Small-scale, low-cost, environment friendly irrigation schemes: sites selection and preparation of full work tender dossier
EuropeAid/137393/DH/SER/MK

MINISTRY OF AGRICULTURE, FORESTRY AND WATER ECONOMY

Component 2:
Support for stakeholders involved in planning and implementation of the irrigation sector policy

TRAINING MANUAL
For Institutional Stakeholders

SUBJECT:

- **Community Participation Processes and Techniques**

Date: 18 April 2019

This project is funded by the European Union

A project implemented by:
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1 EXECUTIVE SUMMARY

According to the Terms of Reference (ToR), the objective of Component 2: "Support for stakeholders involved in planning and implementation of the irrigation sector policy" is to provide capacity building of stakeholders in irrigation management, targeting the Water Management Directorate (WMD) at the Ministry of Agriculture, Forestry and Water Economy (MAFWE), and the Joint Stock Company for Water Management (JSCWM) and farmer's groups at the selected sites.

The support to the institutional stakeholders (WMD at MAFWE and JSCWM) should

1) provide clarifications and transfer necessary knowledge about practical application of the selected standardised methodology used to prepare the outputs under Component 1
2) support to successfully carry out the ongoing policy to transfer the responsibility for water management to water users

This support will be provided through the following trainings subjects:

1) **Methodology used for Pre-feasibility studies**
2) **Strategy to transfer/share water management to irrigation water users (Irrigation Management Transfer - IMT) (Workshop)**
3) **System Irrigation Management**
4) **On farm irrigation water management**
5) **Software applications for irrigation: CROPWAT, CLIMWAT, SURFACE, etc.**
6) **Methodology to be used for feasibility studies**
7) **Tender Dossier Preparation (following latest EU PRAG rules)**
8) **Community Participation Methods**
9) **Integrated Water Resources Management**
10) **Agriculture economics (farm management, marketing)**
11) **Others to be determined**

2 INTRODUCTION

The irrigation sector provides a rich source of experience and lessons in user participation. Participation by farmers in system design and management helps to ensure sustainability of the system, reduces the public expenditure burden, and improves efficiency, equity and standards of service. Mobilizing support at all levels and establishing the participatory process, however, involves costs; it also demands knowledge of the incentives facing each group of stakeholders, and of the essential elements in building effective users' organizations. (Meinzen-Dick & Reidinger,1995)

Benefits

Attempts to increase user participation have been spurred by the poor performance—in terms of efficiency, equity, cost recovery and accountability—of many large scale irrigation systems managed by government agencies. Greater participation by farmers, through water users' associations, has helped to overcome many of these problems and produced substantial benefits.

Improved Performance of Systems

The overriding reason for increasing participation is to develop better projects. Clear gains in efficiency and in the standard of service are achieved when design and management of the irrigation system are transferred to farmers. Design of the system benefits from local knowledge. Farmers have a direct incentive, and the means, to minimize costs as well as improve the service: users' associations can reduce labor costs by paying lower wages than government agencies; local farmers provide closer supervision of staff than distant agency supervisors do; breakages are reduced because farmers feel a greater sense of ownership. As a result of more timely water delivery and repairs, farmers' yields are higher.

Reduced Government Expenditure

One of the most noted effects (although this has nothing to do with farmers' motives for participation) is the reduction in government staff and expenditure requirements, due to farmer management and contributions of cash, labor and materials. Farmers' associations have proved more effective collectors of user fees than government agencies. It is not unusual for farmers to be willing to pay more than the original user rates after transfer of the system to their control. However, increased collection of fees does not motivate farmer participation. Participation must also result in direct benefits to participants.

Sustainability

Building irrigation systems, which are wanted, supported and owned by users themselves, provides the best assurance of sustainability. Physical and fiscal sustainability of the irrigation system beyond the project is enhanced when operation and maintenance costs are met from user fees rather than high levels of government subsidy.

Equity

More equitable organizational arrangements and water delivery have been noted when participatory approaches are followed. A contributing factor is the socioeconomic status of the leadership, which tends to be closer to that of the ordinary member, involving more tenants and small farmers than in non-participatory systems.

Spillover Effects

The transformation of water users from beneficiaries to partners in irrigation development can have a widespread impact, as farmers become trained and organized. It can increase local capacity to coordinate input supplies, for example, and to deal with other government agencies involved in rural development.

