Towards a Community-Wide Integrated, Intensified, Diversified and Climate-Resilient Rice-Based Farming Systems

Operations Manual

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The Philippine Rice Research Institute (PhilRice) is a chartered government corporate entity under the Department of Agriculture. It was created through Executive Order 1061 on November 5, 1985 (as amended) to help develop high-yielding, cost-reducing, and environment-friendly technologies so farmers can produce enough rice for all Filipinos.

It accomplishes this mission through research, development, and extension work in its central and seven branch stations, coordinating with a network that includes 59 agencies strategically located nationwide.

PhilRice has the following certifications: ISO 9001 (Quality Management), ISO 14001:2004 (Environmental Management), and OHSAS 18001:2007 (Occupational Health and Safety Assessment Series).

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FOREWORD

Palayamanan®, a rice-based farming systems approach, was identified as one of the strategies to address income and food security issues hence, uplifting rice farming households and communities from poverty. The Department of Agriculture - Bureau of Agricultural Research (DA-BAR) and the Philippine Rice Research Institute (PhilRice) know its significance and potential to contribute in developing rural communities. However, implementing a national rice-based development and extension program had always been a big challenge under the paradigm of community-based participatory action research championed by DA-BAR. With the funding of the DA-BAR and efforts of PhilRice, a framework for assessment combined with the methods to implement a nationwide rice-based farming systems approach, is made possible.

This Operations Manual aspires to serve as a guide in helping development workers and rice industry stakeholders in implementing and measuring the success of the rice-based enterprise, thereby uplifting the socioeconomic conditions of rice-based communities. However, some clarifications are needed in using this manual. First, it is hoped to function as a template which the extension agents and community can modify to suit their needs in addressing location-specific concerns.

Second, the emphasis on community organizing and mobilization should not be undermined. After the assessment, there is a need to follow through with the project implementation. The activities should not stop with the identification of opportunities available to the farming communities. This is where the Community-based Participatory Action Research Operational Manual developed by DA-BAR comes in to address such limitation.

Third, the fact that a rice-based farming system approach is a participatory process should not be lost on the development workers and the participants. They must be committed to this principle to ensure cooperation, transparency, and accountability of all who are involved in the development process. Moreover, the development workers should also practice what they preach and secure the need of support systems, if needed, during project implementation.

We hope that this manual serves the farming communities in the successful planning and implementation of community-wide integrated, intensified, diversified, and climate-resilient rice-based farming initiatives.

NICOMEDES P. ELEAZAR
Director, BAR

SAILILA E. ABDULA
Acting Executive Director

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PREFACE

Agricultural development workers of the local government units (LGU) and civil society groups need a simplified but meaningful understanding of the community-based and farming systems approaches. Likewise, they also need a practical procedure to implement development work founded upon these approaches. This Operations Manual is the product of those endeavors.

This was an offshoot of the BAR-PhilRice project, "Accelerating Development, Demonstration, and Adoption of Palayamanan® Plus in Lowland Farm," which established Palayamanan® models in different communities and other extension modalities of the Philippine Rice Research Institute. During one of the reviews there was a realization to expand the impact of the farming systems approach to improve competitiveness, enhance profitability, and achieve national food security. In addition, its implementation should be community-wide and extend beyond the farm households. Finally, it must also address how to conduct assessments and identify project interventions given the varied ecosystems and production systems of rice-based farming communities.

Hence, the crafting of the manual and assessment framework to guide development workers, provide uniform standards and indicators, and make project implementation easier. Further, the assessment framework and the set of indicators can serve as effective tools in helping extension workers, together with the stakeholders, to enhance integration, intensification, diversification, and climate-change resiliency of farming communities.

This manual, including its methods and framework, is deemed to be straightforward, simple, and flexible enough to be implemented even by resource-limited development workers. However, it is emphasized that the methods identified here do not necessarily exhaust other techniques that can be used and developed by the extension workers. Moreover, its application extends to other agricultural development projects in rural communities.

Hopefully, it will helpful in laying out a road for rural development among farming communities for a sustainable agriculture.

The Authors

INTRODUCTION

CHAPTER 1

Since the 1970s, farming systems was conceived as another paradigm to look at agricultural production. It tried to view farming in terms of interactions and relationships of economic, agronomic, and social factors as opposed to a single factor explaining or affecting production. According to Collinson (2000) it has the potential to be formulated as an extension strategy in introducing technologies. He added that the farming systems approach was more often used as a method in research and applying it as an extension mechanism for a community-wide level development project had seldom been attempted or documented.

In the early 2000s, to address income and food security issues of rice-based farm households, the Philippine Rice Research Institute (PhilRice) included the farming systems approach among its development approaches and initiated Palayamanan® as a research and promotion platform for diversified and integrated rice-based farming system (Corales et al. 2004). The concept emerged from the words *palay* (rice) and *kayamanan* (wealth) (Sebastian et al. 2004; Obien SR et al. 2011). The Food Staples Sufficiency Program (FSSP) of the Department of Agriculture (DA) identified it as one of its strategies to boost rice yields by promoting appropriate technologies and foster farm income diversification in rainfed ecosystems (DA 2012).

Hence, a multi-disciplinary study team was organized to create an assessment framework and develop an approach to implement a community-wide climate-resilient rice-based farming systems approach. The main purpose is to create a standard to identify project intervention during the planning stage, and measure its success when implemented. Besides, it would also show the extent of the transformation of the village before, during, and after project completion. The initial assessment framework and methods were applied then tested in four ecosystems: irrigated, supplementary irrigated, favorable rainfed, and unfavorable rainfed.

Here, the researchers classified the rice-based ecosystems as follows: irrigated, supplementary irrigated, favorable rainfed, and unfavorable rainfed ecosystems. Irrigated rice ecosystems refer to areas in which majority of its water supply come from national irrigation systems (NIS), communal irrigation system (CIS) or from natural sources like spring and streams. Supplementary irrigated rice ecosystems refer to areas in which majority of its water supply come from small supplemental irrigation sources (SSIS) like shallow tube wells (STWs), pump irrigation from surface open source (PISOS) or small water impounding projects (SWIPs). Favorable rainfed rice ecosystems refer to areas which are fully dependent on rainfall but capable of supporting two rice croppings per year. Unfavorable rainfed rice ecosystems refer to areas fully dependent on rainfall and can only support one rice cropping per year.

OBJECTIVE

CHAPTER 2

To provide a guide in designing and implementing a community-wide climate-resilient rice-based farming system for the different rice ecosystems.

Specific Objectives

Specifically, it aims to:

1. Enhance the participation of rice farming communities in the development process;
2. Identify the capacities and resources necessary for a successful design of a climate-resilient rice-based farming system; and
3. Institutionalize the use of an assessment framework in establishing community-wide climate-resilient rice-based farming systems.

CONCEPTUAL FRAMEWORK

CHAPTER 3

Figure 1. Community-wide rice-based farming system assessment framework.

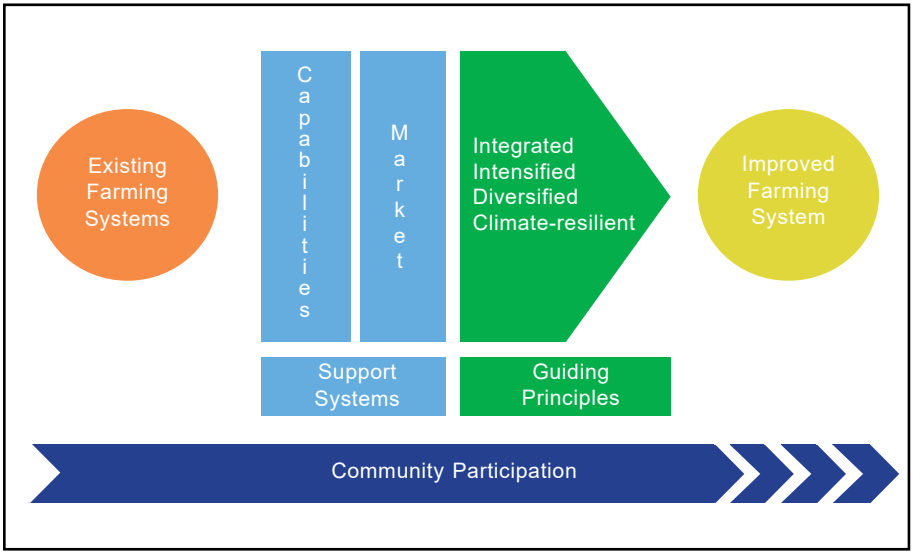


Figure 1 presents the community-wide rice-based farming system assessment framework to be used by agricultural technicians (AT) and other development workers in designing and implementing an improved community-wide climate-resilient rice-based farming system. It consists of characterizing the existing farming systems in the community. This is the starting point to discuss the strengths, issues, and project intervention that might be possible for the community.

