

Learning Together: Participatory Tools for Community Engagement



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Introduction

The last decade has seen a growing recognition of the need for resource management and conservation programs to take account of the social and economic life, and to recognise the needs and aspirations of villagers. The Milne Bay Community-based Coastal and Marine Conservation Program (CMCP) that you are now employed on as a VILLAGE TRAINER aims to build links between the wellbeing of targeted villages and resource management and conservation activities by providing these villages with support for village-based resource management.

There is no defined methodology outlined for the CMCP, therefore different approaches will be needed to deal with different social, economic and political environments. This booklet will list some of these approaches, providing examples and detailing successes and problems in other parts of Melanesia.

Development and Participation

The focus of resource management and conservation initiatives for villagers will be on identifying and addressing their needs and empowering them in the development and planning process. This is now your role as a VILLAGE TRAINER.

The success of this CMCP will rest on the methods and field level applications of Participatory Rural Appraisal (PRA), that you as a VILLAGE TRAINER will facilitate with collaboration from the Councilors, Ward Development Committees (WDCs) and community members.

Community Development

The success of a village-based management and development will be contingent upon

- The maintenance, security or improvement of people's well being and livelihoods;
- Assurance of food security
- Continued awareness and moral commitment;
- Evident benefits to the village;
- The development and maintenance of resource management systems either traditional or modern;
- Development of a system of regulation and penalties;
- The maintenance, security or improvement of local systems of governance;
- Inter-generational compromise so resources are available for future generations; and
- The recognition of the range of stakeholders who have vested interest in the resource base

Participatory Rural Appraisal (PRA)

PRA represents a 'menu of methods' for the collection of information concerning local peoples livelihoods, resource use and knowledge systems. PRA is a means of collecting different kinds of data, identifying and mobilising villagers and evoking their participation. Because of its participatory nature, PRA is a useful methodology to focus attention on people, their livelihoods and their inter-relationships with socio-economic and environmental factors.

The rationale behind empowerment of villages in resource management and conservation initiatives and participatory approaches is essentially to let people help themselves, and to provide the resources for them to be able to do this if and as they need them. This is where you as a VILLAGE TRAINER play the main role. It is important for you as a VILLAGE TRAINER, to learn about people's lives and listening to what they have to say. From this knowledge of how best the CMCP can assist them will then emerge.

PRA methods do not require expert knowledge for implementation. They can be used at the village level, and this in turn can build the capacity of the village. The use of PRA will help communities to define their problems, consider previous successes, evaluate their local institutional capacities, prioritise opportunities, and prepare a site-specific plan of action, i.e. a Locally Managed Marine Area (LMMA) and associated resource and conservation management plans. This in turn will help improve local resource management and to mobilise village efforts to implement identified activities and strategies.

Stages of Developing a LMMAs and Associated Management Plans

The process of developing LMMAs and associated management plans will follow a similar entry and community dialogue process the Bismarck Ramu Group. The process is listed below:

Entry	Meet with leaders and village people; assess the capacity of the village to co-operate
<i>PRA tools</i>	Secondary data, radio programs, direct and participant observation, interviews and focus group discussions
Education	Village meeting on history and culture with a strong emphasis on self-reliance; develop awareness
<i>PRA tools</i>	Interviews and focus group discussions, time lines and historical trend analysis
Assessment	Village mapping; discussion on village strengths and issues of concern;
<i>PRA tools</i>	Direct and participant observation, interviews and focus group discussions, semi-structured interviews and household surveys, gender analysis, social and resource mapping, transects, historical mapping, time lines and historical trend analysis, resource use practices, profiles and biological monitoring, seasonal calendars
Analysis	Possible solutions and how to rectify; develop motivation
<i>PRA tools</i>	Interviews and focus group discussions, socio and economic trends analysis, priority-setting
Planning	Assist village planning and prioritise/rank issues of concern
<i>PRA tools</i>	Interviews and focus group discussions, socio and economic trends analysis, priority-setting
Mobilise	Village implementation of actions into practice
<i>PRA tools</i>	
Follow-up	Monitor, encourage and evaluate
<i>PRA tools</i>	Interviews and focus group discussions, monitoring and evaluation

A List of PRA Methods and Tools

Because of the nature of the methods, there are some 30 tools/techniques/methods for collecting information and ensuring local participation, a wide variation and variety of information can be obtained.

Direct and Participant Observation

These techniques are usually used by anthropologists in the field and include observation of physical objects, events, processes, relationships and people in the village. This approach can be used to record data about village meetings, infrastructure and resource use.

Group Meetings and Focus Group Discussions

Group meetings and focus group discussions are a suitable means to get verbal comments about the situation in which the people are engaged. They help to discover problems and expectations related to the situation as perceived by local people.

Focus group discussions help identify and describe perceptions, attitudes, and issues of concern and felt needs.

Semi-structured Interviews and Natural Group Interviews

Semi-structured and natural group interviews are broad, open-ended questions to be addressed to knowledgeable individuals in a conversational, relaxed and informal way. They can be used to obtain specific, quantitative and qualitative information.

Social and Resource Mapping

Spatial information can be obtained by participatory mapping or by facilitating 'mental' mapping by the people themselves. It can become a valuable resource for future impact assessment and monitoring exercises. Maps show where resources, activities, issues of concern and opportunities are located. Social mapping can be used to provide a village-based environmental assessment. Aspects of village mapping are:

- To gain recognition of resource right;
- To demarcate and protect traditional territories;
- To gather and guard traditional knowledge;
- To improve village capacity to manage and protect natural resources;
- To increase local capacity to deal with external impacts;
- To solve territorial disputes among different resource users; and
- To enhance local participation in planning and conservation management

Transects

Transects can help identify resource management issues, available stocks of various marine resources, and visible signs of sustainability or unsustainability of resource. It is a method useful for distinguishing major resource zones and differing topography and for learning about indigenous ecological categories. Transects add more specific data like species composition, economic activities, resource use, management problems and opportunities

Historical Mapping

Historical mapping helps to portray the demographic and natural resources situation of the village at different moments of its history. It can provide visual evidence of changes that have occurred and expected trends. In this way it can help identify determinants of environmental degradation and population dynamics and enables participants to consider suitable means of moving towards a desired future.

Time Lines and Trend Lines

Time lines and historical trend lines help to identify factors that has influenced the abundance of marine resources over time and the nature and extent of their impacts. Trend analysis help learn from the village how it views change over time in various sectors; integrate key changes into a village profile, which will simplify issues of concern identification; and begin to organise the range of opportunities for the village to consider. Data collected indicate the themes that people consider important. Discussing trends in resource use can bring out important resource management issues for preparing LMMAs and associated resource management plans.

Socio and economic trends analysis are used to gain historical insight into resource harvesting patterns and into socio-economic pressures on the villagers.