Costs and Risks

Efforts to introduce participation are not without costs for mobilizing field staff, training and organizing farmers and carrying out socioeconomic research. Nevertheless, subsequent savings in construction costs and higher loan repayment rates usually offset these additional costs. A bigger problem can be the additional time needed to establish a participatory approach and get the project off the ground. Developing farmer organizations is often a slow process, less under the project's control than constructing dams or delivery structures. Once the participatory approach has been established, however, it is not unusual for participation actually to reduce the implementation period. The typical causes of delay in implementing non-participatory projects— difficulties in negotiating rights of way, and obstruction by farmers or local politicians—are eliminated by effective participatory processes.

Conditions for Success

Mobilizing Support among Policymakers and Agency Staff

User participation changes but does not eliminate the role of government agencies in irrigation development. Building support from policy-makers and agency staff as well as farmers and other water users is essential for successful participatory projects and involves paying close attention to the incentives relevant to each group. The greatest receptivity to participation is often found in crisis situations, when management problems or revenue drains are most apparent. In building the confidence of policymakers and senior agency staff, pilot projects have been used effectively to demonstrate the capacity for farmer management, potential improvement in system performance, potential saving in government expenditure and improvement in cost recovery rates. Building alliances with supportive individuals in government has also been effective and has been facilitated by participatory economic and sector work, by enabling task managers to spend several years working in a country, and supporting them with good social analysis.

Project implementation rests ultimately with agency staff. Internalizing support for participation within irrigation agencies often involves structural changes, to link agency budgets firmly to farmer contributions instead of government allocations, and to promote a more service oriented approach. Since agency staff typically come from engineering backgrounds and are not oriented toward dealing with farmers, incentives for them to support farmer participation need to be backed up by training programs. Study tours to farmer managed irrigation districts can be particularly useful, not only for their demonstration effect but also in raising the prestige of participation, exposing staff to new possibilities and creating a bond amongst participants.

The strongest opposition to farmer participation is often encountered at the field technical level, especially where civil service unions are strong. When field staff perceive the proposed changes as a threat to their jobs and livelihood, these vested interests can retard or even sabotage participatory projects. Clear directives are needed from policymakers, supported by performance measures linked to bonuses and promotions, to encourage greater accountability to the farmers. The new ethos can only develop gradually. Sudden cuts into the status quo should be avoided and the composition of staff allowed to change gradually.

Building Effective Farmers' Organizations

Teams of trained specialists acting as community organizers have proved to be the most successful catalysts in participatory irrigation projects. Wherever possible, existing organizational capacity should be built upon. In cases of very hierarchical social structure and inequitable distribution of assets, it may be unrealistic to expect fully democratic local organizations.

To control vested interests, the varying incentives of different categories of farmers should be identified and accounted for in project design (for example, in defining water rights), along with the resulting problems of achieving collective action.

Appropriate incentives are needed if farmers are actively to support the users' associations which are essential channels for participation, and to assume the additional costs in time, materials and fees. The most important of these incentives are improved irrigation services, and a voice in management decisions through a users' organization which is fully accountable to its members. The support of farmers is most likely to be sustained, and organizational capacity developed, when they are involved from the beginning in decisions on system design, and when their organization has full ownership and management control of the system. It is essential, for example, that specialized staff be selected by and accountable to the farmers' organization, even if they have been trained by government agencies. To be successful, farmer organizations must interact constructively with government agencies and technical experts. This relationship works best when uniform rules are established, and supported by government regulation, for the turnover of responsibility throughout the project. Building the necessary organizational capacity for this turnover involves training farmers for a variety of new functions, from basic literacy, accounting, how to hold meetings, how to deal with agencies, to legal regulations, and even computer applications, as well as water management and operation of equipment. Fundamental in meeting all these conditions, a strong and transparent legal framework for the organization is needed from the outset, providing farmers with rights and benefits as well as duties and responsibilities. This framework should also be flexible enough to allow farmers to evolve their own organizational structure, and to permit the organization's responsibilities to grow in line with its capacity.

3 COMMUNITY PARTICIPATION PROCESSES AND TECHNIQUES

Participation in community issues places serious demands and responsibilities upon participants.

Although citizens' groups voluntarily organize to participate in community projects, the technical complexity of the projects usually requires professional assistance.

In addition to concern with technical complexity, sound design and planning principles must also be incorporated in the development process. Without guidance, community groups may respond only to crisis situations and may not achieve the goals that originally united the group. Therefore, the management of participatory efforts is important. Participation can function if it is active, directed, and if those who become involved experience a sense of achievement.

At the same time, it requires a reexamination of traditional design and planning procedures to assure that participation becomes more than confirming the professional's original intentions. Organizing citizen's efforts can take many forms corresponding to different environmental issues.