Then, there is a need to identify the existing support systems of the community specifically, its prevailing capabilities and market. This is important to recognize the appropriate interventions and support from wide range of stakeholders. The information with regard the capabilities and market of the community would then be used to identify the strategy in transforming their existing farming systems.

Next, the existing farming systems and the one that would be developed must be evaluated based on the guiding principles whether it is **integrated, intensified, diversified** and **climate-resilient.** After which, an improved farming system is expected to be identified and established. Lastly, active participation is needed in the entire assessment process thus, the development workers must consistently engage with, maintain open communication, and encourage community cooperation.

Existing farming systems. Refer to the farming systems in the community before project implementation to spotlight their practices and identify potential areas for improvement. According to Bonifacio (1994), the notion of rural development is developing opportunities starting from the existing practices in the community (Bonifacio 1994). He added that, complementing such practices is important rather than introducing drastic changes right away.

Support systems. Market and capabilities are important support systems needed by the individual and community to improve their farming systems and socioeconomic condition. Market is an essential criterion which supports the existing and future improved farming systems of the community and the farmers. On the other hand, capabilities refer to resources, assets, or capitals and opportunities used in building livelihoods (Sen 2009:232; Bebbington 1999). These capabilities are measured through the following assets or capitals: human, financial social, physical, and natural capital.

Howlett and colleagues (2000:11) defined the following capitals as follows: "*Natural capital* consists of land, water, and biological resources such as trees, pasture, and wildlife. The productivity of these resources may be degraded or improved by human management. *Physical capital* is that created by economic production. It includes infrastructure, such as roads, irrigation works, electricity supply, and reticulated water, and also producer goods such as machinery. H*uman capital* is constituted by the quantity and quality of labor available. At household level, therefore it is determined by household size, but also by the education, skills, and health of household members.

Financial capital consists of stocks of money or other savings in liquid form. In this sense it not only includes financial assets such as pension rights, but should also include easily disposed assets such as livestock, which in other senses may be considered as natural capital. *Social capital* includes any assets such as rights or claims that are derived from membership of a group. This includes the ability to call on friends or kin for help in times of need, support from trade or professional associations (e.g. farmers' associations), and political claims on chiefs or politicians to provide assistance." These capitals are very important in helping determine risks and threats farmers would face regarding the interventions to be introduced at the project site. Thus, there might be a need to improve these capitals or establish them in the area in the latter stage of project implementation if the stakeholders agree.

Guiding principles. The guiding principles of assessing the farming systems are whether they are: integrated, intensified, diversified, and climate-change resilient (IIDC). Integrated refers to the conscious and deliberate unity and complementation of the cropping system in the community. Intensified pertains to the increase in the productivity of the households and the community. Diversified denotes variation in the agricultural sources of income among the farm households and the community. Climate-resilience signifies adaptability of the cropping systems and technology/practices to the effects of climate change.

Participation. This is the bond that links and makes the assessment process and involvement of the community possible. For genuine participation to be present, there must be cooperation and involvement of the members of the community in the decision-making process (Bergold and Thomas 2012; UNHCR 2008). On the part of the development workers, they must be transparent to the participants and try to understand and respect the community decisions (Stiglitz 2002).

Improved farming system. This is the enhanced farming system identified and consented upon by the parties after going through the participatory assessment process.

COMMUNITY-WIDE RICE-BASED FARMING SYSTEM ASSESSMENT PROCESS

CHAPTER 4

A community-wide climate-resilient rice-based farming systems assessment will use both primary and secondary data. Secondary data such as biophysical, social, economic and institutional resources of the community will be collected from the concerned local government units (LGUs), and other government institutions. On the other hand, primary data will be gathered using different data collection methods such as key informant interviews, focus group discussion, and SWOT analysis. The steps in conducting the different data collection methods will be explained in detail below.

The assessment process applies to *irrigated*, *supplementary irrigated, favorable rainfed* and *unfavorable rainfed* rice and rice-based ecosystems. However, designing and implementing a community-wide climate-resilient rice-based farming system begins with having the following outputs: selected a project area; undertaken a biophysical and socioeconomic analysis of the identified area; defined the rules of engagement and developed a vision for the community; identified partners who will consist the working group; and identified groups of farmers or farmer organizations interested in developing a community-wide climate-resilient rice-based farming system.

The main activities that the development workers need to undertake for the assessment process are:

1) site identification and selection
2) preliminary data gathering and collation
3) community diagnosis
4) data consolidation and analysis
5) community validation.

However, it must be noted that said activities are not mutually exclusive. This means that one activity can proceed parallel to another, e.g. during the site identification and selection the team can also focus on preliminary data gathering. Details of implementing the main activities are described below.

1. SITE IDENTIFICATION AND SELECTION

The following activities should be conducted to identify and select the site:

- Preparation and planning (these include initial site identification following the set criteria for site selection [refer to Table 1], and brain storming sessions in selecting development partners who share a common goal, capable of sharing resources and expertise, and open to innovations)

Table 1. Criteria for site selection.

List of criteria for site selection*
1. Ecosystem of the community is the target of the activity (fully irrigated, supplementary irrigated, favorable rainfed, or unfavorable rainfed)
2. There is an existing farmers' organization
3. Willingness to embrace change or responsive to change (site has potential for future project intervention)
4. Willingness of farmer leader/s and/or AT to help during participatory appraisal
5. Presence of support groups (e.g. local government support systems focused on agriculture or non-government sources of agricultural information)
6. Experienced varying or adverse climatic conditions or calamities within the past five years
7. At least 50% of the area is allotted for agriculture
8. Soil type is suited for rice and other crops
9. There is a problem of rice production in the community (yield is below provincial average)
10. Farmers practice rice monocropping or very limited area allotted for crop diversification
11. Most of the other crops harvested are allotted for home consumption
12. Most farming household only rely in agriculture for income
13. At least 40% of the farmers are below the poverty level
14. Landless laborers are drastically affected by mechanization

** Except for the first five suggested criteria for site selection, it is the discretion of the development workers if he/she will consider the rest or select other criteria based on their objectives.*

- Coordination and consultations with potential partners (project briefing and discussing criteria for selection of project partners, clarifying partnership roles and expectations, identifying constraints and issues, and defining partnership agreements)
- Pre-selection of sites by project partners
- Potential project site evaluated on based on selected criteria through site visit and examining secondary data (if available)
- Selection of project site
- Report the process for site selection

2. **PRELIMINARY DATA GATHERING AND COLLATION**

The purpose of this activity is two-fold. First, it provides the development workers the necessary information to properly evaluate the potential project site, particularly if they are unfamiliar with the area. Second, it is useful during the discussions and probing when conducting the community diagnosis.

Through the preliminary data, they can verify whether the community fits the criteria for the project that the group identified during site selection. They can also assess the level of its natural, physical, human, financial, and social capital (refer to Table 2 for the preliminary data to be gathered).

Table 2. Checklist for assessing site capitals.

Capitals	Data needed
Natural	• Rainfall data • Soil type and characteristics • Area planted by crop type • Cropping pattern • Rivers, streams
Physical	• Irrigation facility • Roads • Rice mills
Human	• Educational attainment of farmer • Highest educational attainment of household members • Farming experience • Labor availability • Training availed • Household size
Financial	• Source of income • Yield level • Market channels and locations • Value-adding options
Social	• Groups and associations (e.g. farmer organizations, women's organization) • Banks and micro-financing institutions • Non-government organizations • Government institutions • Educational institutions • Telecommunication (Internet and mobile phones) • Input providers

All these data can be gathered using different tools such as key informant interview, secondary data gathering, and survey.[1]

[1] Surveys should only be implemented when the development workers have the knowledge and resources of its conduct and analysis. Otherwise, it will just be a waste of time, finances, effort, and may even be a source of a major error in implementing the project.


WHITE CORN RICE
FERNANDO T. LOPEZ


Barangay
Magalang

3. COMMUNITY DIAGNOSIS

To supplement the preliminary data gathered, a diagnostic activity would be conducted to come up with a holistic assessment of the community. This activity can be broken down into two: a) the pre-community diagnosis activity and, b) the community diagnosis proper.