Ranking, Matrices and Priority Setting

Ranking exercises may/can be drawn as a matrix. Ranking creates village awareness of an information base orientated towards them and their needs as it is based on locally accepted criteria, as well as on such externally identified categories as environmental sustainability, stability, equity and productivity or cost, time to benefit, and social and technical feasibility. On the basis of rankings, the community recommends specific actions to be incorporated in the LMMAs and associated resource management plans.

Priority setting is used to reach a group decision on courses of action to be adopted and can be used when individual opinions must be consolidated into a group decision. It is a useful tool in planning and for developing LMMAs and associated resource management plans.

Seasonal Calendars

Seasonal calendars are used to identify seasonal influences on the abundance and use of marine resources. Attributes included crop planting and harvesting; water supply; labour demand; food consumption; fishing activity; wind and rainfall. They can generate information on seasonal variations in local problems, resources, constraints and opportunities. They can also explore the use and reliance on various resources, the times when the village is fully occupied (gardening); drought or cyclone periods; hungry periods (Huwalu), feasting, etc.

Venn Diagrams and Institutional Analysis

Institutional analysis is used to identify institutions influencing the harvesting of marine resources and describe their influences. It indicates local and broader structures of authority, power and control. It can also help establish village assessment of their linkages to the world beyond and cohesive forces within the village. Venn diagrams can be drawn depicting institutions within and external to their village and their relative influence on marine resource use.

SWOL Analysis

Strengths, weakness, opportunities and limitations (SWOL) analysis is a powerful tool for group assessment of an issue of concern. It is based on structured brainstorming aimed at getting group perceptions of the positive factors (strengths), the negative factors (weaknesses), the possible improvements (opportunities) and the constraints (limitations) related to the issue.

Role Playing

Role-playing consists of simulating events or interactions in a safe, make believe setting with the aim of identifying (and sometimes altering) attitudes and behaviours, which enhance or hamper the flow of communication in real life.

Successes and Problems with PRA Methods: Examples from Elsewhere

The Arnavon Islands: Solomon Islands

The Arnavon Islands Marine Conservation Area Project (AMCA) located in the Solomon Islands was first developed to conserve the environment of the Arnavon area through sustainable management of its marine and terrestrial resources. The reason for the AMCA was to introduce a management program for resources, which were threatened by overfishing, which is the same problem that is seen in Milne Bay. An approach to participation in the AMCA has evolved which combines efforts to raise village awareness on resource management issues at the same time as hearing village perspective's and views on such issues.

PRA tools and methods were used first to encourage village residents to think systematically about their resources and resource use, problems and possible solutions, and secondly, to help the project co-coordinating team comprehend the areas conditions and circumstances, and to analyse problems and present options for addressing them. Methods that were used included: historical timelines, resource profiles, ranking exercises, resource management option analysis, village maps and household surveys. Though there were problems associated with some of these PRA methods the project has proved acceptable to villagers and stakeholders and is now expanding into other provinces.

The Rennell Area: Solomon Islands

Another area, the Rennell Island in the Solomon Islands used PRA methods to test their effectiveness. These were social and resource mapping, transects, development priority ranking, time lines, seasonal calendars, household ranking, farm sketches, photographic ranking and individual interviews. Particular problems were encountered with the following methods:

- Social/resource mapping showed marked differences between men's and women's perceptions of the resource area and uses and were considered unreliable;
- Time lines and trend analysis suffered and was subsequently abandoned due to the difficulty of participants remembering events (a similar problem was experienced by in the Arnavon Islands);
- Household ranking according to wealth was unsuccessful because villagers were unwilling or unable to perceive and account for differences between households; and
- Individual interviews were unsuccessful, as people seemed unwilling to sit and answer a series of questions about village life.

Misima Island: Milne Bay Province

Participatory meetings were run in Narian and Gaibobo villages in order to explore and initiate action by the village about land use problems. Meetings were kept as informal as possible, using small groups and various PRA techniques to encourage participation. Situation and problem analysis was the main method used where the people themselves explored their current environmental problems in particular those dealing with land issues and food security. Problems encountered included:

- Poor attendance and interest through poor co-operation from the Councillors in informing the people of these meetings and conflict with other programs. Daytime meetings also often conflict with gardening or other activities.
- A 'Not really going to help me' attitude was connected to poor attendance. Once people heard that there wasn't something tangible involved for them in the short term, they loose interest. There was definitely an attitude that 'development' comes from the outside (from the company, government, the 'dimdims' etc), and that they in themselves can't do much because they don't have the resources or knowledge. This expressed itself as 'Well, you're the expert, you tell us what we need to do' – which defeats the purpose of participation.

- Abstract concepts posed problems for participants. Making open, unspecific statements didn't work either, eg. 'Visualise' where you want to be in 5 years' or 'what are the problems you face in the village'. This either led to unrelated discussion or no discussion. Though again it conflicts with 'true participation', it was easier to 'weight' questions in order for discussion to get anywhere. Even then, discussion didn't take off in the right direction, but needed continual prompting.
- Implementation after the participatory meetings was not good. Problems that emerged in later meetings were that no one was giving the ideas a go. It was hard to find people who would take the initiative.

Further Reading

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Tools for Participatory Community Engagement

The methods and tools described in this section are part of a large portfolio of adaptive, flexible, and innovative approach to allow communities to research, plan, act upon and evaluate situations and changes in their economic, social life and their surrounding environment.

There are a variety of shared principals of PRA, which aim at better involvement, and understanding of communities in their own process of analysis, planning and action. In order to do this, you as a VILLAGE TRAINER should:

- Encourage the participation of a range of different people from the community, including women
- Be open to learning from the community, rather than preaching
- Be informal and relaxed, not rushed or arrogant
- LISTEN NOT LECTURE
- Be self-critically aware, and able to adapt one's own behaviour

Good VILLAGE TRAINER	Bad VILLAGE TRAINER
Respects community knowledge	Believes his/her knowledge is superior
Treats villagers with respect	Believes him/herself superior to villagers
Tries to learn from the people (open minded)	Believes he/she knows all the answers (close minded)
Seeks villager cooperation (is democratic)	Commands the villagers, tells them what to do (is undemocratic)
Works side by side with villagers to develop solutions (is respectful); provides helpful professional know-how as needed and requested	Does not value village life, village customs or village cultural knowledge
Likes going where the work is; likes to be with the common people	Does not want to work in villages

Starting Community Engagement

- Don't panic or worry about feeling nervous. Just get started.
- Explain why you are there.
- Be honest about why you are there.
- Ensure that you follow protocol and introductions at all meetings - it is common for this to be dropped during later stages of fieldwork.
- Begin with a non-sensitive visualisation method, such as mapping/modelling or historical profiles/time lines.

