.75		
Christians and Muslim worked together	6	18.75		
Farmers organized	10	31.25		
Learn to share knowledge to other			5	13.51



farmers				
Strengthen ties among farmers			24	64.86
Increased standard of living			7	18.92
<b>Rice seeds can be continuously obtained</b>				
Yes	21	67.74	13	35.14
No	8	25.81	5	13.51
Cannot determine	2	6.45	19	51.35
Do not have enough capital to buy	10	32.26	24	64.86
Source very far from farm			8	21.62
<b>How</b>				
Market	18	58.06	3	8.11
PhilRice	10	32.26		
Seed Producers	6	19.35		
Others			6	16.22
DA	12	38.71	19	51.35
Co-farmer			19	51.35
Produce their own				
<b>Veggies seeds can be continuously obtained</b>				
Yes	31	100.00	29	78.38
No			8	21.62
Seeds sold in the market of low quality			8	21.62
<b>How</b>				
Market				
Seed Producers	13	41.94		
Produce their own	22	70.97	22	59.46
Others (Agri-suppliers)	11	35.48	7	18.92
<b>Still need technical assistance</b>				
Yes	29	93.55	37	100.00
No	2	6.45		
<b>What kind of technical assistance</b>				
Recent technologies in rice and veggies	19	61.29	30	81.08
Diseases	21	67.74		
Pest Management			7	18.92
<b>Most reliable person to ask for agri tech</b>				
AT	26	83.87	28	75.68
Neighbor	1	3.23		
FFS/Palayaman co-farmers	4	12.90	9	24.32
<b>Comment</b>				
Continue the project so that more farmers will obtain knowledge and include topics on goat, livelihood and marketing	5	16.13		
	10	32.26		
There should be an AT assigned whose field is Agriculture	11	35.48		
Training to focus on livelihood dev't, marketing food processing, provision of gardening	5	16.13	21	56.76

tools, farm equipment and irrigation pumps				
Training on banana, fruit trees and soil conservation			5	13.51
Support for farm implements and equipment			8	21.62

## Summary of Formal Adoption Survey

### The Respondents

The Maguindanao respondents are 86% (18) male and 14% (3) female with an average age of 43.71. More than 50 % were educated at elementary level (Grades 2 to 6) while 24 and 10% have high school and college education/not educated respectively (Table 5). In Lanao del Sur, 95% of the respondents are male. The average age is much younger (35 yrs old) majority of whom are educated until high school.

Farming experience of the respondents averaged 20 and 10 years respectively for Maguindanao and Lanao del Sur farmers. Rice areas in Maguindanao are 70% lowland and 30% rainfed with an average of 1.86 ha while vegetables areas are 70% upland and 30% lowland with an average size of 2448 m<sup>2</sup>. Farm tenure are of four types: owned (majority), shareholder, rented and “hiram or borrowed”. This is true for both rice and vegetable areas, though there are more owned farms for vegetables. On the other hand, Lanao del Sur rice farms are dominantly rainfed while vegetable farms are dominantly upland with an average size of 1.38 ha and 1197 m<sup>2</sup> respectively for rice and vegetables. Three tenurial status exist; owned, share-cropped and leased/rented. Eighty- eight percent said they own the rice farms they till. While 100% own the vegetable areas.

Household size averaged 7 (1-24). Household size is smaller in Lanao del Sur, since farmers are still on their early years of marriage and 16% are still single. Obviously, the number of family members helping in farm activities is relatively low since most are still in school or are too young to perform farm activities. Women involvement in farming is also not common. It is interesting to note though that FFS /Palayaman cooperators and participants do share to other farmers the technology they learned. Respondents in Maguindanao reported to have taught 2-15 farmers each (5 on the average) while in Lanao, del Sur farmer respondents claimed they have shared the technology to 2 to 120 farmers (21 on the average). The high average in Lanao del Sur is attributed to the Palayaman site frequently visited by farmers during field tours in ARMM.