Pre-community diagnosis

This involves preliminary preparations before the community diagnosis proper which includes getting the details pertaining to the conduct of the community diagnosis such as planning, coordination and logistic operations. The details of the activity are enumerated below:

- Finalize who would compose the team for the community diagnosis.
- Coordinate with the identified site-partners, e.g. local government officials, village officials, farmer leaders, and/ or farm organization officers. Remind them of the objectives of the activity and inform them of the schedules. They are valuable in helping identify the venue, potential participants, and cooperators.
- Ensure that there are **no conflicting events in the area** like a town fiesta, peak of farm operations (e.g. land preparation, crop establishment, or harvesting), major school activities, and others as such. Make sure that the venue, date, and time are communicated to the participants.
- Identify the role of each team member including those of the site-partners. Verify the methods that would be used and its purpose, together with the corresponding materials needed for said method[2].
- Carefully plan the transition in using each method during the community diagnosis.

[2]Check the materials needed for the community diagnosis listed in the methods to be used as discussed below.

Table 3. Roles of team members.

Roles of team members
1. Facilitator – the one managing the community diagnosis proper and the discussion leader; mainly responsible for the direction of the discussion
2. Moderator/assistant – assists the facilitator and ensures that the community diagnosis run smoothly by preparing refreshments, settling down the participants, and providing the materials needed by the participants and facilitator
3. Observer/Recorder – main task is to take down notes and observe for non-verbal signs or language that the participants display
4. Project leader – the one managing the project from beginning until its completion

- Prepare a checklist of questions that will be asked for a particular method that will be used and double check if all the materials needed are packed.
- Identify the stakeholders participating in the community diagnosis with the help of the site-partners. There must be at least 8-12 participants so the community diagnosis activity would be manageable. The criteria for selecting the participants are enumerated below:

Table 4. Criteria in selecting participants for community diagnosis.

Criteria for selecting participants
1. Participants must be affected by the issue.
2. They must be knowledgeable about the issue and the community.
3. Generally, participants must be similarly situated (homogeneous) to assure representativeness.
4. Selection need not be random.
5. If possible, the participants must be viewed as the opinion leaders in the community.

- Validate if there are tables, chairs, blackboards, sound system, electricity, or available catering services near the venue, among other things. Determine if the assessment activity will be conducted in an accessible venue, and whether in an indoor or outdoor setting. In indoor settings, make sure that it has enough space, ventilation, and lighting. If in an outdoor setting, consider a relatively quiet location which will minimize participants from getting distracted and onlookers from interrupting the activity.
- Visit the venue at least a week before the activity, if possible, and ensure that the participants have been invited and will be available for the community diagnosis.
- Prepare tokens, refreshments, and ice-breakers.
- Conduct a pilot-test community diagnosis. This is important especially if the team is not yet experienced with the methods that will be used. This will also help the team evaluate their preparedness for the upcoming activity.
- Carefully plan the transition in using each method during the community diagnosis.

When the team is able to execute all of these they are ready to conduct the community diagnosis.

Community diagnosis proper

The task focuses on obtaining first-hand information from the participants about the existing farming systems of the community. It is mainly broken down into four phases. The phases are as follows: setting, introduction, consultation, and winding down.

A. **Pre-session**

This is important since the room arrangement helps in successfully orchestrating and facilitating the community diagnosis activities. Moreover, the team must consider that proper seating arrangement allows for a comfortable and encouraging atmosphere conducive to discussion during the consultation.

- Arrive in the venue at least an hour before the community diagnosis proper and arrange the seats and tables.
- Prepare the registration form, name tags, and check if all the equipment works such as laptops, sound system, or LCD projector.
- Put all the materials in a discreet area so it will not distract the participants during the activity.
- Wait for the participants and accommodate those that arrive early.

B. **Introduction**

This is where the development workers gain information about the profile of the participants. This also allows them to explain the purpose of the activity and level-off expectations. During this period, the facilitator discusses the process of the assessment activity, remind the participants to respect each other's opinion, encourage discussions, and get their consent if there will be video or audio recording. Some data on human and financial capital could be gathered during this phase when participants introduce themselves. In summary, the introduction phase is suggested to proceed as follows:

- Thank the participants for coming and introduce the members of the team and the site-partners.
- Ask the participants to introduce themselves and provide information such as name, how many years in farming (rice, other crops, livestock), and sources of income (agricultural and non-agricultural)
- Ask the participants about their expectations with regard to the activity
- Introduce the rationale of the project and the activity to level-off expectations

C. **Consultation**

This is the phase where the development workers obtain information about the existing farming systems and key issues of concern in the community. It is also important to establish the human, financial, natural, physical, and social capitals of the community.

- Identify existing farming systems – identifying and ranking the common crop production systems, cropping calendar,and mapping (land use map) (refer to each method for thedetails in implementing each activity)

- Resources identification – mapping (sources of irrigation, water-adequacy, and soil classification maps); FGD (sources of seeds, labor, machines, fertilizers, and pesticides, information, and training for production and value-adding)

- Problems and risks – mapping (flood and drought); FGD (information about climate, pest problems, knowledge gap in production management; financial literacy)

- Market information – FGD (crops/livestock tried before,reasons for discontinuance of such crops/livestock, otherenterprises with potential markets)

Refer to Tables 5 to 12 for the method, accompanied by its corresponding purpose and procedure, to be used during the consultation. However, it must be noted that not all the methods discussed are applicable to all sets of participants. Example, during the consultation with women and farm laborers, the development workers must choose among the methods and questions enumerated that apply to them. The development workers can also use the methods discussed in Tables 13 to 17 which can address specific concerns of women and farm laborers.

a. Identifying and Ranking of Crop Production Systems

The purpose of this method is to determine the existing and prevailing cropping systems in the community for the last five years. The participants also need to rank the cropping systems from the most common to the least practiced in their area.

Table 5. Procedure in conducting identifying and ranking of crop production systems.

How to do it	Materials Needed
• Discuss the purpose of the exercise and parameters to be included • Generally, limit the discussions under the last five years • Write "Cropping System" in a metacard (this will serve as the heading) and stick it on a blackboard, wall, or manila paper • Distribute metacards and pentel pens to the participants • Ask them to write the cropping system in their community (e.g. rice-rice, rice-rice+corn, rice-vegetable) • Stick the metacards submitted in the board, wall, or manila paper • Ensure that the participants have exhausted the prevailing cropping system • Ask them which is the most prevalent and least prevalent cropping system	• Board • Marker • Cartolina/ Manila paper • Metacards • Packaging tape/ masking tape

Reminders:

- Ask the participants to identify the specific crops and categorize which among these are for household consumption and for market
- Be prepared that participants might bring their children during the activity
- Verify during the distillation and consultation which crops have the potential for integration with other crops and/or livestock


PASADA
MAIS
PALAY


JUN
JUL
PALAY (80%)
PALAY (20%)

b. Cropping Calendar

The purpose of this method is to determine the community's production calendar.

Table 6. Procedure in conducting cropping calendar.

How to do it	Materials Needed
• Discuss the purpose of the exercise and parameters to be included[3] • Generally, limit the discussions under the last five years • Write "Planting Months" in a metacard (this will serve as the main heading) and stick it on a blackboard, wall, or manila paper • Allocate one month for one metacard until you have written all the months in a year • Stick the metacards with month names in blackboard, wall, or manila paper • Distribute metacards and pentel pens to th participants • Instruct them to write the common crops planted in their community in a particular month (One crop per metacard only) • Stick the metacards with crop names under the months that the participants identified • Repeat the same for "Harvesting Months"	• Board • Marker • Cartolina/ Manila paper • Metacards • Packaging tape/ masking tape

Probing questions and reminders:

- For "Planting Months," the facilitator can ask the participants, "During the month of _____, what crops are being planted?"
- For "Harvesting Months," the facilitator can ask, "During the month of _____, what crops are being harvested?"
- Multiple planting months and harvesting months are allowed for each crop
- Inquire why a particular month is suited for planting a particular crop
- Probe if the crops are inconsistent with those identified during "Identifying and Ranking of Crop Production Systems."

[3]For more details, refer to Chapter 5: Participatory Appraisal: Production Systems of 80 Tools for Participatory Development: Appraisal, Planning, Follow-up and Evaluation of Geilfus, 2008. p. 101


WET SEASON
Santa Ines
ANAO
NAMPICUAN
GUIMBA
WET SEASON
Manaois
Coral-Ilaco


Alexander

c. Mapping: Land-use Map

The purpose of this method is to produce a land-use map that reflects the community's use of their physical space and resources[4] and determine what crops are planted in the community during wet and dry seasons.

Table 7. Procedure in conducting land-use mapping.