And Afterwards

- Cross check by repeating the diagram with different social groups; women and men, old and young, etc.
- Analyse what the process has thrown up, identifying ambiguous and unclear issues. Use this to plan the next step of the fieldwork. Remember that this should be done with local people.

Direct and Participant Observation

What is it?

Direct and participant observation is methods usually used by anthropologists in the field and include observation of physical objects, events, processes, relationships and people in the village. This approach can be used to record data about village meetings, infrastructure and resource use. It is a very important tool because it is easy to be misled by myth, rumors or gossip. Therefore observations of important indicators to support or cross-check findings are essential.

When to use it?

Direct and Participant observation can be used to:

- Verify or cross-check information given verbally by an interviewee or key informant.
- Distinguish between different categories of wealth in a community, or within a household.
- Behavioural practices of groups of people.

Advantages

- Can be used in a variety of situations, is a flexible tool.
- Can explore interactions between people and things
- Provides a cross-check
- Involves very little interruption of people's daily routine

Precautions

- Cannot detect what people are thinking
- Requires some practice
- Remember to be systematic about data collection

How to use it?

- Think about issues that could be observed that would help you understand more about the past or present condition of the community members. Develop a checklist of issues.
- While doing observation, or shortly after, remember to note important aspects
- Participate and share in community activities.

Group Meetings and Focus Group Discussions

What is it?

Group Meetings or focus group discussions are a suitable means to get verbal comments about the situation in which the people are engaged. They help to discover problems and expectations related to the situation as perceived by local people. Focus group discussions help identify and describe perceptions, attitudes, and issues of concern and felt needs.

A group meeting can be a big group or a small gathering of individuals from a community, village, or clan getting together to discuss a particular purpose. Focus group meetings are particularly useful with certain groups of people who are hesitant to speak up in a large village meeting, particularly for women. The findings from a focus group meeting can be presented back to the community meeting later.

When to use it?

Group meetings are used for a variety of purposes, including;

- Establishing an initial understanding between outside agents and community members. And to obtain initial approval to conduct the PRA.
- Discussing important issues concerning the community
- Reaching community consensus on an issue.

Advantages

- Many people can be reached in a short time
- Can build trust between community members and outside agents.
- Group interaction enriches the quality and quantity of information provided.
- Village meetings allow all to participate, not only leaders.
- Focus group meetings enable the voices of timid groups to be heard.
- Focus group discussions are quite good at disclosing the range and nature of problems, as well as preliminary ideas about solutions.

Precautions

- VILLAGE TRAINERS must remember to encourage two-way communication, never lecture.
- Don't let the conversation get off topic for too long (if important issues arise, identify group members for further discussion)
- Avoid letting a few people dominate the discussion.
- Large amounts of information are easily obtained, which may cause problems for reporting.

How to use it?

- Make sure you have a clear idea of what you and the community members want to achieve through the meeting. Obtain approval from the community leaders, to hold the meeting.
- Choose an appropriate time and place for the meeting. Work around community members' schedules. Inform people of the purpose of the meeting, the time and place. After two hours people start to get tired, so try to keep the meetings under two hours.
- Think about ways to promote discussion. Have a few provocative questions prepared ahead of time. The group facilitator and a community leader can co-facilitate.
- Make the introduction to the meeting as brief as possible. Make sure that the purpose is well understood.
- Start with topics or issues on which it is easy to get agreement from the group. Address sensitive issues later.

- Allow differences of opinions to emerge. Try to get a consensus or the difference accepted.
- At the end of the meeting, summarize the process, outline the decisions made, and identify the “next steps” that needed to be taken. Determine place and time of next meeting.
- End on a positive note.
- Notes and recordings of interviews should be carefully reviewed shortly after the session. Views and attitudes should be recorded as phrased by the participants.

Example: A Group Meeting at East Panaeati.



Example: A Group Meeting at Brooker.



Semi-structured Interviews and Natural Group Interviews

What is it?

Semi-structured interviewing is a form of guided interviewing that allows for open, two-way communication between the person being interviewed and the VILLAGE TRAINER. Semi-structured interviews are lists of broad, open-ended questions to be conducted in a conversational, relaxed and informal manner. It is one of the basic tools used throughout the PRA process. This form of interview is much more likely to yield in-depth opinions and perceptions than a questionnaire or survey.

Semi-structured interviews can be held with individuals, key informants, large groups, or focus groups. Key informants are those with a particular knowledge of topic. Individuals can be chosen randomly for an interview in order to obtain information that is representative of that community or group.

Natural Group interviews are conducted with people you meet walking about. These interviews are a suitable means to get verbal comments about the situation in which actors are engaged. They help to discover problems and expectations related to the situation as perceived by villagers, as well as common interests.

When to use it?

This tool can help:

- Obtain relevant information (both quantitative and Qualitative) from a sample of the community
- Develop deeper understanding of a particular topic
- Interview different types of people on the same topic.

Precautions

- Make sure villagers realise that the answers are confidential.
- Do not help give answers.
- Take good notes.
- Probe to get to the root of the problem.
- Avoid asking leading questions.
- Make sure questions are clear.

Advantages

- Less intrusive than a questionnaire or survey.
- Can be placed and timed to fit the respondent.
- Administered in a relaxed place comfortable to the respondent.
- Can obtain very detailed information and rich quotations.
- Individuals when interviewed alone will discuss sensitive issues more easily.
- Provides hints about local views and issues of interests.
- Provides an opportunity for learning.
- Can be used in a variety of locations and settings.

How to use it?

Before the interview:

- Prepare yourself. Make sure you are well informed about the issue, so that you can ask relevant questions and show an interest in the responses.
- Be aware of issues of age, sex, language and when putting together your interviewing team.
- Start general and get more specific and though as you go along.

- Depending on the size of the village, you may need to choose a sample of people to interview. Generally, they should come from a variety of backgrounds.

During the interview:

- Be sensitive and respectful.
- Use the same language. Keep the tone relaxed and conversational. This will enable the interviewee to open up and improve the quality of information gathered.
- Remember: Who? Why? What? Where? When? How?
- Avoid questions that only require a 'yes' or 'no' answer. Use open ended questions that require people to explain their response.
- Formulate questions clearly and don't ask more than one question at a time. Start with broad questions and allow respondents to answer in their own terms. Once there is a basic understanding of the issue at hand, go into more depth by asking specifics questions.
- Avoid providing answers to the respondents, even if they are having difficulty expressing themselves. Avoid lecturing and advising. You as a VILLAGE TRAINER are there to learn about villager's opinion and problems, not to solve them. Remember: Listen and Learn.
- Probe to obtain increasingly detailed and in-depth information on a subject. In order to probe, listen closely to what is being said. Probing techniques include nodding and saying 'yes', allowing for pauses for the interviewee to add more information, repeating questions in a slightly different way, using neutral questions, such as 'could you tell me more about that?'; 'could you give me an example?'
- Good detailed recording is essential. Assign one team member as a note taker. In situations where note taking is difficult, write down a few quick notes and write up the complete notes later the same day. Don't delay or you'll forget.
- Finish the interview politely. Thank the interviewee.