### Technologies Adopted

One of the objectively verifiable indicators of project purpose based on revised PDM during the Mid-Term Evaluation is the adoption of at least three rice technologies. Twenty- three out of the 30 technologies in rice production was adopted by 71 to 95% and 18 out of 30 technologies was adopted by 70 to 100% of the respondents of Maguindanao and Lanao del Sur, respectively. The technologies that are highly and least adopted (more than 70% have adopted) varied with the province. In Maguindanao where most of the rice areas are lowland, seed quality, land preparation, seedbed

location, synchronous planting, planting calendar, water management, IPM, timing of fertilizer application, harvesting and threshing have high adoption while the least adopted technologies ( less than 70 percent adoption) are on drying and storage, planting distance, seedling age , transplanting, number of seedlings per hill and seedbed size. In Lanao del Sur the highly adopted technologies are on land preparation, synchronous planting and seed requirement, AESA, IPM (except use of resistant variety), timely application of fertilizer, harvest time, seed storage and drying while the least adopted are seed quality (due to upland condition), seedling age, distance of planting (farmers direct seed due to lack of water), water management, use of LCC, threshing time, use of hybrid and commercial vegetable production.

Most farmers just leave few cavans of rice after harvest due to fear of war. Seedlings are planted early because dapog system of planting is used. The respondents do plant a range of vegetables after the training. Seventy six percent did go into vegetable growing after FFS and 66% were into commercial level.

Each province had vegetable preference as seen in the percent of respondents growing the crop before or after FFS. In Maguindanao, eggplant (67%), tomato (33%), bittergourd (33%), squash (24%), upo (24%), stringbeans (24%), and squash (24%) were the most preferred crops. The three most preferred vegetable technologies were: INM (66%), distance of planting(45%) and Pest Management (33%). In Lanao eggplant (65%), pechay (41%), cucumber and tomato(35%), and squash,okra,bittergourd(29%) were te most preffered. These crops were added to their farming systems FFS. The most preferred technologies are INM, seedling establishment, with distance of planting and trellising having equal rank. Most of the farmers are into subsistence vegetable production BFFS.

### **Farm Productivity**

The average gross income from rice BFFS were Php 58612.86 and Php 23637.06 respectively for Maguindanao and Lanao del Sur, respectively. These increased to Php 107845.71 or 84% and 53,841.76 or 128% in two provinces. The increase is both attributed to increased in yield (68% and 69%) and price (26% and 46%) of rice after FFS (Tables 8 and 10). The income from vegetables increased by 790% and 1027% compared to almost home consumption level BFFS. Increase in income due to animals was 80.78% and 102%.. Other farm income sources are from coconut, citrus production and banana. While off-farm income includes employment, pension, recruiting agent, OCW, business, middlemen.

Expenditures for rice decreased due to application of TCP4 technologies such as reduced pesticide use, appropriate and timely application of fertilizer. All items of expenditures such as labor, and irrigation rental increased AFFS. Over all, the living standard increased as indicated by the

increased in household net income from Php 73554.52 and Php 55205.84 before FFS to Php 138456.57 and Php 118790.47 after FFS. The average change in income was Php 64902.05 Php 63584.63 or 88% and 3081% respectively for Maguindanao and Lanao del Sur.

In Maguindanao, the increased income was spent for clothing (67%), education (62%), food (38%), medicine (24%), bought animals (14%) and house maintenance in that priority whereas in Lanao del Sur priority spending was on food (58%), education (42%) and clothing (21%). Some respondents reported the added income for paying loan, buying farm machinery, buying motorcycle, house renovation and buying house appliance. Indeed, the respondents have shown priority for sending their children to school to acquire better education.

Yields of vegetables and rice increased after the farmers have undergone the training (Table 10). Most dramatic increase was obtained in bittergourd (730%) in Mindanao area and the least in squash (25%). On the contrary, squash obtained the highest increase in yield in Lanao del Sur and the least from okra. Similarly the price of all vegetables increased except for bittergourd and watermelon (decreased price). Prices vary from one site to the other for all vegetables.

