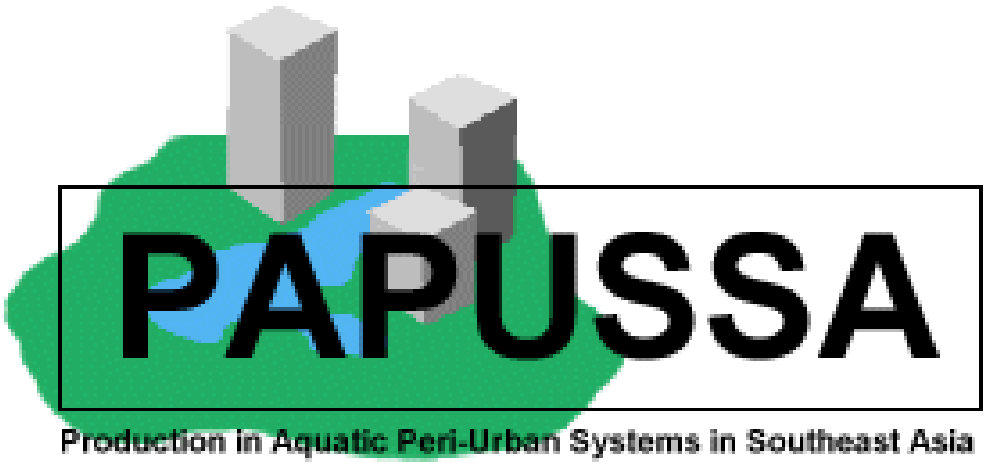

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Production in aquatic peri-urban systems in Southeast Asia

Aquatic Peri-urban Systems Rapid Appraisal (APSARA)Toolkit

Keywords: APSARA; RRA; PRA; participatory community assessment; peri-urban aquatic food; Southeast Asia

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TITLE : PRODUCTION IN AQUATIC PERI-URBAN SYSTEMS IN SOUTHEAST ASIA

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Acronyms and terms

AIT	Asian Institute of Technology, Bangkok
KU	Kasetsart University, Bangkok
klong	Thai name for canal
KVL	Kgl. Veterinær-og Landbohøjskole
NIHE	National Institute of Health and Epidemiology, Hanoi
PAPUSSA	Production in Aquatic Peri-Urban Systems in Southeast Asia
PAFPS	peri-urban aquatic food production systems
PCA	participatory community assessment
PRA	participatory rural appraisal
PS	production system
PU	peri-urban
PUI	peri-urban interface
PUAFPS	peri-urban aquatic food production system
RIA1	Research Institute for Aquaculture No. 1, Hanoi
RRA	rapid rural appraisal
RUA	Royal University of Agriculture, Phnom Penh
SOS	State of the System
UAF	University of Agriculture and Forestry, Ho Chi Minh City
UD	University of Durham, UK
UOS	University of Stirling, UK

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Introduction

During the meeting at Kasetsart University on **31st March – 4th April 2003**, we discussed tools and protocols to be used during the Participatory Community Appraisal (PCA) phase of the project originally scheduled for July-September. We have listed and tried out already a few of them during that meeting. But since time was limited then, we decided to pursue the discussion of PCA tools in more detail during country visits and in the listserv. We also agreed that a menu of tools (e.g. aide memoir) appropriate to the peri-urban situation in our study areas will be provided. Thus, this guidelines seeks to outline some of the tools we thought to be useful. This is not exhaustive and written in stone. Partners who think that there are other tools that can be used to assess the state of the systems in a rapid and consultative manner are welcome to suggest and try them out.

For a start, our team at AIT decided to call it a "rapid appraisal" instead of PCA in recognition of the middle of the way process we will adopt between a truly participatory exercise and rapid collection of information. There are demands relating to participatory methodologies that we need to be concerned about if we are to contribute to development. This includes creating unnecessary levels of expectations among community members that we may not be able to deliver. Rapid appraisal also entails listening and talking with community members but their participation is relatively minimal compared to purely participatory approaches. We all know that participatory approaches take a lot of time. This said, we propose to call our approach as APSARA (Aquatic Peri-urban Systems Rapid Appraisal), after the bare-breasted temple dancers of Angkor Wat.

Another reason concerns time. Our time is limited considering that we are also carrying out market and institutional analyses while preparing for the rapid appraisal. We also realise that there might be some problems with how we will define our "community" in the case of peri-urban aquatic food production systems (PUAFPS) such that we will stay away from this problem for now and concentrate on getting a "feel" of the situation in preparation for our upcoming meetings. As you all realise, we need to come up with the situation analysis of the systems in each of the country and this will be reported during the State of the System (SOS) and regional meetings in November. Writing the situation analysis needs good background information on the status and characteristic of the peri-urban aquatic food production systems upon which potential sites for more in-depth livelihood and social analyses will be chosen.

In view of our needs, our rapid appraisal will be exploratory in nature and will respond to the following objectives as outlined in the PAPUSSA project document:

- Representative communities identified
- Impacts of waste reuse and recovery assessed at community-level
- Key primary stakeholders identified and main livelihood characteristics identified
- Key food products identified and demand characteristics established

- General institutional and legal framework described
- Awareness raised among stakeholders about role and value of current reuse and recovery

This document provides a listing and description of the appropriate rapid appraisal tools that we may apply based on the objectives we set out in WP 1 (see Table 1). But it is not necessary to do all these things all the time! This is a "menu" of options from which you could select those appropriate to the task and place at hand. Some of these were already discussed during the KU meeting such as community mapping and distance charts, transects, seasonal calendars and daily activity charts, ranking and scoring, stakeholder analysis and the identification of appropriate communication media. One important point to remember in using these tools is that they are complementary and sometimes overlap or cover different aspects of PUAFPS such that these tools should be used iteratively (i.e. involving repetition) throughout the different phases of APSARA. Iterative consideration is all the more necessary in APSARA as some of the tools and their uses share the same data requirements and mutually reinforces each others analysis. Following this will ensure that data overload is avoided and that only data appropriate to the level of analysis we intend to do are collected.

Unless otherwise stated, much of the description of the tools and their uses are taken or adapted from Townsley (1996) and IIRR (1998), but the contexts and modalities of the questions were modified to fit the case and uniqueness of PUAFPS. Those who do not have copies of these publications may send their request to Albert Salamanca (albert.salamanca@durham.ac.uk), Dr Siriluck Sirisup (ssirisup@ait.ac.th), or Hall (wanwasa@ait.ac.uk). Partners are advised to read these documents should they want further details on each of the tools. Similar publications on RRA or PRA, such as those listed in the bibliography, are also useful.

Table 1 Menu of options of APSARA (Those in bold and shaded relate to WP1. Other aspects of PUAFPS will be explored in succeeding work packages).