Mapping

What is it?

Mapping starts with collective discussions among groups of community members and then proceeds to drawing maps of their perceptions about the geographical distribution of environmental, social, and natural and economic resources in their territory. Mapping is meant to get local people to reflect upon their community's problems, resources, changes and achievements. Maps show where resources, activities, issues of concern and opportunities are located.

When to use it?

Mapping can be used to:

- to gain recognition of resource right;
- to demarcate and protect traditional territories;
- to gather and guard traditional knowledge;
- to improve village capacity to manage and protect natural resources;
- to increase local capacity to deal with external impacts;
- to solve territorial disputes among different resource users; and
- to enhance local participation in planning and conservation management

Advantage

- A multi-purpose tool that provides a lot of information at once.
- Mapping and associated discussions quickly provide a broad overview of the situation.
- Is highly participatory, (informants need not be literate).
- Encourages two-way communication.
- It can show changes over time.
- Helps villagers in seeing links, patterns and inter-relationships in their territory.
- Good for starting a patrol

Precautions

- Make sure the community members (and not outsiders) create the map
- Maps should be made quite large with local materials.
- Avoid having one person dominate the process.

How to use it?

- Gather together a group of people with a good knowledge of the community or clan. You may want to do one map with women, and one with men, then compare what issues are seen as most important. Have local materials available like leaves, bowl of ash, bowl of sand, bowl of red soil, bowl of dark soil, twigs, small rock, shells, bottle caps, flowers, etc.
- Give introductory statement, explaining why you have come and what you would like to learn from the community. Agree on the subject of the mapping exercise and symbols to be used. Have a checklist (in your mind or on paper) of the issues you want to cover through the mapping exercise.
- Start by having local people indicate on the map major landmarks. Take a stick or rock to draw the first lines in the dirt, then pass the stick (or rock) over to the villagers, to take over the process.
- Have villagers indicate on their map where there reefs are and ask them to represent it with a locally available material. Probe to find out what they use the sea for. Then have them indicate the marine use (for instant fishing, looking for shellfish) and represent them with local materials. Once all the marine use has been demonstrated, try to determine what proportion on the sea is devoted to what use.

- Ensure that someone is taking notes on the various discussions that occur in parallel around the diagram.
- Do not dominate the process yourself. Be patient and don't interrupt. It's their map.
- Promote participation of all groups by posing questions to several individuals; allow the group to discuss different opinions and perceptions. Be aware of those people who dominate the process, and those who remain on the margins. Look for ways of bringing those on the margin into the process, or divide the group so as to begin a parallel analysis with them.
- Use prompting questions when people appear at a loss as to what to do next, such as, "Where do you get your drinking water from?" if no sources have been marked on a map. This is much better than telling people to put on all wells, rivers, taps, etc.
- Ensure the diagram does not just represent a snapshot of the current conditions by discussing the past and the future.
- Once the map is finalised, ask participants to interpret the overall picture, if appropriate, suggest that they identify the main problems revealed by the map and ask them about possible solutions.
- Remember: The map is community property. Make sure a copy of the diagram is made (by the team or by local people) if the original is on the ground. Don't simplify if it means losing detail. Also, don't over elaborate. Check the copy with those who created the original diagram. If possible, take a photograph of the original map.
- The same process can be repeated concerning an agreed upon period in the past. A map can be done of what local people believe their village will look like in the future. Discuss reasons for differences between the past and present maps and probe into each issue. Remember, the map is only a facilitation tool for understanding more about the community resources, problems and attitudes. It is not an end in itself.
- Have villagers reflect upon the usefulness of the mapping process. Did they learn anything new about their village?

Adaptations

- Map of fishing grounds, reefs, indicating what they fish for and where. The reefs are with the most fish, reefs that are over fished. Who goes fishing where?
- It can be done for their gardens.
- Clan/Migration map over time.

Example: Illustration of a Community Map: Bubuletta station.



Transects

What is it?

One of the tools for gaining hands on experience in a community is to take a walk during which attention is specially paid to people, activities, resources, environmental features, etc. These walks can be done as a transect. The transect is a cross-section or straight cut through the community to capture the greatest diversity of environments, land uses, etc. It helps the team organize and refine data gathered through direct observation and summarizes the local conditions and the community's problems and opportunities. Ideally the walk is organised for a small group, so as to maximise the opportunities for interactions.

When to use it:

Transects can help identify resource management issues, available stocks of various resources, and visible signs of sustainability or un-sustainability of resource. It is a method useful for distinguishing major resource zones and differing topography and for learning about local ecological knowledge. The transect provides mapping information beyond that collected during the initial sketch mapping. It adds detail on specific characteristics (slope, drainage, vegetation, water, soils and other resources) that further refines the team's understanding of the area and the interactions between the physical environment and human activities. It also adds more specific data like species composition, economic activities, resource use, management problems and opportunities.

The transect should include more detailed and specific information than the sketch map, such as data on cropping patterns, trees, and other vegetation, and average farm size. The map gives a bird's eye view of the area, while the transect cuts across an area to look at cross section of land-use patterns. The transect may be identified from north to south, high to low elevation, or any other direction, as long as it covers all major ecological and production zones and assures representation of maximum topographical, resource and socio-economic variation of the community. A large and highly variable community may require more than one transect.

Information is collected through observation and random conversations with people along the way. Used to obtain information about the area using direct observation and local knowledge and help clarify spatial misconceptions by visiting areas and people that are not often visited.

Advantages

- Allows for formal discussions to be combined with direct observation.
- Transect walks area a highly participatory and relaxed technique.
- They enhance local knowledge.
- They may be extremely useful in validating findings of mapping exercises.
- Random nature of interviews along the way can increase the validity of findings.

Precautions

- Choose your route carefully so that it is representative of the diversity of the village.
- Avoid writing notes in front of the people you meet along the way.

How to use it?