Vegetable production is not a business in both provinces before the respondents underwent the training. After undergoing the training 71% of them went into commercial vegetable production while all of them claimed they become sufficient in vegetables except for the respondents from Managkaling, Mamapasano, Maguindanao who are still at subsistence level even after FFS in 2009. In Lanao del Sur the level of vegetable production increased to commercial level in about 47% of the respondents.

In both provinces vegetables rose to commercial level. Percent of product sold increased from a low of 14% to 52% (Maguindanao) and 23% to 53% in Lanao del Sur. Percent of rice and vegetable harvest consumed decreased due to increased in yields.

The data indicated rice and vegetable sufficiency dramatically increased in the ARMM area and it has increased to commercial level except for some areas (Lumbac, Tugaya and Bubong Camalig, Maratao) where farmers still prefer to grow native (traditional) variety

Table 5. Profile of ARMM Farmers who are Participants to the Rice-Based Farming Systems Training and Support Program

Table 5. Profile of ARMM Farmers who are Participants to

PROFILE	MAGUINDANAO					LANAO DEL SUR				
	AVERAGE	PERCENT				AVERAGE	PERCENT			
<b>SEX</b>										
Male		85.71					94.74			
Female		14.29					5.26			
<b>AGE</b>	43.71					35.20				
<b>EDUCATION</b>										
Did not go to school		9.52								
Elem		57.14					21.05			
High School		23.81					52.63			
Vocational										
College		9.52					26.32			
<b>YRS IN FARMING</b>	19.76					9.53				
<b>ACTUAL FARM AREA</b>										
<b>RICE (ha)</b>	1.56					1.38				
<b>VEGETABLES (sq m)</b>	2448.81					1196.94				
<b>SIZE RANGE</b>										
<b>RICE</b>	1.86					1.65				
<b>VEGETABLES</b>	1.00					1.06				
<b>FARM TYPE</b>										
<b>RICE</b>	2.14	30.00	rainfed	70.00	lowland	52.94	rainfed	47.06	upland	
<b>VEGETABLES</b>	1.24	30.00	lowland	70.00	upland	70.59	upland	29.41	rainfed	
<b>TENURE</b>										
<b>Rice</b>										
Owner		52.38					88.24			
Share cropper		28.57					11.76			
Leaseholder/renter		4.76					11.76			
Mortgage										
Others (specify)Borrowed		9.52								
<b>TENURE</b>										
<b>Vegetables</b>										
Owner		57.14					100.00			
Share cropper		23.81								
Leaseholder/renter		4.76					5.88			
Mortgage										
Others (specify) Hiram		9.52								
<b>HOUSEHOLD SIZE</b>	7.14					6.11				
<b>No. Family Members helping</b>										
Male	1.76					1.47				
Female	0.19					0.37				
<b>Number of farmers whom technology</b>										
<b>was shared</b>	5									
2-5		76.19					68.42			
6-10		19.05					5.26			
>10		4.76					21.05			