The goal of participation is to encourage people to learn as a result of becoming aware of a problem. Learning occurs best when the process is clear, communicable, open, and encourages dialogue, debate, and collaboration.

One of the fundamental hindrances to the decision to adopt the participation strategy is that it threatens existing hierarchies. Nevertheless, participation does not imply that there is no longer a role for institutional leaders. It only means that a dialogue is necessary between grassroots citizenry and government leadership regarding needs and resources to meet needs.

The professional's role is to facilitate the citizen group's ability to reach decisions through an easily understood process. Most often this will take the form of making people aware of alternatives.

Facilitation is a way to bring people together to determine what they wish to do and helps them find ways to work together in deciding how to do it. A facilitator should make everyone feel included in what is going on and that what they have to say is being listened to by the group. Facilitation can also include the use of a variety of techniques where people not professionally trained can organize themselves to create a change.

Good planning for community participation requires careful analysis. There are various techniques available, each of which performs different functions: Citizen surveys, review boards, advisory boards, task forces, neighborhood and community meetings, public hearings, public information programs, interactive cable TV, have all been used with varying degrees of success, depending on the effectiveness of the participation plan. Since community participation is a complex concept, it requires considerable thought to prepare an effective participation program.

There are a wide range of participatory processes and techniques. They all require different resources and respond to different objectives. They have evolved and spread so fast that any inventory is likely to be incomplete. Most of the known applications can be separated into four types of process, and into four major sectors.

The four major types of process are:

A. **Participatory appraisal and planning;**
B. **Participatory implementation, monitoring and evaluation of programs;**
C. **Topic investigations;**
D. **Training and orientation for outsiders and villagers.**

Each technique is briefly defined below, The use of these technics has to be decided for each project. We can analyze tis evolution in time:

Rapid Rural Appraisal (RRA) (CHAMBERS,1994)

The philosophy, approaches and methods known as rapid rural appraisal (RRA) began to emerge in the late 1970s. There are three origins for RRA:

1) **The first origin of RRA** was dissatisfaction with the biases, especially:

   - the anti-poverty biases,
   - the rural development tourism: the phenomenon of the brief rural visit by the urban-based professional.

   These biases were recognized as:

   - spatial (visits near cities, on roadsides, and to the centers of villages to the neglect of peripheries);
   - project (where projects were being undertaken, often with special official attention and support);
   - person (meeting men more than women, elites more than the poor, the users more than the nonusers of services, and so on);
   - seasonal (going in the dry and cool rather than hot and wet seasons which are often worse for poor rural people); and
   - diplomatic (where the outsider does not wish to cause offense by asking to meet poor people or see bad conditions).

All these could combine to hide the worst poverty and deprivation.

2) **The second origin of RRA** was disillusion with the normal processes of questionnaire surveys and their results.

Figure 3-1 Formal Survey Methods (Townsley ,1996)

A researcher described how he would take only a week to conduct an exploratory survey to identify agricultural research priorities, but would then feel obliged to follow this with a formal verification survey which represented the major commitment of professional time and funds. This more costly exercise had always confirmed the exploratory survey but "the numbers which this formal survey provide are the only hard evidence produced by the diagnostic process".

Large-scale surveys with long questionnaires tended to be drawnout, tedious, a headache to administer, a nightmare to process and write up, inaccurate and unreliable in data obtained, leading to reports, if any, which were long, late, boring, misleading, difficult to use, and anyway ignored.

3) **The third origin or RRA** was more positive.

More cost effective methods of learning were sought. This was helped by the growing recognition by development professionals of the obvious fact that rural people were themselves knowledgeable on many subjects which touched their lives, what became known as indigenous technical knowledge (ITK).

RRA methods were quicker and more cost-effective than "respectable" questionnaire surveys. RRA began and continues as a better way for outsiders to learn, or to gain information and insight from local people and about local conditions, and to do this in a more cost-effective and timely manner. It was, and remains, less one-sided than questionnaire surveys where much of respondents' time is taken by the outsider, and little or nothing is given back. All the same, like most past farming systems research, its normal mode entails outsiders collecting data, which they then take away to be analyzed elsewhere. This is a valid and useful activity and it has and will continue to have its place. Depending

on one's point of view and the context, the normal practice of this nonparticipatory RRA can be described as extractive, or, more neutrally, elicitive (gather knowledge or information from people).