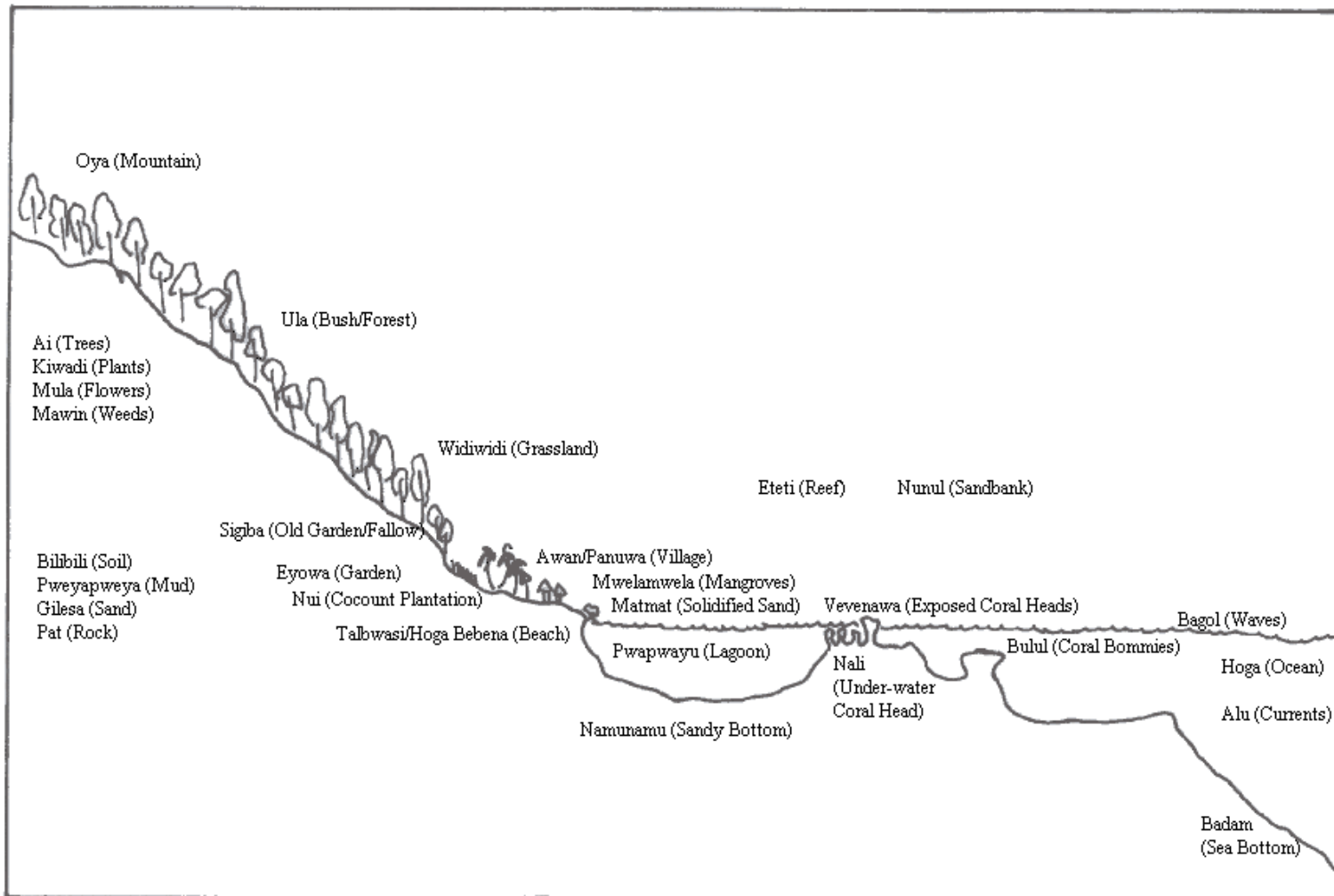
- Find local people who are knowledgeable and able and willing to walk and help.
- Through discussions with the community, choose a logical starting point for walking the transect line.
- Remember: The transect should cover all major ecological and production zones and assures representation of maximum topographical, resource and socio-economic variation of the community. A large and highly variable community may require

more than one transect. Assign responsibilities for observation and note-taking to team members, depending on the skills of the team members.

- Proceed along the transect, taking time for brief and informal interviews in each of the ecological zones. During these open-ended interviews, focus on such resource issues that are thought to be important based on previous information collected. Let team members ask questions of those being interviewed and let residents help steer the discussion and ask questions of the team.
- Allow sufficient time for this task. Don't rush. It might take as much as full day to complete.
- At the end of the transect, compile field notes and construct a chart. The information from the interviews can also be used later to help determine problems and opportunities.

Example: Students on a Transect Walk through a Forest area in Fiji.





Example: Environmental Transect

Historical Mapping

What is it?

Historical mapping helps to portray the demographic and natural resources situation of the village at different moments of its history.

When to use it?

It can provide visual evidence of changes that have occurred and expected trends. In this way it can help identify determinants of environmental degradation and population dynamics and enables participants to consider suitable means of moving towards a desired future.

Advantages

- Summarises results of change over time
- Increases villagers' understanding that positive and negative changes in environments and populations are shaped by historical, man-made actions.
- Helps identify mid or long-term solutions to the population and environmental problems affecting the community.

Precautions

- Sensitive issues from the past may be raised, including conflicts within and outside the community.
- Likely to identify some effects and causes which are beyond the communities control.
- Discouragement and frustration may develop among participants.

How to use it?

- First draw a map of the current population and environmental situation (similar to the social and resource mapping above).
- With the help of elderly community members, do the same as it was approximately 20 years ago.
- The current and past maps are then compared to collectively identify major changes and root causes.
- Based on the list of changes and causes, a map can be drawn by the participants to show their expectations of the situation which will exist in 20-30 years time from now, if the current trends are maintained.
- The future map can be used to identify potential means for addressing environmental degradation and resource decline.

Example: Historical Mapping Showing Change over time.

Gardens	Sago	Village	Mangroves	Sea Shore
Plantation				

1960

Gardens	Sago	Village	Sea Shore
Cash crop			

2002

Time Lines and Trend Lines

What is it?

Time Lines explore significant events in a community's past. It is a list of key events in the history of a community that helps identify past trends, events, problems, and achievements.

Trend lines help to identify factors that have influenced the abundance of resources over time and the nature and extent of their impacts. Data collected indicate the themes that people consider important.

When to use it?

Time lines and trendlines are used to:

- Understand events the community considers to be important in its own sense of history.
- Understand past trends in specific subjects, such as village growth, resource harvesting, etc.
- Stimulate community discussion about how and why a problem arose.
- Help communities to understand the relationship between their actions and the natural environment.
- Determine the trends the community anticipates to continue in the future.

Advantages

- Builds on oral traditions.
- Good for linking problems with causes.

Precautions

- People may not understand graphs.

How to use it?

Time Lines

- Gather together a group that includes elders and long-term residents. Group discussion helps people remember the past.
- Explain that your team wants to get an understanding of the communities' past.
- Write the events and dates in chronological order.
- Once the time line has been established and agreed upon, ask whether certain events such as food or resource shortages are increasing or decreasing in frequency.
- Discuss these trends.