the Rice-Based Farming Systems Training Support Program

Table 6. Adoption of Rice and Vegetable Production Technologies from TCP4

	<b>MAGUINDANA0</b>		<b>LANAO DEL SUR</b>	
	<b>N = 21</b>		<b>N=20</b>	
	<b>TOTAL</b>	<b>PERCENT</b>	<b>TOTAL</b>	<b>PERCENT</b>
<b>Technologies practiced</b>	<b>PRACTICED</b>		<b>PRACTICED</b>	
<b>Seed quality</b>				
Certified seeds	20	95.24	11	64.71
Variety with yield potential	20	95.24	11	64.71
<b>Land Preparation</b>				
Cleaning, repairing dikes	20	95.24	16	94.12
Stubbles/weeds decomposed	20	95.24	16	94.12
Proper Plowing	20	95.24	15	88.24
Proper harrowing	20	95.24	15	88.24
Proper leveling	20	95.24	14	82.35
<b>Seedbed Management</b>				
Seedbed size	13	61.90	9	52.94
Location	15	71.43	9	52.94
<b>Crop Establishment</b>				
Synchronous planting	19	90.48	16	94.12
Planting Calendar	19	90.48	16	94.12
Transplanting/seed reqt	13	61.90	12	70.59
Number of seedlings/hill	10	47.62	9	52.94
Seedling age	9	42.86	8	47.06
Planting distance	11	52.38	5	29.41
<b>Irrigation and Watert Mgt</b>				
Avoid excessive water or drought	17	80.95	4	23.53
3.5 cm water depth	17	80.95	1	5.88
Draining 1-2 weeks before harvest	19	90.48	5	29.41
<b>Practice AESA</b>	19	90.48	12	70.59
<b>IPM</b>				
No yield loss due to pest	20	95.24	16	94.12
Conserve Beneficial organisms	19	90.48	17	100.00
Use of resistant varieties	20	95.24	10	58.82
Integ. Rodent Mgt	15	71.43	17	100.00
Integ Weed Mgt	20	95.24	16	94.12
Integ Disease Mgt	19	90.48	17	100.00
<b>INM</b>				
Nutrients at PI to flowering	20	95.24	17	100.00
Manage N thru LCC or MOET, NOP	11	52.38	8	47.06
<b>Harvest /Post Harvest</b>				
Harvest at 80-85% ripe grains	16	76.19	17	100.00
Thresh not later than 1 DAH	19	85.71	7	41.18
Proper seed storage	6	28.57	12	70.59
Proper drying	7	33.33	15	88.24
<b>Planting Hybrid</b>	0	0.00	1	5.88
<b>Backyard vegetable gardening</b>				
Added vegetable after trng	16	76.19	17	89.47
Commercial vegetable production	14	66.67	11	64.71



Table 7. Backyard Gardening Technologies

	MAGUINDANAO		LANAO DEL SUR		
	N = 21		N=19		
	FREQUENCY	PERCENT	FREQUENCY	PERCENT	
<b>Vegetable Gardening Technologies</b>	<b>PRACTICED</b>		<b>PRACTICED</b>		
<b>Top 3 preferred and practiced tech</b>					
Land Preparation	6	28.57	3	17.65	
INM	14	66.67	10	58.82	
Distance of planting	9	42.86	7	41.18	
Seed selection	2	9.52	1	5.88	
Pruning/deleafing	3	14.29			
Pest Mgt	7	33.33	2	11.76	
Weed Mgt	3	14.29			
Mulching	1	4.76			
Trellising	3	14.29	7	41.18	
Seedling preparatio	3	14.29	9	52.94	
<b>Crops</b>					
Squash	5	23.81	5	29.41	
Eggplant	14	66.67	11	64.71	
Okra	5	23.81	5	29.41	
Bittergourd	7	33.33	5	29.41	
Stringbeans	5	23.81	3	17.65	
Tomato	7	33.33	6	35.29	
Upo	5	23.81			
Pepper	1	4.76	2	11.76	
Pechay	1	4.76	7	41.18	
Cucumber	1	4.76	6	35.29	
Sayote			1	5.88	
Cassava					
Watermelon			3	17.65	
<b>Mode of practice</b>					
	1	18	85.71	14	82.35
	2	3	14.29	3	17.65

Table 8. Income Sources and Expenditures before and after FFS Training

	MAGUINDANAO			LANAO DEL SUR		
	N=21			N=20		
Income Sources	TOTAL	AVERAGE	%	TOTAL	AVERAGE	%
<b>On-Farm (Gross)</b>						
<b>Rice</b>						
BFFS	1,230,870	58,613		401,830	23,637	
AFFS	2,264,760	107,846		915,310	53,842	
Percent increase in income fr rice			<b>84</b>			<b>128</b>
<b>Vegetables</b>						
BFFS	9,750	1,083		18,570	3,714	
AFFS	154,335	9,646		460,473	41,861	
Percent increase in income from vegetales			<b>790</b>			<b>1,027</b>
<b>Animals</b>						
BFFS	57,450	7,181		32,700	16,350	
AFFS	155,790	12,983		66,000	33,000	
Percent increase in income from animals			<b>81</b>			<b>102</b>
<b>Others</b>						
Banana						
BFFS	1,000	1,000		5,000	5,000	
AFFS	1,500	1,500		5,000	5,000	
Calamansi						
BFFS	800	800				
AFFS (Yield inc. as it grows)	3,000	3,000				
Contractor, planting rice						
BFFS	4,500	4,500				
AFFS	4,500	4,500				
Coconut						
BFFS	21,300	10,650				
AFFS	21,300	10,650				
Corn and Peanut						
BFFS				24,000	12,000	
AFFS				50,000	25,000	
<b>Off-farm Sources</b>						
Employment Salary	54,200	27,100				
Business/Self-employment	146,000	73,000		753,000	251,000	
OCW	408,000	51,000				
Others						
Pension	38,500	19,250				
Recruiting agent	11,000	11,000				
Middlemen for veggies	6,000	6,000				
Buy and sell	44,000	44,000				
Work in shops				30,000	30,000	
Honorarium						
<b>Farm Expenditures</b>				96,000	96,000	
<b>Rice</b>						
<b>Farm inputs</b>						
BFFS	206,100	10,305		133,190	7,835	
AFFS	194,550	9,728		88,570	5,210	