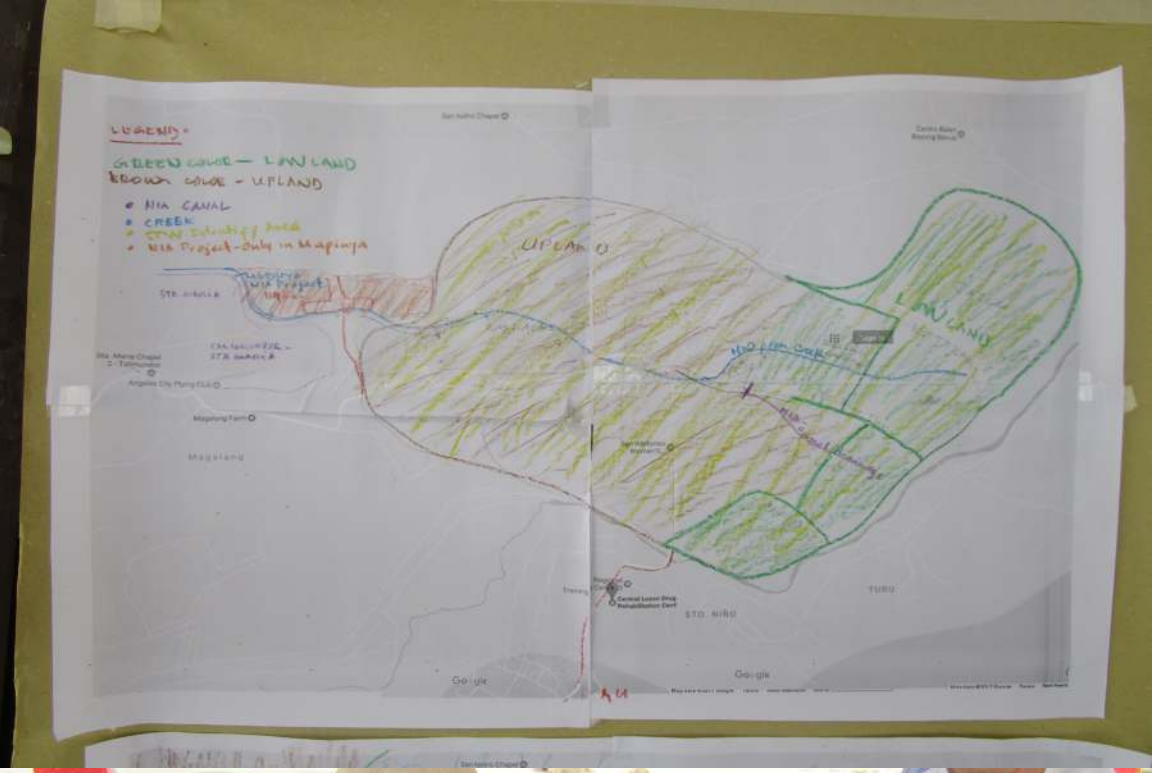
How to do it	Materials Needed
• Discuss the purpose of the exercise and parameters to be included • Divide the participants equally into two groups • Generally, limit the discussions under the last five years • Assign one group for "January to June harvest season" and the other for "July to December harvest season" • Provide pentel pens, colored pens or crayons, and template community map[5] • Ask them to indicate the specific label for each map: the kind of map (e.g. land-use map), and cropping season (e.g. January to June harvest season) assigned to their group • Remind them that the existing cropping systems for the last five years should be reflected in the maps • Instruct them that the map should reflect the prevailing crops planted in a particular section of the community and not on a per farm basis • Each crop should be represented with a particular color and apply it in the map • Instruct the participants to insert a map legend (each crop is represented by a particular color or symbol) • Let a representative from each group discuss the result and encourage them to validate the output of each group (they can confirm or modify the results)	• Community maps/ template maps (at least four) • Board • Colored pens/ crayons • Pentel pen • Packaging tape masking tape

Probing questions and reminders:

- Print template maps of the community. Use maps available in the Internet like Google Maps or copy maps found in the local government unit or barangay.
- Probe if the crops are inconsistent with those identified during "Identifying and Ranking of Crop Production Systems."

[4] For more details, refer to Geilfus F. 2008. 80 Tools for Participatory Development: Appraisal, Planning, Follow-up and Evaluation. Inter-American Institute for Cooperation on Agriculture, San Jose, Costa Rica. p. 63 and 79

[5] Use ready-made maps to expedite the process but if this is unavailable, ensure that there is a village map present in the venue that the participants can refer to in generating their land-use maps.


LEGENDS:
GREEN COLOR — LAN LAND
BROWN COLOR - UPLAND
NIA CANAL
CREEK
NIA Project-Only in Magsinya
UPLAND
LAN LAND
Magsinya Farm
Magsinya
STO. NIÑO
TURU
Google


SAN DIEGO
SD
DEPT.

d. Mapping: Water-Adequacy Map

The purpose of this method is to produce seasonal maps characterizing the water level (sufficient, insufficient or excessive) within the community.

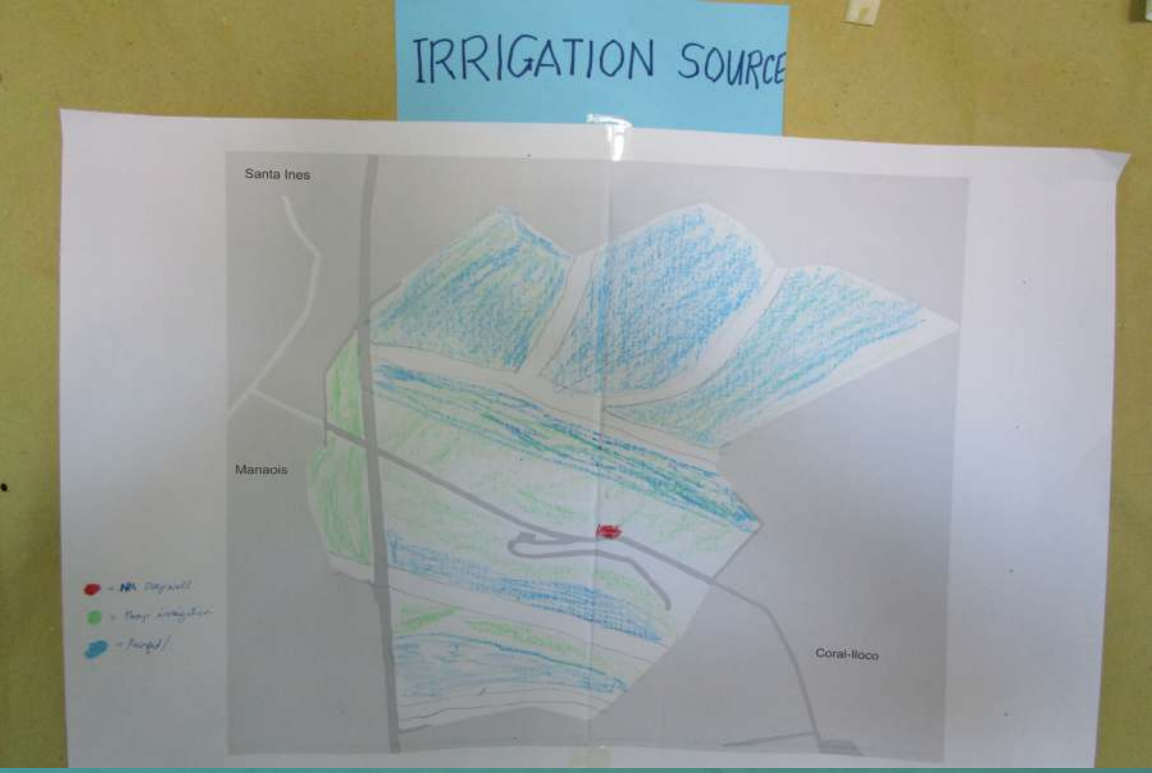
Table 8. Procedure in conducting water adequacy map.

How to do it	Materials Needed
• Discuss the purpose of the exercise and parameters to be included • Divide the participants equally into two groups • Generally, limit the discussions under the last five years • Assign one group for "January to June harvest season" and the other for "July to December harvest season" • Provide pentel pens, colored pens or crayons, and template community map[6] • Ask them to indicate in the map the cropping season (e.g. January to June harvest season) assigned to their group • Instruct them that the map should reflect the prevailing status of water-adequacy in a particular section of the community and not a per farm basis • Each area, whether it has sufficient, insufficient, or excessive water, is represented by a particular color. Apply the color scheme in the map • Instruct the participants to insert a map legend (each water-level is represented by a particular color or symbol) • Let a representative from each group discuss the result and encourage them to validate the output of each group (they can confirm or modify the results during the discussion)	• Community maps/ template maps (at least six) • Board • Colored pens/ crayons • Pentel pen • Packaging tape/ masking tape

Reminder:

- Print template maps of the community. Use maps available in the Internet like Google Maps or copy maps found in the local government unit or barangay.