RRA essentially consists of the following:

- an activity carried out by a group of people from different professional fields or disciplines which usually aims to learn about a particular topic, area, situation, group of people or whatever else is of concern to those organising the RRA
- it usually involves collecting information by talking directly to people “on the ground”
- it uses a set of **guidelines** on how to approach the collection of information, learning from that information and the involvement of local people in its interpretation and presentation
- it uses a set of **tools** - these consist of exercises and techniques for collecting information, means of organising that information so that it is easily understood by a wide range of people, techniques for stimulating interaction with community members and methods for quickly analysing and reporting findings and suggesting appropriate action.

	RRA Preparation
1.	Definition of objectives
2.	Identification & contacting of team
3.	Collection of existing information and data *Preliminary workshop (team members / other concerned groups)*
4.	Training of team members in RRA techniques
5.	Review of existing information and data
6.	Identification of appraisal topics and appropriate techniques
7.	Planning of appraisal
	1st Fieldwork Session
8.	Use of RRA tools (mapping exercises, transects, semi-structured interviews, ranking and classification)
	Intermediate workshop (team members)
9.	Review of findings
10.	Revision of topics and objectives
	2nd Fieldwork Session
11.	Use of RRA tools (thematic mapping, historical transects, topical interviews)
	Intermediate workshop (team members)
12.	Review of findings
13.	Revision of topics and objectives
	3rd Fieldwork Session
14.	Use of RRA tools (focus group discussions)
	Intermediate workshop (team members)
15.	Review of findings
16.	Definition of proposals or recommendations
17.	Preparation of draft report
18.	Preparation of community meeting
	Community meeting ***(team members / local community / other interested groups)***
19.	Presentation of RRA findings to community
20.	Discussion and correction of findings
21.	Definition of future action
	Final workshop (team members / key local people / key interested groups)
22.	Final review of findings and conclusions
23.	Preparation of report
24.	Definition of future action and responsibilities

Figure 3-2 Typical RRA Sequence (Townsley ,1996)

Participative Rural Appraisal (PRA)) (CHAMBERS,1994)

ID the mid-1980s, the words "participation" and "participatory" entered the RRA vocabulary. In 1988, there were parallel developments in Kenya and India. In Kenya, the National Environment Secretariat, in association with Clark University, conducted an RRA in Mbusanyi, a community in Machakos District which led to the adoption in September of a Village Resource Management Plan. This was subsequently described as a Participatory Rural Appraisal, and the method outlined in two Handbooks. Around the same time in 1988, the Aga Khan Rural Support Programme (India) (AKRSP) was interested in developing participatory RRA. Both the Kenya and Indian experiences were seminal for understanding and for the development of PRA.

PRA Describes a growing family of approaches and methods to enable local people to share, enhance and analyze their knowledge of life and conditions, to plan and to act. PRA has sources in activist participatory research, agroecosystem analysis, applied anthropology, field research on farming systems, and rapid rural appraisal (RRA). In RRA information is more elicited and extracted by outsiders; in PRA it is more shared and owned by local people.

Participatory methods include mapping and modeling, transect walks, matrix scoring, seasonal calendars, trend and change analysis, well-being and wealth ranking and grouping, and analytical diagramming.

PRA applications include natural resources management, agriculture, poverty and social programs, and health and food security. Dominant behavior by outsiders may explain why it has taken until the 1990s for the analytical capabilities of local people to be better recognized and for PRA to emerge, grow and spread.