<b>Labor</b>						
BFFS	96,980	7,460		83,749	11,964	
AFFS	115,532	8,887		163,444	23,349	
<b>Irrigation and Land rental</b>						
BFFS	39,065	3,005				
AFFS	39,645	3,050				
<b>Others</b>						
BFFS		3,000		3,750	938	
AFFS		2,500		5,100	1,275	
<b>Vegetables</b>						
<b>Farm inputs</b>						
BFFS	4,380	548		3,800	760	
AFFS	20,370	1,567		117,800	11,780	
<b>Labor</b>						
BFFS						
AFFS						
<b>Irrigation and Land rental</b>						
BFFS						
AFFS						
<b>Others</b>						
BFFS				2,300	767	
AFFS				25,750	8,583	
<b>NET INCOME</b>						
<b>BFFS</b>	<b>1,544,645</b>	<b>73,555</b>		<b>1,048,911</b>	<b>55,206</b>	
<b>AFFS</b>	<b>2,907,588</b>	<b>138,457</b>		<b>2,257,019</b>	<b>118,790</b>	
<b>CHANGE IN INCOME</b>	<b>1,362,943</b>	<b>64,902</b>		<b>1,208,108</b>	<b>63,585</b>	
<b>% Change in Net Income</b>		<b>88</b>		<b>58,541</b>	<b>3,081</b>	
<b>Items of expenditures for the inc. income</b>						
Food	109,600	13,700	38	129,356	11,760	58
Clothing	106,320	7,594	67	5,100	1,275	21
Education	164,438	12,649	62	257,813	32,227	42
Medicine	19,700	3,940	24	23,000	23,000	5
Bought animals/feeds	49,000	16,333	14			
Bought motorcycle	15,500	15,500	5			
Built house/renovation	3,000	3,000	5			
House Maintenance	19,420	6,473	14	21,000	7,000	16
Purchase inputs	3,150	3,150	5	16,821	5,607	16
Home appliances	1,000	1,000	5	18,500	6,167	16
Farm Machinery	120,000	60,000	10	37,500	18,750	11
Payment of loan	35,000	35,000	5	9,856	4,928	11
Donation (mosque)				13,000	6,500	11
Cellphone				2,000	2,000	5
Vacation				26,000	13,000	11