[6] Use ready-made maps to expedite the process but if this is unavailable, ensure that there is a village map available in the venue so the participants can refer to it when they are generating their land-use maps.


IRRIGATION SOURCE
Santa Ines
Manaois
Coral-Iloco


PATUBIG
SEPT
OCT
NOV
DEC

e. Mapping: Water Source Map

The purpose of this method is to determine the community's water resources.

Table 9. Procedure in conducting water source mapping.

How to do it	Materials Needed
• Discuss the purpose of the exercise and parameters to be included • Divide the participants equally into two groups • Generally, limit the discussions under the last five years. • Assign one group for "January to June harvest season" and the other for "July to December harvest season" • Provide colored pens or crayons and map of the community • Ask them to indicate in the map the season (e.g. January to June harvest season) assigned to their group • Instruct them that the map should reflect the prevailing water source in a particular section of the community and not on a per farm basis • Each water source should be represented by a particular color • Instruct the participants to insert a map legend (each water source is represented by a particular color or symbol) • Let a representative from each group discuss the result and encourage them to validate the output of each	• Community maps/ template maps (at least six) • Board • Colored pens/ crayons • Pentel pen • Packaging tape/ masking tape

Reminder:

- Print template maps of the community. Use maps available in the Internet like Google Maps or copy maps found in the local government unit or barangay.


PLAZA

f. Mapping: Soil Map

The purpose of this method is to determine the community's prevailing soil types[7].

Table 10. Procedure in conducting soil mapping.

How to do it	Materials Needed
• Discuss the purpose of the exercise and parameters to be included[8] • Write "Soil Map" in a metacard (this will serve as the main heading) and stick it on a blackboard, wall, or manila paper • Provide colored pens or crayons and map of the community • Each soil type should be represented by a particular color • Instruct the participants to insert a map legend (each soil type is represented by a particular color or symbol) • Let a representative discuss the result and relate it to the cropping systems in the community • Encourage them to validate the output of each group (they can confirm or modify the results)	• Community maps/ template maps (at least six) • Board • Colored pens/ crayons • Pentel pen • Packaging tape/ masking tape

Reminder:

- Print template maps of the community. Use maps available in the Internet like Google Maps or copy maps found in the local government unit or barangay.

[7]For more details, refer to Geilfus F. 2008. 80 Tools for Participatory Development: Appraisal, Planning, Follow-up and Evaluation. Inter-American Institute for Cooperation on Agriculture, San Jose, Costa Rica. p. 63 and 79

[8]Determine first if there are multiple soil types in the community. If only one soil type exists, let the participants identify it and there is no need for this activity


JAN
FEB
MARCH
PALAY


Pablito

g. Focus Group Discussion: Rice Production

The purpose of this method is to generate consensus among participants on preceding and existing farming systems, common practices or interventions, and problems or issues affecting farming system in the irrigated areas.

Table 11. Procedure in conducting FGD for major farm operations.

How to do it	Materials Needed
• Discuss the purpose of the exercise and parameters to be included. • Assure participants that the exercise is open to all kinds of answers and suggestions. • Generally, limit the discussions under the last five years • Distribute metacards and pentel pens to the participants • The FGD will be broken down into different rice farm operations: seeds and seed selection, land preparation, crop establishment, nutrient management, pest management, water management, harvesting and threshing, drying, and marketing (refer to Table 12 for suggested questions for each rice farm operation). • Stick a metacard in the board labeled "January to June harvest season" to guide the discussions. • Write the farm operation to be discussed in a metacard, e.g. seeds and seed selection, land preparation or crop establishment (this will serve as the main heading) and stick it on a blackboard, wall, or manila paper. • Instruct the participants for answers that you want to be indicated in the metacards (e.g. varieties, seeding rates, fertilizers, and pests). • Encourage the participants to discuss and the team should be ready to ask probing questions. • Repeat the same process for "July to December harvest season".	• Board • Marker •Cartolina/ Manila Paper • Metacards • Packaging tape/ masking tape • Scissors • Audio recorder (if available)

Probing questions and reminders:

- Be flexible and adjust if there are three cropping seasons prevailing in the community.
- There must be time flexibility in doing FGD with women since they might go home early to attend to the needs of their children.

Table 12. Recommended questions for rice farm operations during the FGD.

SEEDS AND SEEDS SELECTION	1. What are the common rice varieties that you plant during January to June harvest period (or applicable harvesting period)?* Can you estimate the percentage of farmers using a particular rice variety? 2. Why did you choose these rice varieties? (Ranking the reasons is encouraged) 3. What are the common seed classes used in the community?Can you estimate the percentage of farmers using a particular seed class? 4. What are the common reasons for choosing a particular seed class?* (Ranking the reasons is encouraged) 5. For those buying seeds, who are the common sources of seeds?* (Ranking the reasons is encouraged) 6. For those not buying, what are your reasons?* (Ranking the reasons is encouraged) 7. How many bags do you use per hectare? What is the weight per bag? (Multiple answers are allowed) 8. How much does the seeds cost per bag? (Multiple answers are allowed) 9. Are their seedgrowers within your community or in neighboring villages? Do you procure seeds from them? 10. What are your top three major concerns in this farm operation? (Ranking is encouraged)* *Ask the participants to write their answers in the metacards.
LAND PREPARATION	1. In what months do you usually start the land preparation? 2. How long does it take for you to finish the land preparation (e.g. from first plowing to final leveling)? 3. How much is the cost of land preparation per hectare? If machine is rented? If you use your own machine? 4. Do you encounter labor-shortage during land preparation? What do you do to mitigate the problem? 5. What are your top three major concerns in this farm operation? (Ranking is encouraged)* *Ask the participants to write their answers in the metacards.

Table 12. (Continuation)

CROP ESTABLISMENT	1. What is/are the common crop establishment method/s in your community? 2. What is the reason for choosing a particular crop establishment method? 3. What months do you usually start preparing your seedbed (for those who are transplanting)? 4. What is your seeding rate per hectare? (distinguish between transplanting or direct seeding) 5. What months do you start establishing your crop? 6. How much is the cost of crop establishment per hectare? (distinguish between transplanting or direct seeding) 7. Do you encounter labor-shortage during crop establishment? What do you do to mitigate the problem? 8. Have you tried using mechanical transplanters or seeders? (If yes, probe if they continued or stopped using and get the reasons) 9. What are your top three major concerns in this farm operation? (Ranking is encouraged)* *Ask the participants to write their answers in the metacards.
NUTRIENT MANAGEMENT	1. For those who are transplanting, do you apply fertilizer in the seedbed? What types of fertilizers and how much is the amount that you use?* How many days after sowing in the seedbed do you apply fertilizer, if any? 2. What types of fertilizers do you apply in the field?* How many bags do you use per fertilizer type per hectare? 3. How much do you spend for fertilizer materials per hectare? How about the labor cost per hectare? 4. Do you apply organic fertilizer? How many in the community do this? 5. Where do you get information on what, when, and how to apply fertilizers?* (Ranking is encouraged) 6. Do you use rice straw, rice hulls, or other organic materials in your community as fertilizers? Why or why not? 7. What are your top three major concerns in this farm operation? (Ranking is encouraged)* *Ask the participants to write their answers in the metacards.

Table 12. (Continuation)

PEST MANAGEMNT	1. What are the common insect problems that you encounter in the field?* (Ranking is encouraged)** 2. At what stage/s of the crop do you usually encounter these pests?** 3. How do you manage the insect pests?* (Ranking is encouraged)** 4. If you apply pesticides, what do you apply in the field?* (Get quantity of pesticide used per application for each insect pest if applicable)** 5. How much do you spend for pesticides per hectare? How much for does the labor cost per hectare?** 6. Among the pests that you enumerated, which do you have difficulty managing?* (Ranking is encouraged) 7. Where do you get information on pest management?* *Ask the participants to write their answers in the metacards. ** Use the same set of questions for weeds, diseases, rats, golden apple snails, and other pests.
WATER MANAGEMENT**	1. How much water depth do you maintain after crop establishment? Why?* 2. How do you mitigate for water shortage? Excessive water? 3. How much is your irrigation cost per hectare? 4. When do you start draining the field? Why? 5. What are your top three major concerns in this farm operation? (Ranking is encouraged)* *Ask the participants to write their answers in the metacards. **Relate questions to the output in water-source map and water-level map.
HARVESTING & TRESHING	1. What are your harvesting and threshing methods? 2. How much is your harvesting cost per hectare? Your threshing cost? 3. Do you encounter labor-shortage for harvesting? For threshing? What do you do to mitigate the problem? 4. What are your top three major concerns in this farm operation? (Ranking is encouraged)* *Ask the participants to write their answers in the metacards.