No.	For finding about…	Tools	Outputs
1	Access to infrastructure, livelihood strategies, investment choices	Matrix ranking	Preference ranking based on defined criteria with scoring
2	**Identification of stakeholders and analysis of their interests**	**Stakeholder analysis** **Wealth/Socio-economic Ranking**	**Listing and description of stakeholders and their interests**
3	Access to services and infrastructure	Social maps	Maps locating key social features
4	**Agro-ecological characteristics of PUAFPS** **Quality and quantity of natural capital** **Existence of shared capital** **Land uses**	**Resource mapping** **Transects walks** Decision-trees **Historical transect/mapping** **Trendlines**	**Maps identifying the location of natural and other resources as well as their characteristics** **Transects showing land and water use, characteristics, problems, potentials** Decision-trees regarding land and water use **Historical maps and transects showing changes in land and water use**
5	Assessing food security priorities	Ranking of foods by importance, preference, availability, cost Local classification of foods Seasonal charts of food availability Decision trees regarding sale or consumption of other foods, e.g. staple grains, livestock, fruits	Foods ranked by importance, preference, availability, cost Foods locally consumed classified Seasonal charts of food availability Decision trees on sale or consumption of other foods, e.g. staple grains, livestock, fruits
6	Assessment of access to required resources for different target groups Access to services and infrastructure	Mapping of land and water use, access to different resources Decision trees for credit, marketing, agricultural inputs Venn diagramming Focus group discussions for marginal groups (poor, women) of access to support mechanisms, extension services, credit, market etc.	Map of land and water use, access to different resources Decision trees for credit, marketing, agricultural inputs Venn diagrams of institutions and authorities governing access to water and land resources
7	**Assessment of the potential of PUAFPS**	**Focus group discussion of the strengths, weaknesses, opportunities and threats (SWOT) of PUAFPS** **Ranking of priorities regarding land use, water use, crops, income generation, food supply** Decision tree Assessment of current PUAFPS farming/aquaculture practices	**Strength, weaknesses, opportunities and threats (SWOT) of PUAFPS discussed and characterised** **Priorities regarding land use, water use, crops, income generation, food supply ranked** Decision tree over resource use

8	**Water availability**	Mapping of the seasonal availability of water, extent of waterbodies **Seasonal calendar** **Timeline of historical changes** **Key informant interview to clarify access to these waterbodies** **Secondary data from meteorological, irrigation and water departments** **Trendlines**	Maps of the seasonal availability of water, extent of waterbodies **Seasonal calendar showing changes in water availability** **Timeline showing historical changes in water availability**
9	**Community level institutions**	**Venn diagramming of membership to community organizations, spheres of influence, overlaps and relative importance of different community institutions** Decision trees for land distribution, fisheries management, water use/allocation and other community level decisions	**Venn diagrams showing membership to community organizations, spheres of influence, overlaps and relative importance of different community institutions** Decision trees prepared on for land distribution, fisheries management, water use/allocation and other community level decisions
10	Control of income	Flow charts of income from different sources based on selected households Decision trees for use of income from different sources Ranking of priorities for expenditures Ranking of income sources	Income from different sources flow charts Income from different sources decision trees Expenditures priorities ranked Income sources ranked
11	Decision-making	Decision trees for different household and community level decisions	Decision trees prepared
12	**Development support agencies**	**Venn diagramming of areas of activity of different development agencies, overlaps, membership** **Ranking by local people of local agencies' interventions according to effectiveness and frequency** Decision trees of contacts made by local institutions with local people Ranking of problems and priorities of different institutions and agencies Comparison of problem hierarchies of different agencies	**Venn diagrams of areas of activity of different development agencies, overlaps, membership** **Local people's ranking of interventions by local agencies according to effectiveness and frequency** Decision trees of contacts of local institutions with local people Problems and priorities of different institutions and agencies ranked Problem hierarchies of different agencies compared
13	**Distribution of human settlements involved in PUAFPS**	**Mapping of distribution of houses in the village** **Trendlines**	**Village sketch map of distribution of houses involved in PUAFPS**
14	Events and trends that cause stress (either regularly or intermittently)	Key informants (including external experts)	Historical profiles of long-term events or trends
	Fisheries credit and marketing systems	Flow charting of flows of fish and credit Decision trees of fishermen or	Flow charts of flows of fish and credit Decision trees of fishermen or aquaculture producers over where to sell

		aquaculture producers over where to sell produce and who to sell to Key information interviews to understand the complexity of marketing system and degree of specialization	produce and who to sell to Charts showing complexity of marketing system and degree of specialization
15	**Gender Issues**	**Daily/seasonal activity charts for women from different social, ethnic, occupational and economic groups – identification of different levels of activity by different groups of women** Mapping resource access for women Seasonal calendars of resource use for women **Taxonomies of resources utilized by women**	**Gender aggregated daily/seasonal activity charts** Resource access maps Seasonal calendars of resource use **Taxonomies of resources utilized**
16	**Health assessment of wastewater reuse and recovery**	Seasonal diagrams Sample surveys **Key informant interviews of key ailments suffered during the last 6 months** **Secondary demographic data including population growth rate, migration patters, mortality, morbidity, fertility etc** **Problem Ranking** **Problem Trees**	Graphical illustration of seasonal health situation
17	Historical occurrence of floods, droughts, epidemics, local environmental trends and cycles	Timelines Oral histories Historical narratives	Historical profiles of long-term events or trends
18	**Identification of social, ethnic, occupational and economic groups involved in the production and trade of PUAFPS**	**Venn diagrams indicating different social, ethnic, occupational and economic groups in the community and the overlaps between them** **Wealth ranking using wealth criteria and classification coming from local people** **Community mapping of spatial distribution of different groups** **Specific identification of marginal groups and reasons for their marginalization** **Timelines**	**Venn diagrams indicating different social, ethnic, occupational and economic groups in the community and the overlaps between them** **Wealth status of community members ranked** **Map of spatial distribution of different groups including marginal groups** Timelines of community development (arrival and departure of different groups, changes in livelihood activities, settlement changes)
19	**Land tenure**	Secondary data review – community records, land registry, laws on land tenure, land reform Community ranking/stratification by landholding	Community records, land registry, laws on land tenure, land reform and other relevant laws or policies on land tenure reviewed Landholding ranked or stratified by

			community
		Classification of land tenure arrangements	**Taxonomy of land tenure arrangements**
		Timelines	**Timelines indicating major changes in land tenure arrangements/land reform**
		Trendlines	
		Key informant interview among major landholders, pond owners	
		Oral histories/biographical studies/historical narratives	
20	Livelihood strategies, assets, access to services	Preference ranking	Ordinal ranking based on pairwise comparisons, with reasons stated for the choices made
21	**Local administration**	Mapping of areas of responsibility	Map of areas of responsibility
		Venn diagrams of spheres of responsibility	**Venn diagrams of spheres of responsibility**
		Flow-charts of organizational structures	**A diagrammatic presentation (e.g. flow-charts) of organizational structures**
		Key informant interviews of local officials	
22	**Market assessment**	Ranking of fish species by demand	Fish species ranked by demand
	Trends in producer and consumer prices through the year	Mapping of range of operation of fish buyers – points of purchase and points of sale	Map of range of operation of fish buyers – points of purchase and points of sale
		Mapping of range of movement of consumers to purchase fish	Map of range of movement of consumers to purchase fish
		Identification and ranking of market problems by different groups, e.g. retailers, wholesalers, consumers	**Market problems identified and ranked by different groups, e.g. retailers, wholesalers, consumers**
		Approximate assessment of volume of fish traded at different levels e.g. retail and wholesale	**Volume of fish traded at different levels e.g. retail and wholesale known**
		Seasonal chart of variation in price, fish volume, species, demand, supply and source	**Seasonal chart of variation in price, fish volume, species, demand, supply and source**
23	**Seasonality of PUAFPS**	**Seasonal calendars**	**Graphical illustration of seasonal events or trends (e.g. activities, labor demand, income, food supply, water supply, flooding, problems)**
		Trendlines	
		Mapping seasonal variables such as water supply, floods, fish sources	Maps of seasonal variables such as water supply, floods, fish sources
24	Social capital, relations between social groups, institutional and policy environment	Venn diagrams	Diagrammatic representation of key institutional interactions
25	**Nature of wastewater reuse and recovery**	**Key informant interviews**	**Systems description**
	Volume and source of wastewater used in	**Focus group discussions**	
		Sample surveys	

	PUAFPS **Composition of wastewater** **Degree or level of treatment before use** **Management aspects related to disposal/distribution of wastewater – at secondary level** **Management aspects, including methods of application, related to farm level use of wastewater – at tertiary level**		
26	**Perceived impacts of wastewater reuse on:** ✓ **public health** ✓ **crop production** ✓ **environment** ✓ **soil resources** ✓ **groundwater** ✓ **property values** ✓ **ecology** ✓ **society**	**Key informant interviews** **Focus group discussions** Sample surveys **Problem Ranking** **Problem Trees**	**Description of impacts according to each aspect**
27	**Role and value of current reuse and recovery**	**Key informant interviews** **Focus group discussions** Sample surveys	**Description of the role and value of current reuse and recovery**
28	**History of PUAFPS and its uptake**	**Timelines** **Trendlines** **Key informant interviews** **Focus group discussions** Sample surveys **Oral histories/biographical studies/historical narratives**	**History of PUAFPS known and described**
29	**Land use changes**	**Historical transect** **Oral histories/biographical studies/historical narratives**	**Trends in land uses established**
30	**Water tenure**	**Secondary data review – water laws, fisheries laws** Mapping of catchments **Ranking of water users** **Timelines indicating major changes in water use**	**Water laws, fisheries laws and other relevant laws specifying water tenure reviewed** Map of catchments **Rank of water users** **Timelines indicating major changes in water use**

		Trendlines **Key informant interviews** **Oral histories/biographical studies/historical narratives**	

Note: All the tools we thought to be useful in the rapid assessment are listed here. Not all of them need to be applied, but only that are relevant.