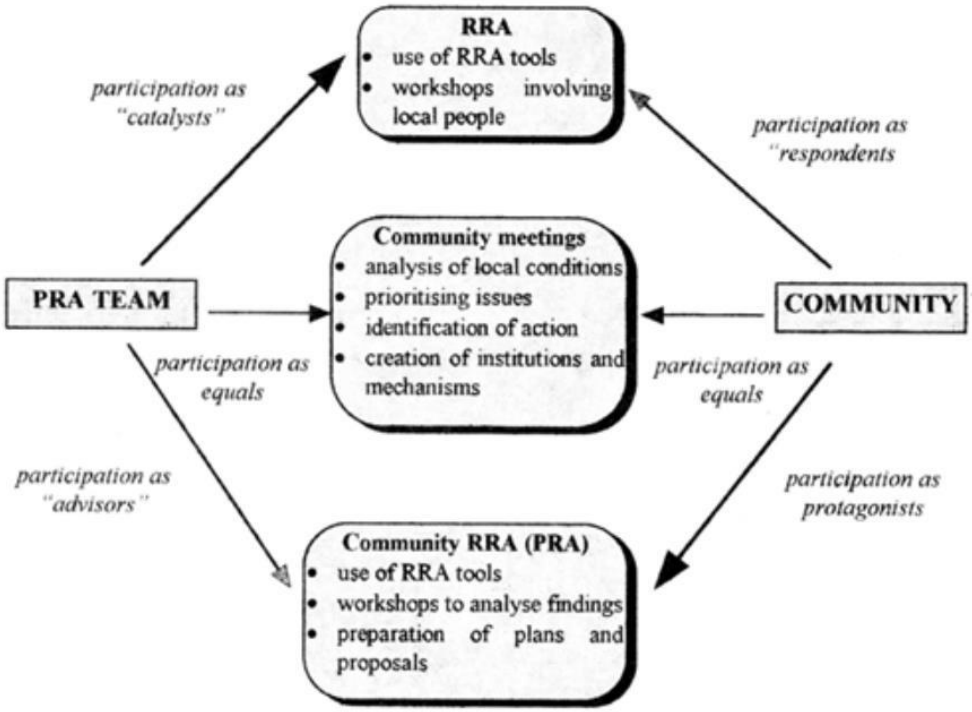


Figure 3-3 The PRA Process

The distinction between "an RRA" and "a PRA"is:

- An RRA is intended for learning by outsiders.
- A PRA is intended to enable local people to conduct their own analysis, and often to plan and take action.

Table 3-1 Tabla 3-1 RRA and PRA compared

	RRA	PRA
Period of major development	Late 1970s, 1980s	Late 1980s, 1990s
Major innovators based in	Universities	NGOs
Main users at first	Aid agencies Universities	NGOs Government field organizations
Key resource earlier undervalued	Local people's knowledge	Local people's analytical capabilities
Main innovations	Methods Team management	Behavior Experiential training
Predominant mode	Elicitive, Extractive	Facilitating, Participatory
Ideal objectives	Learning by outsiders	Empowerment of local people
Longer term outcomes	Plans, projects publications	Sustainable local action and institutions

In practice there is a continuum between an RRA and a PRA, as illustrated in the Table. RRA methods are more verbal, with outsiders more active, while PRA methods are more visual, with local people more active, but the methods are now largely shared. The major distinction is between an RRA (extractive-elictive) approach where the main objective is data collection by outsiders, and a PRA (sharing-empowering) approach where the main objectives are variously investigation, analysis, learning, planning, action, monitoring and evaluation by insiders.

Table 3-2 The RRA – PRA Continuum

Nature of process	RRAT ..... PRA			
Mode	Extractive	elicitive	sharing	empowering
Outsiders' role	Investigator ..... Facilitator			
Information owned, analyzed and used by	Outsiders ..... Local people			
Methods used	Mainly RRA plus sometimes PRA ..... Mainly PRA plus sometimes RRA			

The labels themselves have been questioned. It has been said of RRA that it need be neither rapid, nor rural, nor appraisal, but that otherwise it fits what it describes. Urban applications have proliferated, leading to the suggestion of PUA (participatory urban appraisal) or PLA (participatory local appraisal — more inclusively, both rural and urban). With PRA, "participatory" has similarly been challenged, since "participation" can be used to mean people's participation in outsiders" projects, when much PRA has evolved to establish ownership of plans, actions and projects more with rural (or urban) people themselves. In addition, the processes which begin as appraisal now usually include analysis, and often lead on to planning, action, and participatory monitoring and evaluation, carrying the PRA label with them.

Since the early 21st century, some practitioners have replaced PRA with the standardized model of community-based participatory research (CBPR) or with participatory action research (PAR). Social survey techniques have also changed during this period, including greater use of information technology such as fuzzy cognitive maps, e-participation, telepresence, social network analysis, topic models, geographic information systems (GIS), and interactive multimedia.

THE MENU OF METHODS OF RRA AND PRA

A summary listing of headings can indicate some of the main modes and methods being used. All the methods can be used in both RRA and PRA, but some are more emphasized in one than the other. RRA has tended to stress the use of secondary sources, verbal interaction especially through semistructured interviewing, and observation: so these are sometimes described as "RRA methods".

For its part, a distinctive aspect of PRA has been the shared visual representations and analysis by local people, such as mapping or modeling on the ground or paper; estimating, scoring and ranking with seeds, stones, sticks or shapes; Venn diagramming; free listing and card sorting; linkage diagramming; and presentations for checking and validation: so these are often described as "PRA methods."

The methods can be grouped under the three headings:

- visualized analyses;
- interviewing and sampling methods;
- and group and team dynamics methods.