Table 9. Rice and Vegetable Yields and Prices before and after FFS Training

	MAGUINDANAO			LANAO DEL SUR		
	N=21			N=19		
	BFFS	AFFS	% Inc.	BFFS	AFFS	% Inc.
<b>Vegetable grown and yield</b>						
Squash yield (kg/sq m)	0.2	0.25	25.00	0.87	6.08	598.85
Eggplant yield (kg/ sq m)	0.5	1.31	162.00	0.83	2.72	227.71
Stringbeans (bundle/ sq m)	0.11	0.24	118.18	1	2	100.00
Bittergourd (kg/ sq m)	0.13	1.08	730.77	0.8	3	275.00
Tomato (kg/sq m)	0.66	0.78	18.18	1.1	2.21	100.91
Lady's finger (okra), bundle/sq m	0.15	0.61	306.67	1.5	2.5	66.67
Upo (kg/sq m)	0.13	0.82	530.77			
Pechay yield (kg/sq m)	0	3		0.71	1.75	146.48
Pepper Yield (sq m)	0.02	0.05	150.00	0	2.5	
Gabi				0	16	
Watermelon				0	5.33	
Cucumber				3.25	5.75	76.92
<b>Vegetable prices</b>						
Squash Selling Price/kg	10	15	50.00	0	20	
Eggplant selling price per kg	9.71	12.71	30.90	8.33	18	116.09
String beans Selling price/kg	10	30	200.00	5	12.5	150.00
Bittergourd selling price per kg	17.5	16	-8.57	5	5	0.00
Tomato selling price/kg	11	21	90.91	15	21.67	44.47
Okra (Lady's finger) selling price/kg	15	20.1	34.00	20	23.33	16.65
Upo selling price per pc	10	10.2	2.00			
Pechay selling price per kg	0	35		20	41.6	108.00
Pepper selling price per kg	70	75	7.14	0	75	
Gabi/kg				0	16	
Watermelon/kg				0	8.5	
Cucumber/kg				20	16	-20.00
Rice Yield (cav/ha)	51	85.55	67.75	36.4	61.41	68.71
Weight /cav	57.5	58.25	1.30	38.27	40.24	5.15
Selling price(Php/kg)	9.5	11.97	26.00	9.42	13.71	45.54

Table 10. Vegetable and Rice Sufficiency and Utilization before and after FFS Training

	<b>MAGUINDANAO</b>		<b>LANAO DEL SUR</b>	
<b>Veggies sufficiency</b>	<b>N=21</b>		<b>N=19</b>	
<b>BFSS</b>	<b>FREQUENCY</b>	<b>PERCENT</b>	<b>FREQUENCY</b>	<b>PERCENT</b>
Buying vegetable from the market	16	76.19	11	57.89
Not enough for home consumption	7	33.33	7	36.84
Just enough for home consumption	3	14.29	1	5.26
Just enough for home consumption			3	15.79
Enough for home and extra for neighbors			3	15.79
<b>AFFS</b>				
Just enough for home consumption	1	4.76	1	5.26
Enough for home and extra for neighbors	17	80.95	13	68.42
For home and market	15	71.43	9	47.37
<b>Rice</b>				
<b>BFSS</b>				
Consumed		28.75		43.82
Sold		66.25		44.41
<b>Rice</b>				
<b>AFFS</b>				
Consumed		18.60		36.65
Sold		76.40		63.35
<b>Veggies</b>				
<b>BFSS</b>				
Consumed		49.21		76.83
Sold		13.95		23.17
<b>Veggies</b>				
<b>AFFS</b>				
Consumed		43.40		46.65
Sold		51.60		53.35

## SUMMARY OF ATs RESPONSES

Most of the AT respondents are male (86%) with 93% of them graduates of Agriculture or related fields. Their experience as ATs average 20 years with an average age of 20 years old. The ATs attended an average of 2 trainings under the project. Eighty six percent rated the training “Excellent” and suggested that more field tours should be conducted (36%) in more progressive areas of Luzon, training should have longer hands-on as means to improve the program.

Before FFS they used to visit the sites less frequent ( 1-2 sites) but their visits become more frequent after FFS. More than 50% are holding monitoring activities and on-site training in 1-2 sites per week even after the program. Lack of transportation means, absence of allowance for fuel, accessibility, local conflict and change of assignment were the constraints they face to continue monitoring and conduct training on FFS.

Nearly 80% percent of them had other trainings aside from JICA mostly on Rice Production. which were held in 2001 and beyond. Fifty percent of the trainings were provided by ATI, indicating the potential for collaboration with this agency for future trainings. More than 70% (71%) of the AT said their extension methods have improved significantly because of the training program. All of them claimed confidence in extending agricultural technologies particularly in Rice Production, IPM, INM and Palay Check.

IPM was identified by the respondents as the agricultural technologies they are not confident to extend because of lack of materials and equipment, lack of transportation means and absence of irrigation to apply the IPM strategies.