Organizing APSARA Implementation

Figure 1 describes the process of APSARA implementation. As mentioned above, not all of these tools need to be used for now. We should only select those useful in gathering the information we need for the situation appraisal. Other tools unused during this stage may be used during the succeeding work

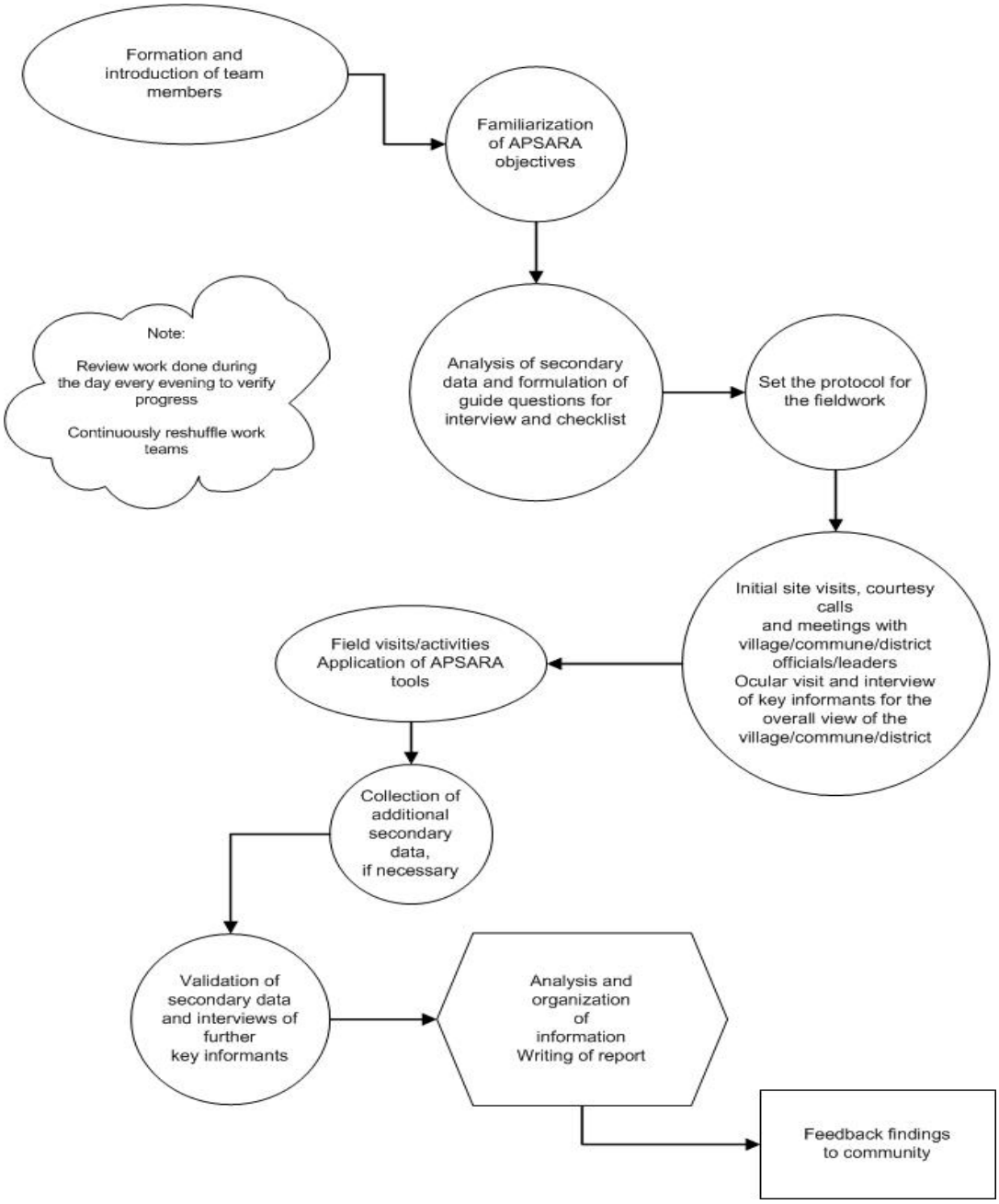

Figure 1 Process of APSARA

packages where the sustainable livelihood (SL) analysis framework (see below) will be employed in greater depth. As such, it is suggested that those who are involved in WP1 should also be involved in WPs 3, 4, 6 and 7 in order to ensure continuity in learning and implementation.

Time Frame

Like all other appraisal approaches, APSARA takes time. But due to the limited amount of time left prior to the November meetings, we hope to finish the field activities within 2 weeks. Report writing will follow immediately. Then preparation for the state of the systems and regional meetings will be made.

Application to PUAFPS based on PAPUSSA objectives for Work Package 1

One of the goals of WP 1 is to map out representative communities involved in PUAFPS. Communities are considered representative when its traits, characters and conditions satisfy the requirements of PUAFPS. This means that these communities have food production systems that are closely linked with aquatic processes (e.g. rivers, canals, etc) and exhibit the dynamics of urban systems (e.g. wastewater, solid waste, competing land uses etc.).

The first activity that partners were asked to do during the inception meeting was to identify the PUAFPS systems in their areas. The initial result of this was reported during the Kasetsart meeting. Further refinements, although indirectly, of the identified sites were made during the market and institutional studies. The next step is to gather information on these candidate sites so that we will be able to make decisions during the regional meeting on which sites we should choose for further work during the succeeding work packages. In order to achieve this, we will be guided by the Sustainable Livelihood (SL) approach used by DFID and other organizations. SL provides framework for structuring our perspective and approach in analyzing communities involved in PUAFPS. Moreso, it focuses on people and the structures and processes that determine how PUAFPS are used and managed.

> In its simplest form, the framework views people as operating in a context of vulnerability. Within this context, they have access to certain assets or poverty reducing factors. These gain their meaning and value through the prevailing social, institutional and organizational environment. This environment also influences the livelihood strategies – ways of combining and using assets – that are open to people in pursuit of beneficial livelihood outcomes that meet their own livelihood objectives[1].

Some of the questions we need to ask concerning this objective include:

- Which of the peri-urban communities have PUAFPS?
- Who are involved?
- Where are they located?
- How long have they been involved?

[1] Source: DFID Sustainable Livelihoods Guidance Sheets 1.1, available at http://www.livelihood.org

- What are the features of PUAFPS in the different communities?

To answer these questions, the following tools are suggested:

1.1. Secondary data collection

Before going into the field, it is best to review secondary information sources such as field reports, statistics, maps, government documents, national economic development plans, urban development plans, thesis and related publications in order to highlight particular issues and gaps in knowledge. The design of field activities will take off from these issues and gaps. A checklist of questions or pointers that will be explored further in the succeeding activities may be initiated during this stage.