Table 12. (Continuation)

DRYING AND MARKETING	1. What drying facilities are common in your community? 2. Do you sell your palay fresh or dry? Why?" to "How do you sell your harvested palay, fresh or dry? Why? 3. If you dry your palay, how much is your drying cost?" to "For those drying palay, how much is your estimated drying cost? 4. How do you market your produce? 5. How do you know the prevailing market price? 6. Have you ever tried marketing your palay as a group or community? Why or why not? 7. What are your top three major concerns in this farm operation? (Ranking is encouraged)* *Ask the participants to write their answers in the metacards.


Comparative Hog Biogas Production from Plastic Drum Biogas Digester during Night and Daytime Collection
AEROBIC BIOGAS PROJECT

h. Focus Group Discussion: Social Capital and Market Access

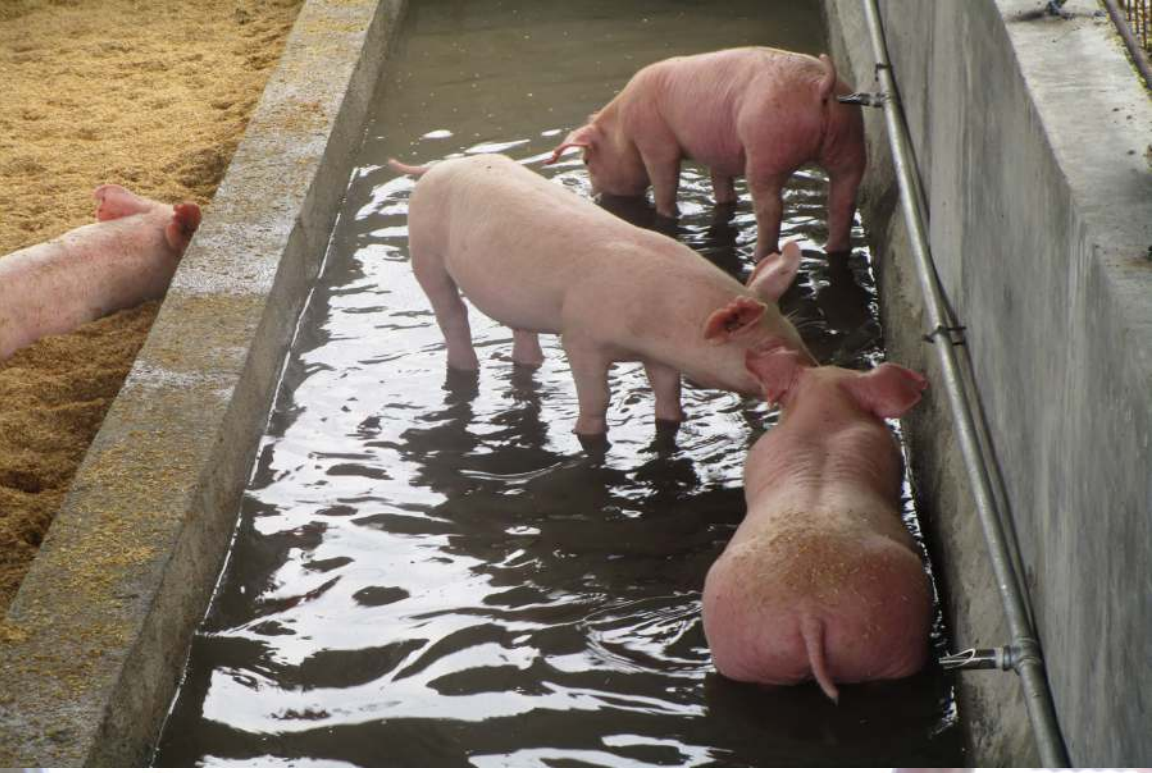
The purpose of this method is to identify the community's support and information sources in relation to their agricultural production and market exchanges (e.g. connection and communication to the market that happen within and outside the community).

Table 13. Procedure in conducting FGD on social capital and market access.

How to do it	Materials Needed
• Discuss the purpose of the exercise and parameters to be included • Assure participants that the exercise is open to all kinds of answers and suggestions • Generally, limit the discussions under the last five years • During the discussion, ask the participants to identify the sources of information, e.g. extension workers from different institutions (private or public), other farmers, sales agents or promoters, buyers, and others)	• Notebook and pen

Reminders:

- Method can be conducted before or after the community consultation
- The method can also be used during the discussions about livestock and poultry



i. Focus Group Discussion: Livestock and Poultry Inventory

The purpose of this method is to identify the community's existing livestock and poultry. In addition, the development workers can also determine the management and uses of farm animal wastes.

Table 14. Procedure in conducting FGD on livestock and poultry inventory.

How to do it	Materials Needed
• Discuss the purpose of the exercise and parameters to be included • Assure participants that the exercise is open to all kinds of answers and suggestions • Generally, limit the discussions under the last five years • Ask the participants whether the community is involved in raising livestock and poultry, specify the livestock and poultry, their sources, and estimated number • Ask how they manage and use the livestock and poultry wastes, and the percentage of community members engaged in such activities.	• Notebook and pen

Probing questions and reminders:

- This method can be conducted during the community consultation
- Probe if the community is also engaged in aquaculture


FILIPINO V
FILIPINO VI
SILENCE
PUPILS PROFILE
Kim
Pat
Gilda


/el/
/em/
/en/
/enye/
BLACKBOARD
COMMODITY/ Crop
PLANTING MONTHS
Rice
April (25%)
May (50%)
June (25%)
Last wk of July to 1st wk of August
Last wk of Aug to 1st wk of Sept
Last wk of Sept to 1st wk of Oct
Mongo
Corn
HARVESTING MONTHS
Squash
Beans
Watermelon

j. Preference Matrix

The purpose of this method is to determine the crops, farm animals, and other agriculture-related enterprises preferred by the community[9].

Table 15. Procedure in conducting a preference matrix.

How to do it	Materials Needed
• Discuss the purpose of the exercise and parameters to be included • Assure participants that the exercise is open to all kinds of answers and suggestions • Let the participants identify their preferred crops, varieties, or farm animals and write it down in the metacard (one crop, variety, or farm animal per metacard) • Let the participants identify the reasons they chose said crops, varieties, or farm animals, e.g. grain quality, production cost, derived income, or pest resistance • Indicate each reason in the metacard and place it under the corresponding variety, crop, or farm animal identified	• Board • Marker • Cartolina/ Manila paper • Metacards • Packaging tape/ masking tape

Probing questions and reminders:

- This method can be conducted during the community consultation
- Facilitators can also ask what varieties, crops, or farm animals the community decided to abandon and determine the reasons for doing so

[9]For more details, refer to Geilfus F. 2008. 80 Tools for Participatory Development: Appraisal, Planning, Follow-up and Evaluation. Inter-American Institute for Cooperation on Agriculture, San Jose, Costa Rica. p. 113


RECOMMENDED RATE AS PER MAP CODE

k. Key Informant Interview (KII)

The purpose of this method are: a) validate and clarify preliminary data gathered; b) provide supporting information not gathered or too sensitive to be determined through the FGD; and c) provide useful insights into local governance structures, and implementation status of local policies and programs[10].

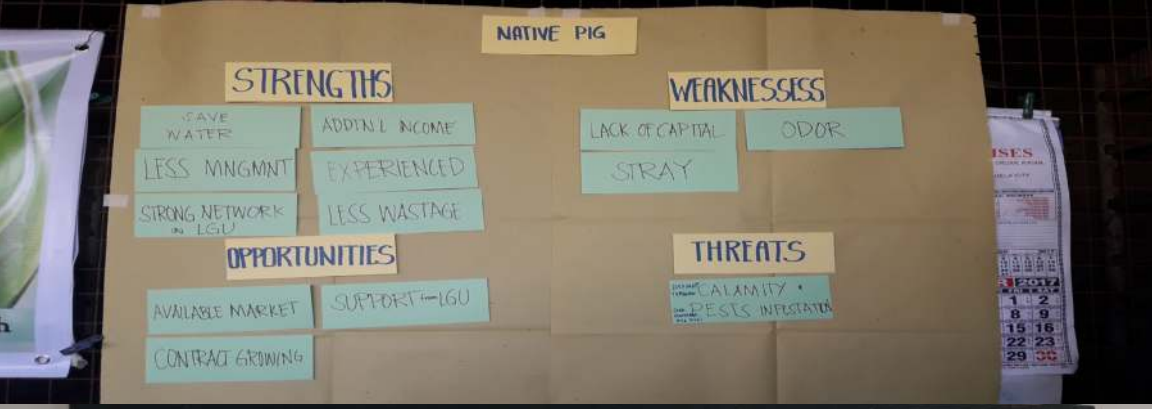
Table 16. Procedure in conducting KII.