Trend Lines

- Gather together a group that includes elders and long-term residents.
- Explain that you would like to understand some of the past trends and together you will develop a series of drawings on the ground to summarise these trends.
- Draw a blank graph explaining that time is in years from left to right. On the vertical axis, the amount goes up and lowers as you approach the horizontal axis.
- If people cannot grasp this, abandon the graph and continue verbally.
- Indicate quantity by placing stones above the appropriate year or date. Continue until the graph is complete.
- Repeat with other issues, such as resources change, fallow periods, population growth, etc.
- Now show that these factors are related. For instance as population increases, fallow periods drop and resources decline.
- Allow people to discover these relations and discuss them Don't Lecture.

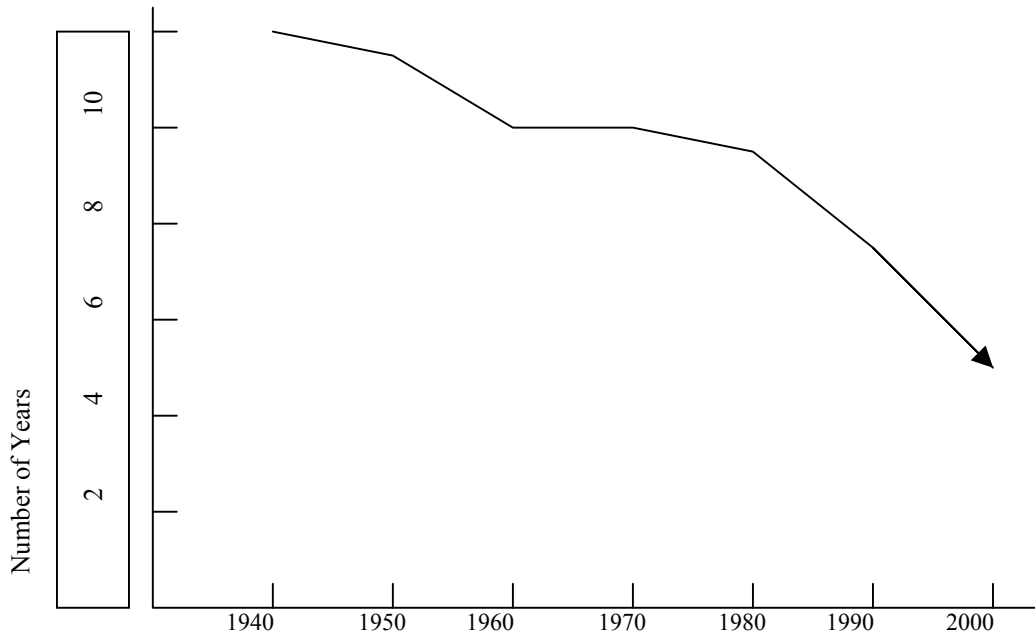
Example: Milne Bay Timeline.

50,000 years ago	First people arrive in Papua New Guinea
10,000 years ago	People begin to make gardens in the Western Highlands
3,500 years ago	Austronesians begin migration eastward into Papua New Guinea and into the Pacific
2,000 years ago	Jesus is born, people arrive in the Milne Bay Province to colonise the islands, bringing pigs, dogs, yams, taro, knowledge on how to make stone axes and clay pots.

Year

1606	Louis Vaez de Torres, is the first dimdim to see the Louisiade Archipelago.
1768	Louis Antoine de Bougainville names the Louisiade Archipelago.
1840	D'Urville goes to Ware and begins surveying the Calvados Chain.
1877	London Missionary Society mission started at Suau and Ware Island.
1878	High number of deaths from introduced diseases. John McOrt and William Ingham killed at Brooker.
1885	Reed murdered in the Engineer Group.
1886	Nivani is chosen as the headquarters of the South-eastern Division. The whole of the Louisiade Archipelago declared a gold field.
1891	Methodists arrive at Ware, Panaeati and Tubetube. Large depopulation at Tubetube. Kwato mission set up by Charles Abel.
1892	Nivani Island planted for copra.
1902	Colonial headquarters are moved from Nivani to Woodlark. Louisiade goldfields wind down.
1909	J. G. Munt takes over plantations at Nivani.
1920	Colonial headquarters return to Bwagaioa from Woodlark. Panasesa in the Conflicts granted freehold status.
1938	First motor vessel arrives in Milne Bay.
1939	Translation of New Testament into the Misima language is completed.
1940	Panapompom plantations are taken over by F. Palisbo.
1941	People evacuated from Samarai and Misima because of the War. A Japanese floatplane is based in Deboyne Lagoon.
1942	Lieutenant Mader is murdered at Motorina as part of a cargo cult.
1948	Cyclone damages villages in the Louisiade Archipelago.
1958	Louisade Local Government Council established. Cargo Cult at Panaeati.
1962	MV Karu is wrecked at Jomard.
1966	Bwanabwana Local Government Council established.
1968	Movement of Government Administration from Samarai to Alotau.
1974	Masurina begins business.
1975	Independence.
1978	Milne Bay Provincial Government set up.
1979	Milne Bay Fisheries Authority opens outstation at Brooker.
1989	Misima Mines starts operations.
1990	Milne Bay Fisheries Authority stops operations after costing 48 million kina.
1993	Nako Fisheries is started. Coral Sea Fisheries is also started at Misima.
1996	Coral Sea Fisheries stops operation.
1997	Introduction of the <i>Organic Law</i> . Cyclone Justin hits the Louisiade Archipelago. <i>Conservation International begins work in Milne Bay.</i>
1998	Drought.
1999	New Testament re-translated into Misima.
2000	Three illegally fishing longliners run aground in the West Calvados.
2002	Tim Neville becomes Governor for the second time.

Example: Trendlines



Decline in Fallow Periods



Population in the Area

Ranking, Matrices and Priority Setting

What is it?

Ranking can assist communities analyse, sort and prioritise their problems and solutions, or group their responses into categories.

A matrix is a chart, which compares one set of issues with another. This tool can help villagers in prioritising and decision-making. Different options, preferences, and problems can be compared in order to find out which is the most important and why. There are two types of matrices: pair wise ranking and preferences scoring.

Priority setting is used to reach a group decision on courses of action to be adopted and can be used when individual opinions must be consolidated into a group decision. It is a useful tool in planning and for developing LMMAs and associated resource management plans. Like other scoring and ranking techniques, these exercises may be used when individual opinions must be consolidated into a group decision.

When to use it?

Ranking can be used to understand community members' perceptions of their future and their willingness to solve problems on their own ranking can be used for a variety of purposes, some of which are to:

- Identify and prioritise future needs into categories such as most urgent/less urgent, easily solved/difficult to solve.
- Compare preferences between groups (men and women) and between villagers or clans.
- Measure the level of environmental awareness.
- Quantify opinion and preferences elicited through interviewing.
- Compare preferences and opinions as expressed by different groups.