1.2. Preparation of a checklist of issues and gaps that will be pursued in the field activities

This checklist is necessary in order to lay out important information that will be collected and carefully design the approach. Initial knowledge of the systems and information gathered from the secondary data collection will be used in preparing the checklist.

The checklist may include specific questions relating to the following:

- Socio-economic characteristics of households
- Ethnicity
- Land tenure
- Water tenure
- Gender issues
- Job satisfaction
- Nature of farming systems
- History of land uses
- History of PUAFPS uptake and abandonment
- Access rights to water and land resources
- Production characteristics
- Livelihood prospects
- Livelihood vulnerabilities
- Role of institutions
- Seasonality of PUAFPS
- Health impacts of wastewater reuse and recovery

1.3. Sketch mapping

Mapping with local people can become an important forum for discussion of local problems and needs and involve a large number of people in the appraisal. In this activity, local people will be allowed to make their own maps using materials they have or provided by us. If possible, men and women should be separated so that their different perspectives are captured. Sketch mapping will be used to assess the distribution of households involved in PUAFPS and the location of other land uses such as industries and housing settlements. This is also a good introductory exercise to understand how villages are clustered and where key informants may be selected.

APSARA Number: 13

Purpose

- To allow people to illustrate their views
- To understand the spatial distribution of aquaculture-related factors
- To familiarize outside teams with the area

Key features

- It is a means of representing the area being studied and its characteristics which can involve local people.
- It is a good introductory activity to get a range of local people active in the appraisal.
- It can make use of any appropriate local media.
- It provides concrete focus for subsequent discussions.
- It provides an output easily understood by local people.

Materials

- Black board
- Pens
- Masking tape
- Craft paper

Suggested Approach

1. Identify the participant group. Disaggregate according to gender.
2. Describe the purpose and scope of the mapping exercise.
3. Invite the group to select key informants knowledgeable about the resources to be described. Should access and use of resources or housing settlements be culturally or socially related, then participants may further be stratified according to ethnicity, gender or age.

> **Note**
>
> ✓ Make sure that the process is properly recorded by the documentor and that issues debated among participants are noted down.

4. Collate checklist of resources or features to be mapped. Consider that only a limited number of topics can be mapped.
5. Position the paper in a place which has a good view of the area to be mapped.
6. Ask participants to sketch out the distribution of households, land uses, PAUFPS and other aquaculture activities on the paper. Use symbols and colors to represent various sets of information and generate a corresponding legend.
7. Allow for validation of the information by a wider forum.
8. Once the output is agreed upon, draw copies, or take a photograph, of the map. Leave the original with the community and, if necessary, copies with other concerned parties.

1.4. Stakeholder analysis

The objectives of these analyses are (i) to identify the individuals, groups or organizations involved in PUAFPS and their relationships among each other and the resource; and (ii) analyze PUAFPS as a livelihood. It should be borne in mind that the starting point of livelihood analysis is the current situation of those involved in PUAFPS and how they are managing this livelihood.

The primary stakeholders of PUAFPS may include individual men and women (e.g. fish farmers, fish traders, fish sellers, consumers, wholesalers, retailers, collectors, etc.) and groups or organizations (e.g. village organizations) who are involved in its production, consumption and trade. Knowing who they are in the case of PUAFPS is important so that we will have an idea on who should be involved during the succeeding activities of PAPUSSA and to whom we are going to address the policy recommendations that will come out of the project. Thus, we will use stakeholder analysis as a tool in identifying our primary stakeholders. This tool will help us gather insights on the characteristics and interests of individuals and groups involved in PUAFPS. Ideally, stakeholder analysis should be done at the beginning of APSARA so that its result should influence who will be involved in succeeding activities of the appraisal.

APSARA Number: 2

Purpose

- To identify potential partners in managing a PUAFPS
- To explore possible approaches in relating to a particular person or groups who can be supportive or potentially hostile to PUAFPS

- To explore the dynamics and relationships of individuals and groups involved (i.e. direct stakeholders) in PUAFPS

Requirements

Human resources

- Facilitator -- Stakeholder analysis is usually done by interviewing key informants selected from groups judged to be the primary stakeholders. The facilitator should be a trained community leader or a person with good facilitating skills.
- Key informants

Materials

- Black board
- Colored papers
- Pens
- Metacards
- Masking tape
- Paper circles
- Craft paper
- Scissors or cutting blade

Suggested approach

- Identify and list stakeholders. Write their names on paper circles. Use large circles for stakeholders with greater influence or involvement or power.

Checklist for identifying stakeholders

- ✓ Have all primary and secondary stakeholders been listed?
- ✓ Have all potential supporters and opponents of the project been identified?
- ✓ Has gender analysis been used to identify different types of female stakeholders (at both primary and secondary levels)?
- ✓ Have primary stakeholders been divided into user/occupational groups, or income groups?
- ✓ Have the interests of vulnerable groups (especially the poor) been identified?
- ✓ Are there any new primary or secondary stakeholders that are likely to emerge as a result of the project?

Adapted from: DFID (1995) 'Guidance note on how to do stakeholder analysis of aid projects and programmes'. Retrieved 05 August 2003, from Department for International Development website: http://62.189.42.51/DFIDstage/AboutDFID/files/sdd/pdf/sddstak1.pdf.

- Pin the paper circles on the board or paste to a craft paper.
- Rank them according to the most direct stakeholder to the least direct (Direct stakeholders are those who are directly affected, whether positively or negatively, of PUAFPS.)
- Arrange the ranked paper circles into a matrix format.
- Identify the roles or interests of the primary stakeholders (possibly the top 5) PUAFPS.

> **Checklist for drawing out interests**
>
> - ✓ What are the stakeholder's expectations of PAPUSSA?
> - ✓ What are their interests?
> - ✓ What roles do they play in PUAFPS?
> - ✓ What benefits are there likely to be for the stakeholders?
>
> In the case of primary stakeholders, many of the interests will have to be defined by the persons with the best 'on-the-ground' experience. Double check the interests being ascribed to primary groups to confirm that they are possible.
>
> Adapted from: DFID (1995) 'Guidance note on how to do stakeholder analysis of aid projects and programmes'. Retrieved 05 August 2003, from Department for International Development website: http://62.189.42.51/DFIDstage/AboutDFID/files/sdd/pdf/sddstak1.pdf.

- Briefly assess the likely impact of PUAFPS on each these interests (positive, negative, or unknown)
- After the participants have filled up the matrix or tables with information, discuss observations, issues/problems and insights.
- Discuss other possible uses of the information derived from the exercise.

1.5. Key Informant Interviews/semi-structured interviews

These are interviews conducted with individuals who are thought to have special knowledge concerning a particular topic related to PUAFPS. These may be old people, community leaders, doctors, teachers, fisheries/aquaculture extension officers, fish farmers, fish traders, fish fry collectors, etc. The selection of key informants must be systematic and strict so that reliable informants are selected. Also, it is important that a checklist of questions is prepared and reviewed before carrying out the interviews. KI may be used for all aspects of APSARA specifically assessment numbers: 2,16,19,21,25,26, 27,28 and 30. These questions may be arranged in a logical order and serve as guide for the interview.

APSARA Number: 2,16,19,21,25,26, 27,28 and 30

Purpose

- To obtain specific information on the nature of their production systems, livelihoods, problems, priorities etc.
- To give local people opportunity to interact with the researchers
- To create forum for more general discussion from which new issues and topics for research can arise
- To create a forum for use of appraisal communication tools

Process

- Identify the type of information that you need.
- Identify the village leader and arrange for a meeting to explain what you would like to do
- Ask the village leader to identify individuals in the community that hold key positions or are widely respected. These include religious leaders, heads of fishers or other community groups, health workers and teachers. This should include all major sectors of the community. Interviews should be carried out to a range of people in different situations.

> **Note**
>
> ✓ Use visualization techniques to clarify ideas. Use drawing, illustrations or graphs
>
> ✓ Triangulate if possible. Ask the same question to different sets of people.