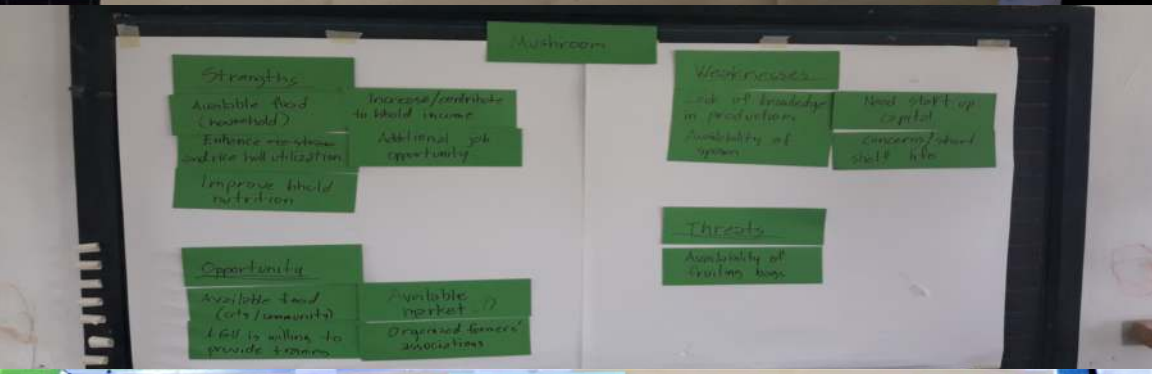
How to do it	Materials Needed
• Thoroughly study objectives and design a semi-structured interview guide containing the topics to be discussed • Ensure that all objectives are addressed by the semi-structured questionnaire • Discussions should focus on community experiences on different farming systems engaged in by the community • Focus on open-ended questions to facilitate discussion • Be honest with the key informant, and ensure that all topics for discussion were covered and clarified	• Interview guide (semi-structured) • Notebook and pen for note taking • Audio recorder (if available)

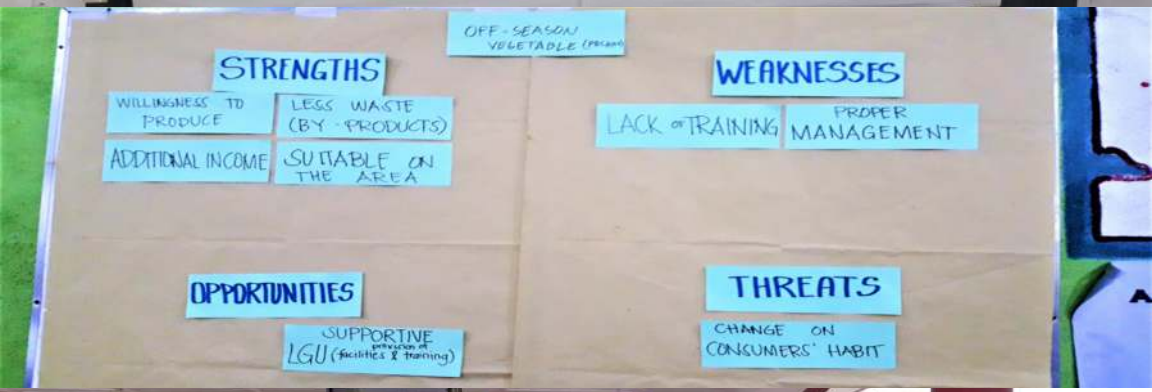
Probing questions and reminders:

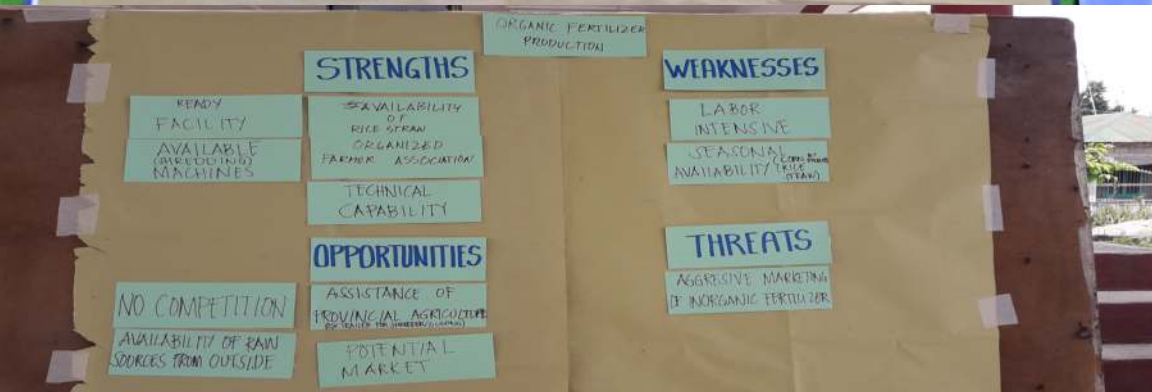
- Method can be conducted before or after the community consultation.
- Do not rely exclusively with the questions in the semi-structured questionnaire since new issues may arise during the interview (make room for flexibility). Such issues, if related to the objective, should be clarified and addressed.

[10]For more details, refer to Dazé A, Ambrose K and Ehrhart C. 2009. Climate Vulnerability and Capacity Analysis Handbook. CARE International. p.13


NATIVE PIG
STRENGTHS
SAVE WATER
ADDT'L INCOME
LESS MNGMNT
EXPERIENCED
STRONG NETWORK IN LGU
LESS WASTAGE
WEAKNESSESS
LACK OF CAPITAL
ODOR
STRAY
OPPORTUNITIES
AVAILABLE MARKET
SUPPORT from LGU
CONTRACT GROWING
THREATS
CALAMITY
PESTS INFESTATION


Mushroom
Strengths
Available food (household)
Increase/contribute to total income
Enhance existing labor utilization
Additional job opportunity
Improve total nutrition
Weaknesses
Lack of knowledge in production
Need start up capital
Availability of spawn
Concerns/short shelf life
Threats
Availability of fruiting bags
Opportunity
Available food (cuts/community)
Available market
LGU is willing to provide trainers
Organized farmers' associations


OFF-SEASON VEGETABLE
STRENGTHS
WILLINGNESS TO PRODUCE
LESS WASTE (BY-PRODUCTS)
ADDITIONAL INCOME
SUITABLE ON THE AREA
WEAKNESSES
LACK OF TRAINING
PROPER MANAGEMENT
OPPORTUNITIES
SUPPORTIVE LGU (facilities & training)
THREATS
CHANGE ON CONSUMERS' HABIT


ORGANIC FERTILIZER PRODUCTION
STRENGTHS
READY FACILITY
AVAILABLE (BREEDING) MACHINES
AVAILABILITY OF RICE STRAW
ORGANIZED FARMER ASSOCIATION
TECHNICAL CAPABILITY
WEAKNESSES
LABOR INTENSIVE
SEASONAL AVAILABILITY (RICE STRAW)
OPPORTUNITIES
NO COMPETITION
AVAILABILITY OF RAW SOURCES FROM OUTSIDE
ASSISTANCE OF PROVINCIAL AGRICULTURE
POTENTIAL MARKET
THREATS
AGGRESSIVE MARKETING OF INORGANIC FERTILIZER

I. SWOT Analysis
(Strengths, Weaknesses, Opportunities, Threats)

A technique that assesses a group's ability to achieve the interventions they plan to implement for their community to improve their existing farming systems. It serves as a tool so the participants can come up with the best and realistic way to achieve future development. It involves examining their internal strengths and weaknesses together with the opportunities and threats coming from the external environment[11].

Table 17. Procedure in conducting SWOT analysis.