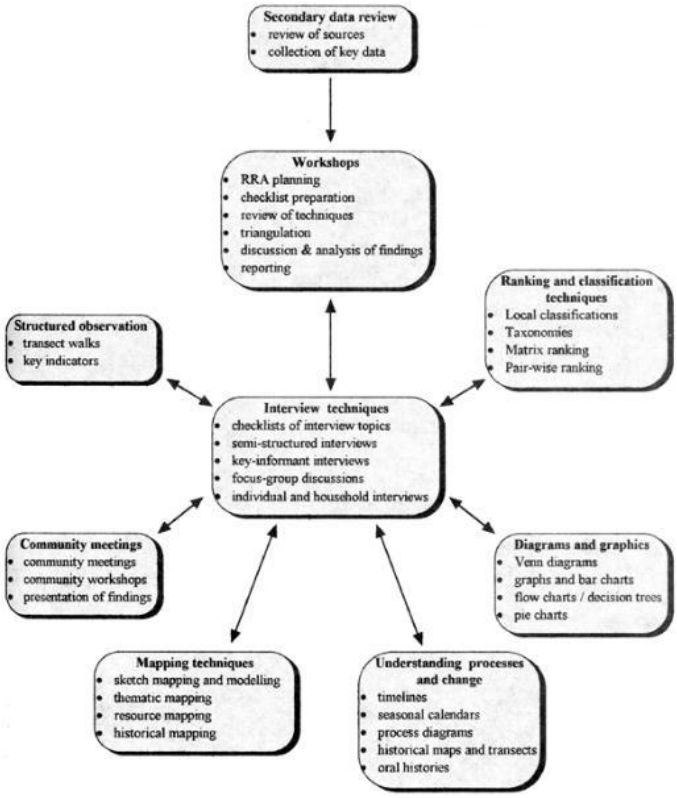


Figure 3-4 methods of RRA and PRA (Townsley ,1996)

Since methods and sequences overlap, however, they are listed together using the categories and terms in common use:

3.1 VISUALIZED ANALYSES; INTERVIEWING AND SAMPLING METHODS

— Secondary sources: such as files, reports, maps, aerial photographs, satellite imagery, articles and books;

— Direct observation allows the planning team to see the conditions of the environment under consideration

— Semi-structured interviews. This has been regarded as the "core" of good RRA : a mental or written checklist, but being open-ended and following upon the unexpected. Increasingly it is using participatory visual as well as traditional verbal methods;

— Key informants: enquiring who are the experts and seeking them out, sometimes through participatory social mapping;

— Groups of various kinds (casual; specialist/focus; deliberately structured; community / neighbourhood). Group interviews and activities are part of many of the methods;

Interviews and focus group discussions help to generate insights into those community characteristics that are not visible through direct observation.

— Do-it-yourself, asking to be taught, being taught, and performing village tasks — transplanting, weeding, ploughing, field-levelling, mudding huts, drawing water, collecting wood, washing clothes, stitching, thatching...;

— They do it: villagers and village residents as investigators and researchers — women, poor people, school teachers, volunteers, students, farmers, village specialists. They do transects, observe, interview other villagers, analyse data, and present the results. This is a widespread element in PRA.

— Participatory analysis of secondary sources. The most common form is the analysis of aerial photographs or satellite imagery (often best at 1:5000) to identify soil types, land conditions, land tenure etc.;

— Participatory mapping and modeling, in which local people use the ground, floor or paper to make social, demographic, health, natural resource (soils, trees and forests, water resources etc.), service and opportunity, or farm maps, or construct three-dimensional models of their land. Diagramming allows information to be presented in an easily understood graphic format. Mapping and modeling allows people to record their feelings, perceptions, social networks and to examine existing conditions as well as evaluate proposals for improvement.

— Transect walks — walking with or by local people through an area, observing, asking, listening, discussing, identifying different zones, soils, land uses, vegetation, crops, livestock, local and introduced technologies, etc; seeking problems, solutions and opportunities; and mapping and diagramming the zones, resources and findings; general types of transect walk include slope, combing, and loop. A seabottom transect has been conducted in the Philippines

— Time lines and trend and change analysis: chronologies of events, listing major remembered events in a village with approximate dates; people's accounts of the past, of how things close to them have changed, ecological histories, changes in land use and cropping patterns, changes in customs and practices, changes and trends in population, migration, fuels used, education, health, credit and the causes of changes and trends, often in a participatory mode with estimation of relative magnitudes;