- Choose who among these people can provide relevant information based on your objectives. Find out where they live or how you can contact them so you can arrange for a meeting or an activity.
- After identifying primary key informants, ask them who else could be of help in giving information about a particular topic.

1.6. Historical Transect/Mapping

A historical transect is a graphical illustration of major changes affecting the land uses of an area through time. How the landscape change is important to PUAFPS such that knowing the major period when major changes were introduced is essential. During WP1, the historical transect will explore how the landscape change. In succeeding work packages, we will look at specific events.

APSARA Number: 4, 8, 29

Purpose

- To identify major changes occurring on the landscape through time

Materials

- Pentel pens
- Colored paper
- Past/glue
- A4 paper
- Craft paper
- Scissors
- Masking tape

Suggested Approach

9. As the group to brainstorm on possible variables to include in the historical transect.
10. Divide participants into groups of six. If possible, male and female participants should have separate groups. It is advisable to have a maximum of 20 participants.
11. Ask each group to divide the craft paper into rows and columns. Write the time or season along the top row. Write the resources or other variables along the first column.
12. Using symbols, drawings or anything available (e.g., magazine, pictures, leaves, shells) ask the participants to give the trends of the variables focusing on the quantity of the variable.
13. Clarify the use of pictorial representations (e.g., does size of tree represent the quantify of trees or relative size of the trees?) Ask them to include the legend beside the transect chart or table.
14. Ask the groups to identify possible reasons for the trends. They may write them down in the last row.
15. Discuss with the group the trends and how the community has adjusted to them. Ask participants for opinions about recent efforts by government, temple, or other groups to address community's problems and seize opportunities.

Note

- ✓ Limit number of variables to be used.
- ✓ Trying to get too much information at one time is not advised.
- ✓ Decide on a reasonable interval between the years to be observed in order to establish a trend. It does not have to be a ten-year interval.
- ✓ The activity does not usually exceed an hour. But if the participants are enthusiastic, be flexible and allow them more time.
- ✓ Include one important event from the historical line to the time periods to help participants think about the conditions at that time.

Possible Questions

- ✓ Describe the status of the resource systems at different years.
- ✓ Identify the dominant livelihoods in the past.
- ✓ What events in the past led to the emergence of PUAFPS?

1.7. Focus groups discussions

These are discussions held with a selected group of individuals (usually between 4 to 8 persons) who have special interest or knowledge of PUAFPS. These could be fish farmers, housewives, fish traders, fish fry sellers/collectors, consumers, district officials, village officials etc. These discussions do not need to be very long. Participants should be systematically selected (similar to the selection of key informants) involving proportional representation of men and women. There should be a facilitator to facilitate the discussion and a documentor to document the process. Both of them should review the result of the discussions immediately after it is finished to ensure that they have properly captured what was discussed.

APSARA Number: 7,25, 26, 27 and 28

Purpose

- ❑ To generate information, build consensus, clarify information in documents lacking details or gather different opinions on certain issues.
- ❑ To gather information on certain issues in fishing, farming and other livelihood practices, leadership structures and other livelihood practices, leadership structures and decision-making patterns, health practices and delivery systems, labor sharing arrangements, local indicators of poverty and socio-economic standing, indigenous taxonomies (e.g. how people group or categorize fish, seaweed, etc.) and other information.

Requirements

Human resources

- Trained facilitator/moderator
- Note taker/documentor

Materials

- Note pad
- Pencil or pen
- Chalk/marking pens
- Poster paper/chalk board/white board
- Guide questions or guidelines for the focus group discussion
- Attendance sheet
- Cassette recorder and blank tapes (optional)

Possible Approach

Preparation

- Set and discuss with the community the objectives of the discussion
- Determine target participants (e.g., fishers, farmers, women, etc) and discuss with community leaders and various sectors of the community, the criteria for group selection. Ideally, group members come from various walks of life and socio-economic categories, representing formal and informal community organizations

Possible criteria in selecting target participants

- ✓ Age
- ✓ Educational level
- ✓ Ethnicity/race
- ✓ Language
- ✓ World views
- ✓ Marital status
- ✓ Socio-economic status
- ✓ Religion
- ✓ Work experience
- ✓ Sex
- ✓ Residency (urban/rural)
- ✓ Length of local residence

- Let the community leader identify people in the community who fit the criteria. Be aware of their biases.
- Plan the time frame and schedule of the session

- Design the focus group guidelines

> **Designing the FGD guidelines**
>
> ✓ Guidelines are open-ended questions used by the facilitator to initiate discussion of a particular topic. The objective is to encourage FGD participants to discuss target concepts and express their opinions, experiences and memories. Open-ended questions are those that require information other than a simple "yes" or "no" for an answer. Avoid these types of questions because they do not lead to new ideas.
> ✓ Phrase questions in a way that seeks to discover prevailing attitudes and practices, not just those of group participants, e.g., use "In general…" as a starting phrase.
> ✓ Guidelines should be brief.
> ✓ Guidelines should provide only the opening questions for key topics and a reminder to probe certain aspects.

- Train the facilitators and note taker.

During the session

Guide for the facilitator

- After the introductions, start with a warm-up topic (non-controversial but related)
- Request permission to record the discussion
- Go through prepared guidelines. Feel free to jump back and forth, be flexible
- Keep track of every topic by putting check mark next to each topic as it is discussed
- At the end of the discussion, give a brief summary of the topics that have been discussed by the group.

Guide for the note taker

- Write down key words in the statement or question. If possible, enough should be written to get the essential meaning.
- Provide participants a copy of the highlights of the discussion after the FGD.

1.8. Timelines

These are key events or changes along a period of time up to the present in the area that led to settlement and livelihood changes. For instance, timelines of changes in water use, aquaculture development, fish availability and demand,

land use, floods, road building, canal construction, industrial development, urbanization etc. In the case of PUAFPS, for instance, it is important to identify key historical events that led, or will lead, to the uptake or loss of PUAFPS.

APSARA Number: 19, 28, 30

Purpose

- To understand the processes leading up to current conditions and identify trends for the future
- To understand the community's history
- To understand the changes in their livelihoods and resources

Key features

- It makes use of graphics to clarify processes.
- It establishes connections between different sets of factors and conditions.
- It takes account of past changes, current conditions and predicts future trends.

Materials

- Pentel pens
- Craft paper
- Masking tape
- Crayons
- A4 paper
- Scissors
- Paste or glue
- Available historical documents or write ups

Suggested approach

1. Organize the participants composed of elders, males, females and yound adults (maximum 20). Have each group (of five or six people) construct time lines.
2. Rather than defining what is important for them, ask the participants to identify the events that shaped and influence individual and community activities.
3. Let the groups use large sheets of paper and permanent markers to write in large letters.
4. Ask each participant to list one event for each sheet of paper Ensure that these are written large enough to be seen at some distance. After doing so, let the participants group the events in their respective years. Afterwhich, present the results to other participants for validation.

5. When the timeline is established and agreed upon, determine whether one or another type of event is increasing in intensity and frequency. Discuss the trends and how the community has adjusted to these changes. Discuss also their responses as well as that of the government and other organizations.

1.9. Trend Lines

Trend lines portray changes of the resource systems, land use, production and demographics over time. This depends on the perceptions of stakeholders and resource users.

APSARA Number: 4, 8, 13, 19, 23, 28 and 30

Purpose

- To document changes in resource status and infer a particular pattern or trend over time
- To verity trends shown in the historical transect if the period being analyzed is the same

Materials

- Pentel pens
- Paste/glue
- Craft paper
- Scissors
- Colored paper
- Masking tape
- Stones, seashells, other materials
- A4 paper

Suggested approach

> **Note**
>
> ✓ Perform historical lines before trend lines. Also refer the results of this activity with other temporal tools, e.g., historical lines, historical transect, historical narratives and seasonal calendar.