About 60% of the ATs believe that more than 70% (70-85%) of the farmers in their service sites will continue adopting the agricultural technologies they learned even after the project life. Increased yield and income were unanimously mentioned as impacts of the training program. More diverse vegetable products became available at home and in the market as a result of adoption of new technologies. Household level of living improved and farmers become more organized, each teaching those co-farmers who were not participants to FFS (Table 11).

Table 11. Characteristics of Agricultural Technicians responses related to project effectiveness and impacts/sustainability

<b>PROFILE</b>	<b>Number</b>	<b>PERCENT</b>
Sex		
Male	12	86
Female	2	14
Average Age	49	
27-40	2	14.29
41-50	2	14.29
51-60	10	71.43
Academic Background		
Bachelor of Science in Agriculture	13	93.00
Bachelor of Science in Education	1	7.00
Agri-Tech	1	7.00
Master- Agriculture		
Years as AT	20	
5-10	1	
11-15	2	
16-20	5	
>20	6	
Number of Barangays offering Assistance	7	
Number of farmers offering Assistance	398	
<b>EFFECTIVENESS</b>	<b>Number</b>	<b>PERCENT</b>
Average number of JICA Trainings attended/Technician	2	
Average number of JICA tours attended	3 ATs out of 14	
Rating of training Program		
Excellent	12	85.71
Good	2	14.29
Suggestions for improvement of training		
More field tours in progressive areas of Luzon	5	35.71
Longer hands-on training	2	14.29
Higher allowance	1	7.14
Attendance to degree course		
Number of sites visited /weekBFFS		
1-2	11	78.57
3-4	3	21.43
≥5		
Number of sites visited/week AFFS		
1-4	10	71.43
5-8	1	7.14
≥8	3	21.43
Number of sites monitored and on-site training on FFS and Palayaman after the training program		
1-2 sites	8	57.14
3-4 sites	4	28.57
≥4 sites	2	14.29



Constraints to monitoring		
Accessibility	2	14.29
Lack of transportation means	10	71.43
Lack of allowance for fuel	3	21.43
Lack of motivation		
Local conflict	2	14.29
Transferred to other assignment	2	14.29
Other trainings attended		
Yes	11	78.57
No		
Areas of Training		
Rice Technology	8	57.14
Vegetable Technology	2	14.29
Facilitation and Communications	1	7.14
IPM	1	7.14
Research		
Others		
Plant Quarantine	1	7.14
Year attended	1995	1
	2001 & 2002	3
	2003 & 2004	3
	2005 & 2006	1
	2007 & 2008	4
	2009	1
Sponsoring Organization		
PhilRice		
DAF-ARMM	4	28.57
ATI	7	50.00
PAO	1	7.14
BPI	1	7.14
<b>IMPACTS and SUSTAINABILITY</b>		
Change in extension methods		
Improved significantly	10	71.43
Fairly improved	4	28.57
Almost the same as before		
Worse		
Reasons for not changing		
Confidence in extending agricultural technologies		
Yes	14	100
No		
Agricultural Technologies confident to extend		
Rice- based Farming system	1	7.14
all aspects of Rice Production	6	42.86
IPM	5	35.71
INM	3	21.43
Straight planting	1	7.14
Palay Check	3	21.43
Agricultural Technologies not confident to extend		
IPM	2	14.29

Reasons		
Lack of equipment and materials	3	21.43
Lack of transportation means	2	14.29
No irrigation in the area where assigned	2	14.29
How many farmers are expected to continue applying the technology		
< 50%	1	7.14
50-69 %	5	35.71
70-89&	8	57.14
Socio-economic and environmental impacts		
Increased income	14	100.00
More diverse crops (vegetables) at home and market	1	7.14
Increased yield	14	100.00
Farmers learned and adopted new technologies	3	21.43
Farmers became organized	5	35.71
Increased living standard	4	28.57
Farmers teach co-farmers/ share their knowledge	4	28.57
<b>Comment</b>		
Extend the project to allow more farmers to participate	5	35.71