How to do it	Materials Needed
• Ask the participants to identify the improvements or interventions they plan to implement in their community specifically those related to farming systems • Ask them to write their answers in the metacards • Once collected, the identified improvements or interventions are analyzed using the SWOT matrix • Clearly explain the SWOT matrix and its analysis • Each planned improvement or intervention, will be subjected to the test for strengths, weaknesses, opportunities and threats using the support systems (capabilities and market) from the conceptual framework • Ask the participants if they can identify a way to mitigate the weaknesses and/or threats to the proposed improvement or intervention that they plan to implement • Ask them to rank each proposed improvement or intervention and classify which is achievable in the short-term, medium-term or long-term	• Board • Marker • Cartolina/ Manila paper • Metacards • Packaging tape/ masking tape

Probing questions and reminders:

- If the weaknesses or threats of the planned improvement or intervention cannot be mitigated, making it unrealistic and unachievable, then such plan must be removed
- **Strengths** and **weaknesse**s factors affecting the organization which are internal in origin, whereas **opportunities** and **threats** usually arise from external factors[12].
- This method can be conducted during the validation activity

[11] For more details, refer to Team FME. 2013. SWOT Analysis Strategy Skills. p. 6, 10

[12] For more details, re fer to Harrison, JP. 2010. Essentials of Planning in Healthcare: Chapter 5 Strategic Planning and SWOT Analysis. Health Administration Press. p. 92

D. **Winding down**

This is the period for open forum where the participants can freely share more information affecting their farming practices, and enterprises that werenot thoroughly discussed earlier. The development workers can also inquire about crop history, crop shifting, and other commodities in the community. The facilitator should also summarize the key results and allow the participants to clarify issues about the project, establishing networks and linkages with government offices, or crop management, among other things.

4. **DATA CONSOLIDATION AND ANALYSIS**

This serves as the forum for field debriefing, discuss with the collaborators the assessment results, identify data limitations, and develop potential rice-based project intervention.

- Summarize the data based on the criteria indicated in Table 18.
- Conduct distillation workshop with project partners and present the results. Ask them whether the data appropriately characterizes the status of the community and if the assessment is valid.
- Identification of potential community improvements or interventions

Table 18. Summarizing and assessing the community.

Items	Data Needed	Notes
INTENSIFICATION	Cropping intensity index (low, medium, or high): cropping calendar; cropping pattern; land-use Stocking/ animal index (low, medium, or high): list of livestock; poultry; or fishery Other activities (e.g. mushroom production); biomass, future potential crops or livestock; mechanization; organic nutrients	• Low-level intensification: 1) the community practices two cropping seasons and predominantly monocropping; or 2) more than 50% of the farm area is fallow in one cropping season; or 3) less than 25% of the farmers are into aquaculture, livestock or poultry raising • Medium-level intensification: 1) at least 25% of the farm area in the community is into three croppings; or 2) at least 25% of the farm area in the community is into diversified farming each cropping season; or 3) 25% of the farmers are into aquaculture, livestock or poultry raising • High-level intensification: 1) more than 50% of the area per cropping is into diversified farming; and 2) 25% of the farmers are into aquaculture, livestock or poultry raising
INTEGRATION	Stocking/ animal index (low, medium, or high): crop-livestock integration (actual and potential) Waste utilization; other biomass; crop-crop integration	• Low-level integration: Animal wastes or crop by-products are not recycled and used to support and benefit other animals, crops, or agricultural enterprise • Medium-level integration: At least 25% of animal wastes or crop by-products are used to support and benefit other animals, crops, or agricultural enterprise • High-level integration: At least 50% of animal wastes or crop by-products are used to support and benefit other animals, crops, or agricultural enterprise

Table 18. (Continuation)

Items	Data Needed	Notes
DIVERSIFICATION	Area planted: cropping calendar; cropping pattern; land-use (actual and potential) List of livestock, poultry, or fishery Income sources: classify household income sources in the community	• Low-level diversification: 1) The community is predominantly monocropping; or 2) less than 25% of the farmers are into aquaculture, livestock or poultry raising • Medium-level diversification: 1) At least 25% of the area is into diversified farming per cropping; and/or 2) at least 25% of the farmers are into aquaculture, livestock, or poultry raising • High-level diversification: 1) More than 50% of the area is into diversified farming per cropping; and/or 2) more than 25% of the farmers are into aquaculture, livestock, or poultry raising
CLIMATE-CHANGE RESILIENCY	Diversification level (low, medium or high): Area planted; cropping calendar; cropping pattern; land-use; information on climate change Climate adversity level (low, medium or high): a) Low-climate adversity level - flood-prone and/or drought areas are less than 25% for the last five years; or b) Medium-climate adversity level - flood-prone and/or drought areas are more than 25% but less than 50% for the last five years; and c) High-climate adversity level - flood-prone and/or drought areas are more than 50% for the last five years	• Low-level climate-change resiliency: all the criteria (diversification, intensification, and integration) are low and climate adversity is high • Medium-level climate-change resiliency: 1) two of the three criteria (diversification, intensification, or integration) are low but climate adversity level is medium; or 2) all criteria including climate adversity level are medium • High-level climate-change resiliency: only one of the three criteria (diversification, intensification, or integration) is low and climate adversity level is also low

Table 18. (Continuation)

Items	Data Needed	Notes
MARKET CHANNELS	Market for each product sold; volume sold per product; new crop becoming important in the area; major buyers for new crop; technical and other services	• This is a support system for future improvement of the farming systems; also pertains to social and financial capitals
OTHERS	Role of women; potential impact on women; role of farm laborers; potential impact on farm laborers; program interventions of LGU; educational attainment or training that the community members availed; non-government organizations, networks, or linkages; available infrastructure; financial capability and literacy; soil profile; water sources	• Pertains to financial, human, natural, physical, and social capitals


na't Mamili sa
ay Food Terminal
Marcial

5. **VALIDATION ACTIVITY**

Before the validation activity, pre-validation activities are very important. The project partners and participants need to be informed about the schedule and venue for the validation. Again, there is a need to ensure that the participants are available and there are no conflicts with their schedules. Same materials used in the consultation activity will be needed except for the template maps.

At the actual validation, the stakeholders should be encouraged to participate in verifying the consolidated and summarized outputs of the distillation workshop. They can modify the findings and suggestions of the project team to uphold the participatory process of the study. The activities during the actual validation are as follows:

- Remind participants of the overview and rationale of the project;
- Present the summarized data and possible project interventions during the distillation workshop;
- Ask the participants whether they agree with the suggested projectinterventions, if there are modifications that they prefer, or they have other suggested projects;
- Subject each project intervention under SWOT analysis (refer to Table 18);
- Utilize the support systems (market and capabilities) to guide the farmers during the SWOT analysis. The project interventions that cannot be addressed due to market or capability constraints should be put on hold; and
- Assist the participants in identifying which among the project interventions should and could be addressed immediately, in a short-term (from two to three years), medium-term (four to five years), and long-term (beyond five years).

Some examples of project interventions that can be done immediately or within a short-term include conducting training (e.g. financial literacy, seed production, mungbean production, or vermicomposting), introducing early maturing varieties, and assisting them in establishing linkages and networks. Interventions which can be achieved in medium-term to long-term are mechanizing harvesting, introducing mechanical baler, or production of native pigs. It must be noted that these are simply examples, do not exhaust all possible project interventions that can be done, and may not be applicable for other sites. This depends upon the support systems available in the community and willingness of the participants so such development projects can be accomplished.

Furthermore, the validation process must not overlook the capabilities of other community members like household members about to graduate in college. They serve as an untapped resource of human capital. They can do feasibility studies of identified long-term project interventions in their community, with guidance from their professors, when conducting their thesis. Hence, their capabilities are not only utilized but also enhanced for the benefit of their community. This also ensures continuity of agricultural investment and experience among the youth.

In summary, the validation process allows for the identification of the established and unexploited capabilities of the community that can benefit them during actual project implementation.


Assessment of Farming Systems in the Rice-Based Communities and Development of Palayamanan Plus Model
Duration: July 2016-June 2017
Collaborating Agency: LGU Magalang, Pampanga; DA-Region III, PSAU, Brgy. officials of Brgy. San Ildefonso, Magalang, Pampanga
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INSTITUTIONALIZING THE ASSESMENT FRAMEWORK

CHAPTER 5

The methodology and methods in this manual is only a part of institutionalizing a community-based assessment framework for development interventions. Institutionalization can be done at the national and local government/community levels. At the national level, there must be a corresponding policy issued by the DA to ensure that the framework is integrated in its project implementation which can be done through an administrative order and agreements, among other things, through its offices, bureaus, attached agencies, and collaborations. However, the DA can also take an active, if not a leading, role for development projects which needs inter-department cooperation and collaboration which can be strengthened through a joint circular. This will apply particularly when putting in place the support systems needing multi-agency involvement to enable farmers and communities to act on the project interventions identified.

In the local government/community level, ordinances, contracts, and agreements can be crafted as part of institutionalizing the implementation of the assessment framework together with its guiding principles as part of implementing the project. The *sanggunian* can also consider it as a requirement when approving agricultural development projects for funding. Further, the local governments must allocate funds for local government extension agents and village officials to attend training or seminars on community-based and farming systems approaches. Finally, it is recommended that it should be mandatory for the AT and other development workers to participate in said training or seminars.

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