1. Organize one to three groups with three to six members.
2. Use a sample graph to explain the concept of trends and trend lines.

3. Ask a group to draw the trends of some of the most important changes in the community. You may take suggestions on how they can do it but encourage them to come up with their own style.
4. Use stones, seashells, art paper or other available materials to show trends.
5. Let each group present their graph to the rest of the group.
6. Probe for explanations of the changes. This helps identify underlying problems. Find out what solutions have been tried, its advantages and disadvantages and reasons for success or failure.
7. Formulate preliminary recommendations to address the problem.

1.10. Seasonal calendars

This is a tool to understand the seasonality of demands for labor, PUAFPS products, consumption, income and expenditure of PUAFPS households. This provides a general picture of the different aspect of PUAFPS through the year. It is best that this activity may be conducted during the early stages of APSARA but after the preparation of the resource map and transects, as the features on the map and transect may serve as useful guides. The focus of this activity is on the periods from the previous year.

APSARA Number: 8, 15, 22 and 23

Purpose

- To understand the processes leading up to current conditions and identify trends for the future

Key features

- It makes use of graphics to clarify processes.
- It establishes connections between different sets of factors and conditions.
- It takes account of past changes, current conditions and predicts future trends.

Suggested approach

1. Prepare for the activity by having participants draw an outline of the local annual calendar on craft paper
2. Ask the participants to identify important environmental, cultural, or socio-economic periods in a year that influence their activities or condition. These include:
    - Environmental conditions (e.g., floods, weather)
    - Aquaculture activities (e.g., restocking)
    - Economic aspects (e.g., household expenditure, market values)
    - Social aspects (e.g., health, education)

- Other livelihood activities (e.g., agricultural crops, tourism, handicrafts)
- Socio-cultural activities (e.g., religious events, holidays)

3. Use symbols or drawings to add interest to the activity. Let the group decide what symbols they want to use.
4. Repeat the process for other periods.
5. After the activity, transfer the output from craft paper to an A4 paper. Leave the original with the community.

1.11. Flow Charts

A flow chart is a diagrammatic representation of a series of events, activities or procedures, which can show a sequential process, cycle or flow from beginning to end. This can be used both for the bioresource flow analysis and institutional analysis.

APSARA Number: 21

Purpose

- To condense information into an easy to understand format and highlight sequences of activities to give an overview of a process
- To highlight critical steps in a sequential process where interventions have a good chance of having impact (e.g., a critical link in a commodity flow diagram or a problematic step in a conflict resolution process).
- It makes use of graphics to clarify processes.
- It establishes connections between different sets of factors and conditions.

Materials

- Different sizes of paper
- Pens or pencils

Suggested approach

1. Identify the process (flow or cycle for discussion, using information previously gathered.
2. Assemble a group of participants.
3. Brainstorm on the processes involved in the chosen topic. Ask questions like “What do you do first?”, “What happens next?”
4. Note the steps as outlined until all steps in the flow or process have been covered. Once they have all been noted, ask some participants to choose one of the steps and try to draw it on smaller card or paper.
5. Facilitate the participants in putting their drawings/descriptions on to a larger piece of paper in the proper sequence. Use arrows to connect the

flows. Other symbols can be used to differentiate between activities done by men, women or children.

6. Analyze the flowchart. Examine each step to identify weaknesses. Flowcharts can be used to examine weaknesses in social or institutional processes.
7. Present and discuss the outcome for clarification and validation.
8. Leave the original with the community and make a copy.

1.12. Oral Histories/Biographical studies/Historical Narratives

Stories told by individuals or life histories can be used to cross-check accounts of the history of the community and the uptake of PUAFPS. Biographies of older members of the community are also good sources of information on how land use in the community changes and the major factors that led to these changes. Aside from land use changes, livelihood changes can also be gathered from biographical studies of older members of the community. This tool thickens the description of land use changes and resource and community dynamics by adding specific and personal case study. These studies can be carried out by semi-structured interviews.

APSARA Number: 19, 28, 29 and 30

Purpose

- To understand the processes leading up to current conditions and identify trends for the future
- To examine the impact of major historical events on the life of local individuals
- To document in detail single perspective chronologies of a given area

Materials

- Tape recorder
- Notepad
- Blank tapes

Suggested approach

1. Select respondents or key informants. This activity targets older men and women but could also include younger members of the community.
2. Schedule a suitable time and place for the interviews.
3. State clearly the focus of the interview and the questions that you want to address to avoid wandering off into different topics. Prepare questions that will guide the discussion.
4. Start with personal questions (e.g., When were you born? What was the first important event that you can remember in your community?)
5. An hour of interview is long enough. If the respondent is tired, cut short the discussion. If enthusiastic, be patient and listen. Note down key points.

6. Write down notes and other observations immediately after the interview. Allow the interviewee to listen to the tapes and read the narratives to ensure that the interpretation is appropriate.

1.13. Daily Activity

This activity will highlight the activities performed by PUAFPS involved households. This tool can complement other tools that look at time such as historical timeline and seasonal calendar. An understanding on how these households use their time will have important implications for participatory activities in succeeding work packages as this will enable us to properly time our activities so as not clash with important livelihood-related tasks. This will also help us identify stakeholders who may have the time, skills and interests for later work.

APSARA Number: 15

Purpose

- To identify the activities performed by PUAFPS households
- To get a gender perspective of livelihood activities
- To understand the constraints that local people have regarding their time

Materials

- Crayons
- Pencil
- Pentel pen (assorted colors)
- Craft paper
- A4 paper
- Masking tape

Prerequisite

Daily activities should be conducted after the initial participatory assessment activities have been introduced such as timeline, resource mapping, transect and seasonal calendar. At this stage, the participants are already familiar with the participatory nature of the tools/activities.

Suggested Approach – Prior to the Meeting

1. Invite participants (10 to 20 members) from the community with a balanced representation of men and women.
2. Explain to the participants the nature and purpose of the activity. Clarify with the schedule and venue.
3. Prepare a blank 24-chart on a sheet of poster paper for each group (e.g., men, women and children).

Suggested Approach - During the Meeting

1. Explain the activity, purpose, use of the information, general flow and expected output.
2. Provide each participant with A4 paper and pencil and ask them to write/list down the activities they do in a typical day, from the moment they wake up until they retire.
3. Divide into sub-groups (especially according to gender) depending on the objective of the activity. Ask each individual in the respective sub-groups to share his or her typical daily activities.
4. Ask each sub-group to prepare a daily activity chart representing the typical activities of that sub-group. If possible, draw or symbolize each activity.
5. Ask each sub-group to choose among themselves a group leader/facilitator and a rapporteur. Ask the different groups to share/present their work to the rest of the participants.
6. Ask the participants to share their personal insights/feelings about the information that came out of the whole process or activity.

Note

- ✓ Be prepared to conduct daily activity at night especially when this is the only time available for the participants.
- ✓ Sub-grouped results must have the consensus of all the participants.
- ✓ Encourage the participants to present the data/group work.

1.14. Preference Ranking

Preference ranking is a useful tool in helping the community prioritize different issues concerning PUAFPS. It is usually administered when an area of interest or set of options are already identified from earlier tools. Local materials such as stones or beans can be used to quickly indicate proportions or numbers in a more concrete fashion. For instance, we might want to ask PUAFPS producers to rank their current livelihood options according to most profitable to the least using number of beans as indicator of higher ranks. Or we might want to ask them to rank in a matrix form the relative amount changes of PUAFPS production resulting from land or water use changes.