— Oral histories and ethno biographies: oral histories, and local histories of, for example, a crop, an animal, a tree, a pest, a weed (Box, 1989);

— Seasonal calendars — by major season or by month to show seasonal changes such as days and distribution of rain, amount of rain or soil moisture, crops, agricultural labor, nonagricultural labor, diet, food consumption, types of sickness, prices, animal fodder, fuel, migration, income, expenditure, debt, etc;

— Daily time use analysis indicating relative amounts of time, degrees of drudgery etc of activities, sometimes indicating seasonal variations;

— Livelihood analysis — stability, crises and coping, relative income, expenditure, credit and debt, multiple activities, often by month or season;

— Participatory linkage diagramming — of linkages, flows, connections and causality;

— Institutional or "Chapati" or Venn diagramming,

— identifying individuals and institutions important in and for a community, or within an organisation, and their relationships;

Surveying resources, a community function, identifies local people and places that are important to any proposed program

— Well-being and wealth grouping and ranking

— identifying groups or rankings of households according to wellbeing or wealth, including those considered poorest or worst off; often leading to the identification of key indicators of well-being.

— Analysis of difference, especially by gender, social group, wealth/poverty, occupation and age. Identifying differences between groups, including their problems and preferences. This includes contrast comparisons — asking one group why another is different or does something different, and vice versa.

— Matrix scoring and ranking, especially using matrices and seeds to compare through scoring, for example different trees, or soils, or methods of soil and water conservation, or varieties of a crop;

— Estimates and quantification, often using local measures, judgements and materials such as seeds, pellets, fruits, stones or sticks as counters, sometimes combined with participatory maps and models, matrices, card sorting and othermethods. Measuring is a quantitative view of environmental conditions.

— Key probes; questions which can lead direct to key issues such as — "What do you talk about when you are together?" "What new practices have you or others in this village experimented with in recent years?" "What vegetable, tree, crop, crop variety, type of animal, tool, equipment... would you like to try out?" "What do you do when someone's house burns down?";

— Stories, portraits and case studies such as a household history and profile, coping with a crisis, how a conflict was or was not resolved;

— Team contracts and interactions — contracts drawn up by teams with agreed norms of behavior; modes of interaction within teams, including changing pairs, evening discussions, mutual criticism and help; how to behave in the field, etc. The team may be just outsiders, or a joint team with villagers);

— Presentation and analysis — where maps, models, diagrams, and findings are presented by local people, or by outsiders, and checked, corrected and discussed;

— Sequences: the use of methods in sequence — for example participatory social mapping leading to the identification of key informants or analysts, or leading to the sequence: household lists — wealth or well-being ranking or grouping — focus groups — matrix scoring and preference ranking.

Sequences of analyses by experts on different stages of a process (e.g., men on ploughing, women on transplanting and weeding . . .) etc;

— Short standard schedules or protocols either for very short and quick questionnaires, or to record data (e.g., census information from social mapping) in a standard and commensurable manner.

— Report writing without delay, either in the field before returning to office or headquarters, or by one or more people who are designated in advance to do this immediately on completion of an RRA or of a sequence of PRA activities.

3.2 GROUP AND TEAM DYNAMICS METHODS / PLANNING TECHNIQUES

- Participatory planning, budgetting, implementation and monitoring, in which local people prepare their own plans, budgets and schedules, take action, and monitor and evaluate progress. Prioritizing is an ongoing process where stakeholders consider their needs and the feasibility of implementing projects.

- Group discussions and brainstorming, by local people alone, by focus groups of local people, by local people and outsiders together, or by outsiders alone. Brainstorming is used to allow groups to explore alternative ways of solving problems. Group work during all stages of the planning process helps to build cooperation

- Charrette: A process that convenes interest groups in intensive interactive meetings lasting several days.

- Community action planning: A process that empowers communities to design, implement and manage their own community programs.

- Focus groups: A structured interview consisting of several individuals permitting discussion of ideas.

- Game simulation and role playing: A technique of abstracting the essential elements of a problem without the normal constraints. Gaming and role-playing can be used to build awareness of planning procedures, to anticipate potential difficulties as well as to allow participants to become sensitive to each others needs.

- Group interaction: Interpersonal techniques used to facilitate group interaction and problem solving.

- Participatory action research: An empowerment process that involves participants in research and decision-making.

- Public forum: An open meeting held by an organization or agency to present information about a project at any time during the process.

- Strategic planning: A process for developing strategies and action plans to identify and resolve issues. Visioning: A process to think about how the community should be and find ways to identify, strengthen and work towards those ends.