Advantages:

- A flexible tool that can be adapted to a variety of situations.
- It can help quantify awareness and increase commitment.
- Information is provided on both the choices and reason for the choices.
- Choices are based on locally accepted criteria.
- The visual aspects allow the illiterate to participate.
- Helps groups to identify the main thrust of their collective opinions instead of just individual views.
- Contributes to reaching a consensus on controversial issues.

Precautions:

- Make sure to record reasons for their choices.
- Make sure you have thought about what you want to rank or place in a matrix, which type is most appropriate, and you are prepared beforehand.
- Final decision may be influenced by the scoring mechanism.

How to use it?

- From previous discussions with the community you may have a list of problems and needs. Ranking can be determined which are the most important of these needs.
- Start by reviewing all the problems mentioned during focus group meetings, group meetings, individual discussion (storing) sessions, and other previous visits.
- Define a simple ranking mechanism. This may be based on a pair-wise comparison of items on the list (eg. Is A better than B?), on sorting cards representing items in order of preference, or on assigning a score to the different items. Pair wise ranking can be used to determine which is the most common or most important issue amongst

a number of issues. This is a simplistic 'either/or' type of comparison. Preference scoring allows villagers to rank issues according to degree (high, medium, or low) and by criteria (or reason). Preference scoring can be used to come to a decision about something, such as a future development activity to be launched, or future uses of the forest. Never use matrices unless they are relevant to your investigation. Some other examples of how these matrices can be used are:

- Prepare a matrix on which preferences identified by participants could be jotted down (eg. On the ground, blackboard or flip chart)
- Have community members assign symbols for each issue. Make sure you have a pile of stones, seeds, or twigs cut into small uniform pieces. These are used for scoring. Arrange them in a column, one beneath the other. Check to make sure everyone remembers what the various symbols represent.
- Ask the villagers to consider which criteria they will use to evaluate the issue. For instance, if you discussing the usefulness of various tree species, the community's criteria may include: provide food, good for building, can be sold for money, provides useful medicine, etc. If you were determining preferred income generating activities, villagers' criteria may include: good money earned, ease of work, low start up costs. Low risk, etc. Make sure the criteria are all expressed in positive terms, to avoid confusion when it comes to scoring. Make sure they are the villagers' own criteria.
- Take on issue at a time and ask villagers to evaluate it according to the specific criteria. High or good is represented by three to five stones, medium by two to four, and poor by zero or one stone. After the group has come to a decision on the scoring, have a villager place the agreed upon number of stones in the appropriate square.
- After the matrix is completed, have villagers count up the totals and discuss the preferred issue. Through probing, confirm that the matrix results reflect general consensus.

Example: Preference Ranking

Cause of Problem	Respondents						Total score	Ranking
Slope of land	5	5	3	5	4	5	27	Most important
Pigs destroying crops	4	3	5	4	5	4	25	2 nd most important
Weeds	1	2	1	3	1	1	9	Least important

Constraints to Agricultural Production**Example: Preference Ranking**

Problem	Priority
No efficient means of transport	7
Irregular clinic patrols	9
No proper toilets	3
Lack of communications	10
Drinking contaminated water	1
Lack of nutritional awareness	6
Lack of family planning alternatives	5
Unhygienic homes	4
No health worker or first aid officer	2
Uncontrolled domestic animals	8

Health Problems and Priorities (1 is highest, 12 is lowest in importance)**Example: Matrix**

Marine Resource Use	Cash	Long-term benefits for children	Easily managed by villagers	Total
Harvesting	3	-	1	4
Continue as now	1	3	3	7
Sustainable harvesting	2	1	2	5
Increased sale of marine resources	1	3	2	6

Future Marine Resource Use

Seasonal Calendars

What is it?

Seasonal calendars are used to identify seasonal influences on the abundance and use of resources. They can also explore the use and reliance on various resources, the times when the villages are fully occupied (gardening); drought or cyclone periods; hungry periods (Huwalu), feasting, etc. It also shows the busiest and the quietest times of the year.

When to use it?

A seasonal calendar can be used to summarise issues or information on a yearly or some time interval. Issues may include crop planting and harvesting; water supply; labour demand; food consumption; fishing activity; wind and rainfall. They can generate information on seasonal variations in local problems, resources, constraints and opportunities.

It depends on what information you and the community needs to know and focus on that.

Advantages:

- Provides a lot of relevant information in a summarized fashion
- It can be easily adapted to a variety of situation.
- Best for understanding the present.

Precautions:

- Make sure there is diversity in the group, which is providing the information.
- Don't try to put too much information in one calendar.

How to use it?

- First the team decides on what information it needs to collect from which groups of people. You may want to do certain issues with men and other issues with women.
- Find a large flat, dirt space and a stick for drawing. Have locally available items of a uniform nature available (stones, seeds, twigs, leaves). Draw a line representing the year and a stone for each calendar month.
- Obtain information for each topic separately. Suppose you start by asking women about gardening. Try to determine which part of the gardening cycle is the most difficult for them and why. Probe to find out which crops are cultivated. Have the women place several stones or twigs above those difficult months, and a few under the relatively easier ones. Then proceeded to health, or rainfall or other issues. Two issues can be easily compared with one another. You may want to discuss fishing with men. Probe to find out which animals and fish are most fished. Continue in the same manner with other issues as appropriate.
- Ask probing questions to encourage villagers to analyse the relationships between factors. For instance, as rainfall increase, illness may become common.
- Draw up the diagrams in your notebook, marking sure to write supplementary notes elaborating the issues.

Example: Seasonal Calendar of Marine Food Resource Availability

Marine Resource	J	F	M	A	M	J	J	A	S	O		D
Turtle	xxx	xxx									xxx	xxx
Rabbitfish					xxx	xxx	xxx					

Example: Seasonal Participation in Village Activities

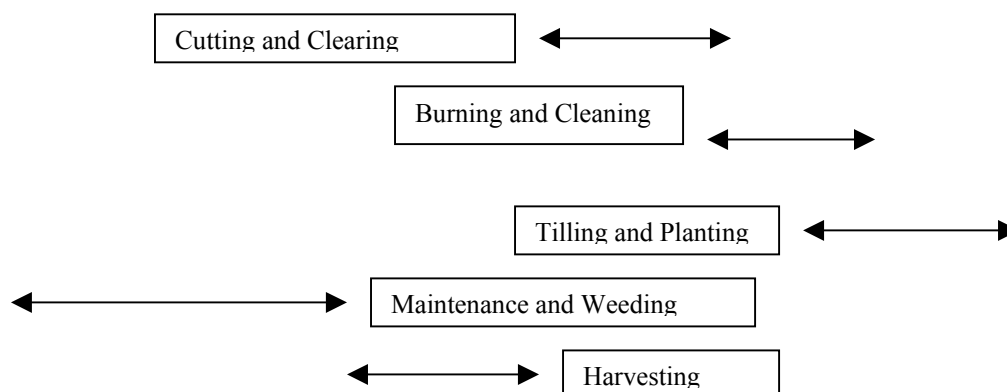
Activity	Number of people per Month												
	J	F	M	A	M	J	J	A	S	O	N	D	
Efforts into income generating activities	10	5	7	9	3	5	8	10	10	8	10	10	
Participation in traditional and religion activities	10	6	10	7	9	8	10	10	5	9	10	10	

(10 represents the busiest time while 3 represents the least busy time).