APSARA Number: For later work packages

Purpose

- To highlight the importance or preferences for certain livelihoods, fish species, or PUAFPS products
- To understand local people's priorities
- To understand why certain choices are made
- To understand the local environment and people's knowledge of it
- To understand local terminology and classifications

Key features

- Can be used as a formal exercise or as an aid in interviewing
- Provides for a focus during discussions
- Can be carried out with individuals or with groups
- Provides a clear, graphic form of presentation of local people's ideas
- Adaptable to local circumstances and can use materials readily understood and manipulated by local people

Materials

- Chalkboard, flipchart paper or other material for producing a matrix and recording data
- Pentel pens
- List of options (if already determined)

Suggested approach

1. Select and clarify the topic (e.g., most serious problem affecting wastewater reuse and recovery; most serious health impact of wastewater reuse and recover)
2. Gather a relevant group of stakeholders (see stakeholder analysis)
3. List the options that are relevant to the topic. Ask the participants to add additional options that they feel exist but have not been covered. Write these on a large sheet of paper.
4. Ask community members to think of criteria that can be used to analyze the potential value of each option. Write the criteria on a large sheet of paper.
5. Ask each participant to give a score to each of the options based on the criteria set with the most preferred option receiving the highest score.
6. Repeat the steps for each different person and tabulate their responses.

> **Note**
>
> - ✓ Use a scale to the do this ranging from 5 as the highest and 1 as the lowest. It is important to always clearly define the scale to be used.
> - ✓ Make sure the scale is recorded on the final document.
> - ✓ Be consistent in scoring options.
> - ✓ Clarify if the participants must use each score only once, or if the same score can be repeated.

7. Add up the scores given to each option. The highest score should be given the highest rank and the least score should be given the lowest rank.
8. Build consensus based on the results of the preference ranking.

1.15. Wealth/Socio-economic Ranking

This is a tool used to assess and rank how households involved in PUAFPS stand among each other in terms of their socio-economic status (i.e. relative poverty/prosperity) as perceived by selected key informants. The informants determine the criteria for describing socio-economic classes, decide how many different classes exist in the village, and then assign village families to each defined class.

APSARA Number: 2

Purpose

- ❑ To characterize the perceived socio-economic status of households involved in PUAFPS
- ❑ To understand the indicative socio-economic importance of PUAFPS as a livelihood

Materials

- ❑ Paperboards cut into 3x5 inches cars (one for each household in the village)
- ❑ Paper cut into larger pieces (6x10 inches)
- ❑ Cleared area (table, floor or ground)
- ❑ Felt marker (fine tip), pencil or pen

Suggested approach

1. Get a list of village residents from the village government office, census list or through a social mapping exercise.

2. Write the name of each family on a card (one card for one family). In some cases, a nickname will be more appropriate than the formal family name.
3. Identify and list key informants.
4. Schedule a meeting with each informant. Explain that the purpose of the activity is to gather information on the socio-economic status of village families.
5. Invite each informant to suggest criteria that could be used to describe a socio-economic class. Typical variables include: income level and sources of income; assets such as land, housing, boats, other vehicles; educational attainment; ability to send children to school; quantity and quality of daily food.
6. Ask the informants to identify the different socio-economic classes in their community or those involved in PUAFPS (will further refined!). Define each socio-economic class by using indicators such as income bracket and type of boats. Use these as categories. Note down the criteria used by the participants to define each category.
7. Write the name of each category on a large card and display them all on the table or floor.
8. Give the informants the cards on which each family's name is written. Ask each participant to identify under which category each family belongs. Place the cards next to the appropriate category. If there is hesitation, remind the participants of the criteria.

Analyzing the data from key informants

1. If different informants have used different numbers of categories, their information must be standardized. If most or all informants have distinguished five categories, assign a score to each family as follows: very poor-20; poor-40; average-60; rich-80; very rich-100. If standardization is required, then the informants will have to do it all over again.
2. Compile the results of the ranking, showing the scores given to each family by each informant.
3. Calculate the average score for each family.
4. Group the average scores into brackets or ranges, e.g., for a five category system:

   Very rich (90-100)
   Rich (70-89)
   Average (50-69)
   Poor (30-49)
   Very poor (less than 30)

5. Calculate the percentage of families in each category and present this using a pie chart. This will give an overall view of the perceived socio-economic status of families in a particular community.

1.16. Problem Ranking

Problem ranking is a tool used to identify and rank problems associated with PUAFPS and wastewater reuse and recover in order of priority by assessing their relative importance using a set criteria. It is often followed by an analysis using either a problem tree or a web chart.

APSARA Number: 16, 26

Purpose

- To highlight the importance or preferences for certain livelihoods, fish species, or PUAFPS products
- To understand local people's priorities
- To understand why certain choices are made
- To help the project understand the problems of PUAFPS as a livelihood from the perspectives and priorities of the community who are directly involved

Materials

- Small cards/pieces of paper
- Flip chart
- Marker pens
- Masking tape

Human resources

- Facilitator
- Record keeper
- Participants

Suggested Approach

1. Ask the community to brainstorm and list down identified problems or issues. Ask them to write these on small pieces of paper and place these in a vertical column on the floor or board.

> **Note**
>
> ✓ This activity often takes two to three hours. However, time should not be limited if discussion is not yet complete after this time.
>
> ✓ The facilitator should be able to distinguish between core (or underlying) problems and symptoms/effects.

2. Suggest and explain possible criteria for ranking the problems:

a) Extent or scope (number of people or areas affected by the problem)

b) Degree of impact on a particular resource (how serious are the effects of the problem on the resource)

c) Occurrence or regularity (how frequent does the problem occur, during what season, etc.)

Participants may suggest other criteria in addition to those mentioned above.

3. Let the participants analyze each problem according to the criteria set.
4. Ask the participants to compare each problem. Score each problem using a predetermined scale (e.g. 1-5 with 5 representing the highest number, severity or frequency). Use drawings, seeds or other local materials to record each score.
5. Add the total score for each problem and place the sum in the second to the last column. The sum reveals the relative importance of the problem across all criteria and determines how it ranks compared to the other problems.
6. Use the last column to rank the problems based on their respective score. The problem with the highest number of total marks is considered the number one problem. If two problems have the same number of marks, they are considered to be of equal importance.
7. Some of the descriptions may be qualitative, e.g., degree of impact and occurrence. In this case, ask participants to explain and clarify the meaning of the marks made. The documentor should note down the key points mentioned.
8. Copy the entire matrix. If time permits, present it to a larger group for further discussion and analysis.

1.17. Problem Trees and Webs

After the problems in PUAFPS as a livelihood, including impacts of waster reuse and recovery, are identified, the causes and effects of these problems will be drawn out.

APSARA Number: 16, 26

Purpose

- To identify core problem, its root cause and effect

Human resources

- Facilitator
- Record keeper
- Participants

Materials

- Board pins
- Flip chart

- Board
- Blank cards (optional)
- Marker pens
- Masking tape

Choosing between problem tree or problem web

Problem trees are appropriate for participants who are new to using participatory tools, since they are quite simple to do. Problem webs allow participants to draw out more complex, interlinked relationship among effects or among causes. They can be done by more experienced participants.

Problem Tree – Suggested Approach

1. Tell the participants that the focus will be one problem, its cause and effects. Give an example to distinguish between "problem", "cause" and "effect".
2. Draw an outline of a large tree on the board. Do not draw yet the branches or roots. Write the problem on the trunk.
3. Let the participants brainstorm over the causes of the problem by asking the question "why?". Draw a root for each cause, and write the cause on the root.
4. Repeat the question "why?" for each cause identified in step 3, to identify secondary causes. Write these lower down the roots, below the primary causes identified. Primary causes may have common secondary causes, and even primary causes may be linked. Make the appropriate links in the roots of the tree to represent this.
5. Allow participants to continue until they can identify no more secondary causes.
6. Then ask participants to identify effects or impacts f the problem by asking "what happened?" Draw a branch for each effect, and write the effect on the branch.
7. For each effect identified, repeat the question "what happened?" to reveal secondary effects. Place these higher up the branch above the primary effects.
8. Allow the participants to continue until they can identify no more effects of the problem.

Problem Web – Suggested Approach

1. Tell the participants that the focus will be one problem, its cause and effects. Give an example to distinguish between "problem", "cause" and "effect".
2. Write down the chosen problem at the center of a large piece of paper.
3. Ask the participants to write on a card one cause of the problem by asking "why?" Place the card on any side of the center box.
4. Ask "why" to this cause and write the answer in a box next to the card. Again, ask "why?" to this and write the answer in yet another box. Continue this process until the root cause is arrived at.

5. Draw an arrow from the last box to the center box connecting all the intermediary boxes. This gives the picture of the problem-cause relationship.
6. Ask the participants to identify another cause and write it on a card. Pin this up and go through steps 4 and 5 for this new cause.
7. If two root causes are the same or are linked, connect them with a two-way arrow on the diagram.

1.18. Venn diagrams

These diagrams are useful for illustrating the relationships between different groups and institutions within communities, with points of contact, overlaps and relative sizes. We can use this tool for assessing the social, economic and institutional characteristics of PUAFPS producers and institutional structures affecting land and water use. We can also use this tool to identify key administrative issues which affect PUAFPS and clarify the relationships between different organizations. The size of the circles and the distance from the center in a Venn Diagram represent the importance attached to a particular institution. The larger the circle the more important, the further away from the circle, the less contact the institution has with the community or other institutions. Venn diagrams will be used for representing the general institutional and legal framework and relationships among local organizations and institutions.

APSARA Number: 9,12,18 and 21

Purpose

- To provide approximate quantification and relative proportions of any activity, phenomenon, group etc.
- To illustrate processes
- To provide graphic representations understandable to local people and outsiders

Key features

- If properly used, diagrams and graphics can be useful in overcoming communication barriers.
- They provide a structure to information which can help both the people providing that information (local people) and those using it or passing it on to others.
- They are very location and culture specific.
- They provide a focus for discussions and questioning.

Materials

- Colored papers cut into varying sizes of circles, 3-5 sizes of circles at least 10 pieces each
- Craft paper
- Card cut in square 1”x 1” to represent the subject community

- Markers
- Masking tape

Suggested approach

1. Gather key informants
2. Explain the objective and use of the venn diagram to the participants
3. Place the craft paper on the ground or on the table and ask participants to gather around
4. Agree on the legend (or meaning of circle size or placement) that will be used. Some important considerations include the following:

   Size of the circles
   - The larger the circle the more influence the group represented by that circle has on the issue.
   - Size should be relative to other circles.

   Placement of circles
   - Circles representing institutions that influence each other can be placed overlapping each other depending on the degree of influence or number of similar membership

   Boundary
   - A rectangle represents a boundary such as the community or project areas.
   - Circles inside the boundary represent internal groups.
   - Circles overlapping the boundary are external groups with presence in the community or activities.
   - External institutions but with some degree of influence in the community will be placed outside of the square; its relative distance from the square will depend on the link or effect of the institution identified.

   Color of circles
   - Colors can be used to differentiate between types of groups (e.g. red-community based; blue – government; black – academe).
5. Draw or paste a rectangle on the craft paper to represent the community.
6. Ask the participants to identify groups (institutions or individuals) providing support or intervention in their community, both internal and external to them.
7. Symbolize each institution with a circle of the paper
8. Using masking tape, position the circles according to relationships between them and relative to the boundary. Allow the participants sufficient time to discuss positioning of symbols.
9. Let the participants review their outputs and make changes when necessary

10. Write the legend used at the lower part of the craft paper
11. Validate with a larger group if only key informants are involved in preparing the diagram
12. Encourage the larger group to analyze the output. If necessary, prompt by asking open-ended questions or questions that will lead to discussion.
13. Make a copy for yourself and leave the original with the community.

1.19. Transect walk

Transect walks are carried out with local people who knows the area along transects through the area under investigation. Thetransects may be done along a river, a road or any other land feature. They should cover a wide range of land uses and conditions and provide an opportunity to observe activities, aqua-ecological conditions and talk to people about them. Note taking shall be made of all observations. Transect walks is helpful in understanding land use patterns, zone of land areas, identification of problems and potentials.

APSARA Number: 4

Purpose

- To get a complete picture of the different aquatic production zones in the peri-urban area and other competing land uses
- To structure observations so that they produce usable outputs
- To focus attention of the appraisal teams on PUAFPS features that are not observed during the semi-structured interviews and other tools
- To allow for direct observation, as a cross check, for information previously collected through interviews
- To help develop friendly relations with community members through informal, relaxed interaction
- To provide specific information needed for mapping and analysis, including sensitive issues that may not be brought up in more formal settings

Key features

- It is flexible.
- It includes more formal exercises involving groups of people and prior planning as well as quick techniques for use during interviews.
- It can be used to involve a range of people in appraisal especially during transect walks.
- It focuses attention on details of environment.
- It makes use of local people’s observation.

Types of information that can be gathered using transects

Biophysical

- Topography, hydrology, soil type, geology
- Type, extent and distribution of habitats (forest, agricultural, rivers, streams, canals, etc.)
- Extent of environmental problems such as erosion, abrasion, etc.

Resource use

- Systems of agriculture, aquaculture, PUAFPS, land use and ownership, types and intensity of resource exploitation
- Types of PUAFPS

Socio-economic

- Number and types of housing, boats, shops and other economic indicators
- Economic activities (food processing, boat building, piggery, poultry, factories, etc.)
- Types of foods being grown or gathered or available in the market
- Sanitary facilities, water sources

When do you do a transect?

Transect walks are usually made after the teams have already introduced themselves and established rapport with the community. It might be useful if transects are made after the participatory mapping activities so that the transect is used to validate and enhance the mapped information.

Who does the transect?

PAPUSSA teams in each country together with villagers or key informants or direct stakeholders who are involved in PUAFPS may carry out the transect walk. The transect walk must not be done with only the team members as this defeats the purpose of calling this a participatory exercise.

Where is the transect laid?

The transect may be laid along water bodies, roads or any easily identifiable and longitudinal feature of the landscape.

Materials

- Comfortable walking shoes
- Pen and notebook
- Video or still camera, if appropriate
- Compass (optional)
- Rope to mark off distance

Suggested Approach

1. Select team members, clearly identify the information needs and prepare a work plan. Consult with community members in choosing the best area direction and length of the transect.

2. Choose the path and assemble equipment. Choose either to go through the village and into the surrounding countryside, following a footpath or river, or walk down along a road.
3. Choose the time. Early morning is not only more comfortable but is also the time when community economic activities may be most likely to be done.
4. If covering a large area, use a 50 or 100 m long rope to mark off the distance covered.
5. Take notes of observations made to the left and right sides every 50m (or whatever the rope length). Explore the leftward and rightward areas from the reference/transect line but always return to the transect and resume the original path.
6. Record distance and elevation whenever a significant land use change is encountered. Identify the nature of land use change. Discuss observations with the villages who accompany the team and with those met along the way.
7. Note any additional questions that arise that need to be answered regarding local condition and activities.
8. At the end of the transect, return to the village to consolidate and cross check the information.
9. Use the information to draw a PUAFPS profile together with local participants. Feed other information into other activities (resource mapping, historical documentation, socio-economic analysis, etc., as appropriate).

Note

- ✓ It is very important to be conscious observers. Discuss what you see with village participants. Talk to others you meet along the way. Ask very basic questions about everything, even if you think it makes you look stupid! You may have walked many transects through similar terrain in the past. Pretend that this is your first one. Keep you mind open to new information.
- ✓ If you have permission and people are comfortable with it, bring along a still or video camera to document conditions and provide photos that can be used in discussions later on.

Reporting

It is best to write the report as soon as we return to our offices so that information gathered from the APSARA activities are still fresh in our minds and our notes taken will not be misplaced. A preliminary report should be produced within a week of the fieldwork and sent for review immediately. The final report should be available to all participants and the local institutions involved.

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