Example: Seasonal need for Money

Month	Reason
January / February	School fees, Huwalu (no food)
March / April	Huwalu (no food), Gift donation to the Church
May / June	Huwalu (no food)
July / August	Trade
September / October	Huwalu (no food), Gift donation to the Church, Feasting
November / December	Huwalu (no food), Christmas

Example: Seasonal Calendar for Gardening



Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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Venn Diagrams and Institutional Analysis

What is it?

Venn diagrams are a way to explore organizational issues and the village's linkages with outside organizations. Institutional analysis is used to identify institutions influencing the use of resources and describe their influences.

When to use it?

It indicates local and broader structures of authority, power and control. It can also help establish village assessment of their linkages to the world beyond and cohesive forces within the village. Venn diagrams can be drawn depicting institutions within and external to their village and their relative influence on resource use.

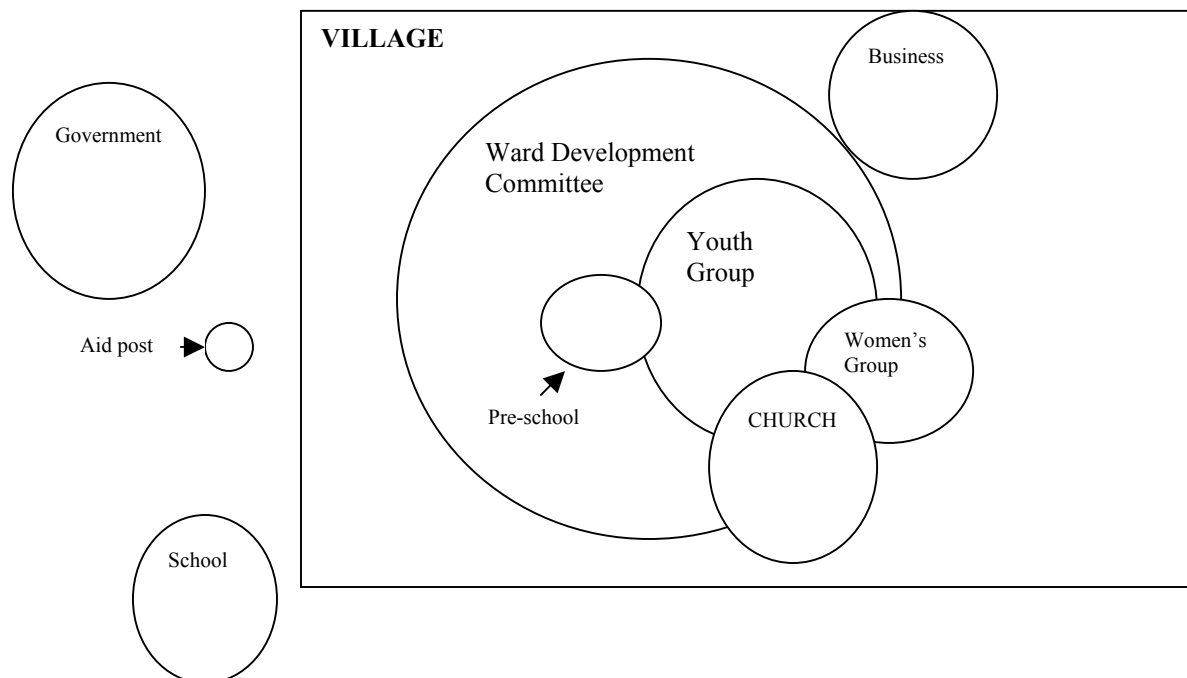
Advantages

- Good for getting overview of leadership structure.
- Good for understanding who is excluded from decision making.

How to use it?

- Start by drawing a large oval to represent the village. Anything inside this perimeter is strictly a village organization (women's groups, school management committee, etc.). Organizations, which have members from inside and outside the village, may straddle the oval representing the village. In general, the size of a circle reflects its importance.
- Making the circles touch or overlap shows contacts between groups in the diagram. If the circles don't touch at all, there is no contact. If they touch at the edges, there is some (not much) contact, and if there is overlap then they interact a lot.
- Discuss the diagram.

Example: Venn Diagram for Village Institutions Analysis



SWOL Analysis

What is it?

Strengths, weakness, opportunities and limitations (SWOL) analysis is a powerful tool for group assessment of an issue of concern. It is based on structured brainstorming aimed at getting group perceptions of the positive factors (strengths), the negative factors (weaknesses), the possible improvements (opportunities) and the constraints (limitations) related to the issue.

When to use it?

SWOL analysis is especially useful for evaluating activities carried out in the community and performance.

Advantages

- Stresses consideration of different sides (positive and negative) of the issues.
- Helps to sets the basis of negotiation and trade-offs and promotes understanding of the views of others.
- Discusses an issue in detail.
- Promotes group creativeness. It helps to link perceptions of things as they are realistic expectations about how things could be.
- Strengths and weaknesses tend to be more descriptive and easier for respondents to identify.

Precautions

- Opportunities and limitations (threats, constraints and barriers) are more analytical concepts and are hard for communities to grasp.
- Sensitive topics and differences of opinions may arise during the discussion.
- Some group members may attempt to dominate the discussion.

How to use it?

- A four column matrix is drawn.
- Ask the participants a key question about strengths; responses from the group are jotted down on the relevant column of the matrix.
- When all points of strengths are represented, weaknesses, opportunities and limitations are also identified.
- Each entry is left on the matrix only after achieving group consensus.

Role Playing

What is it?

Role playing consists of simulating events or interactions in a safe, make believe setting with the aim of identifying (and sometimes altering) attitudes and behaviours, which enhance or hamper the flow of communication in real life.

When to use it?

Role playing is useful in training VILLAGE TRAINERS in communication skills. It may be used to develop simple theatre sketches as entry points for involving a bigger group in discussion of social roles and communication behaviours.

Advantages

- Powerful tool for identifying and acquiring communication skills.
- Allows VILLAGE TRAINERS to experiment and realize the interactive nature of communication processed.

Precautions

- Need to manage group dynamics.
- A good performance in simulated session may not mean the same level of communication will be achieved in real life.

How to use it?

- Form two groups, everyone will get a turn at being a performer and an observer.
- After the performances the group discusses what can be done to improve communication in that setting or situation that has been acted.