- Workshop: Working sessions to discuss issues in order to reach an understanding of their importance.

4 EXAMPLES OF METHODS

4.1 VISUALIZED ANALYSES; INTERVIEWING AND SAMPLING METHODS

4.1.1 Semi Structured Interview: Household Case Study

Objectives:

5. Understand why members of a household (that was mapped as being affected by malnutrition) have nutrition-related health problems and why other households are not affected.

6. Identify constraints and opportunities in the household and community for household members to achieve nutrition security.

Methods:

4. Semi-structured interview
5. Ranking
6. Observation

Selecting Households:

1. Sort and pile the households in the community by those that were mapped as having nutrition-related health problems and those that have no such problems.

2. With each pile, sort and pile households that were ranked as wealthy and those that were ranked as poor. *(You should now have four piles)*

3. Within each pile, sort and pile households that are male headed and those that are female headed. *(You should now have eight piles)*

4. Randomly select one household from each pile. A household case study will be carried out in each household.

5. The facilitators will carry out the interview at the house.

Facilitator:

Two PRA-team members

Key Questions:

14. Who lives in this household? *(father, mother, children, permanent dependants like grandparents, temporary dependants) (for the children, find out how old they are)*

15. What are the major health problems that some of your family members have faced during the past year? *(find out who was affected by what illness) (indicate those problems that are nutrition related) (if some of the nutrition-related health problems identified during the nutrition-mapping exercise are not mentioned, ask about those problems)*

16. In your view, what were the reasons for these problems and what did you do to solve the problems? *(Ask this question for each of the nutrition-related health problems) (Probe deep enough into the reason for problem in order to understand the underlying causes) (probe deep enough into how the family addressed the problem and its causes)*

17. What measures have you taken to prevent such problems from reccuring?

18. What resources would you need to become more successfull at preventing such problems of recurring?

19. What are the foods commonly eaten in the household during this *(dry)* season? *(When listing the foods do not restrict the list)*

20. Can you rank these foods according to their frequency of consumption? *(Give 10 marks to the most frequently consumed food and 1 mark to the last frequently consumed food. Mark the remaining foods on a scale between 1 and 10)*

21. How does the households diet change during the other *(rainy)* season and why? *(Add or subtract foods from the list. Rank the foods again)*

22. During the last year, what have been your problems to be able to feed your family well?

23. In your view, what were the reasons for these problems and what did you do to resolve these problems? How did you feed your family during these periods? *(Probe deep enough into the reason for problem in order to understand the underlying causes) (probe deep enough into how the family addressed the problem and its causes)*

24. What measures have you taken to prevent such problems from reccuring?

25. What resources would you need to become more successfull at preventing such problems of recurring?

4.1.2 Focus groups

Focus groups is type of group interview designed to explore peoples attitudes. It can be used to find out what issues are of most concern for a community or group when little or no information is available. They are a very common technique but are can be poorly executed unless well planned and facilitated.

Focus groups aim to discover the key issues of concern for selected groups. Discovering these issues can help determine which of a number of options is the preferred way forward, or to determine what are the concerns that would prevent a proposal going ahead. The focus group may also be undertaken to discover preliminary issues that are of concern to a group or community, and on which to base further research or consultation.

Focus groups should deliver detailed knowledge of the issues that concern a specific demographic or community."

4.1.3 Participatory mapping

Social mapping is perhaps the most popular method in PRA. For many, in fact, it is synonymous with PRA itself. The focus here is on the depiction of habitation patterns and the nature of housing and social infrastructure: roads, drainage systems, schools, drinking water facilities, etc.
Social map is different from other regular maps in significant ways. For one, it is made by local people and not by experts. For another, it is not drawn to scale. It depicts what the local people believe to be relevant and important for them. Thus it reflects their perceptions of the social dimensions with their reality with the high degree of authenticity. In spite of there being many overlaps, a social map is different from a resource map. The latter depicts the natural resources – land, water sources, flora and fauna, etc. In certain cases, though, a map could be a rich combination of the two. This is a quite often so in the case of areas having a dispersed settlement pattern.

The chief feature of a social map is that it is a big help in developing a broad understanding for the various facets of social reality, viz., social stratification, demographics, settlements patterns, social infrastructure, etc. The diverse applications of social maps include:

- Developing a comprehensive understanding of the physical and social aspects of village life.
- Collecting demographic and other required information household – wise
- Providing a forum of discussion in high to unravel the various aspects of social life
- Serving as a monitoring and evaluating tool.

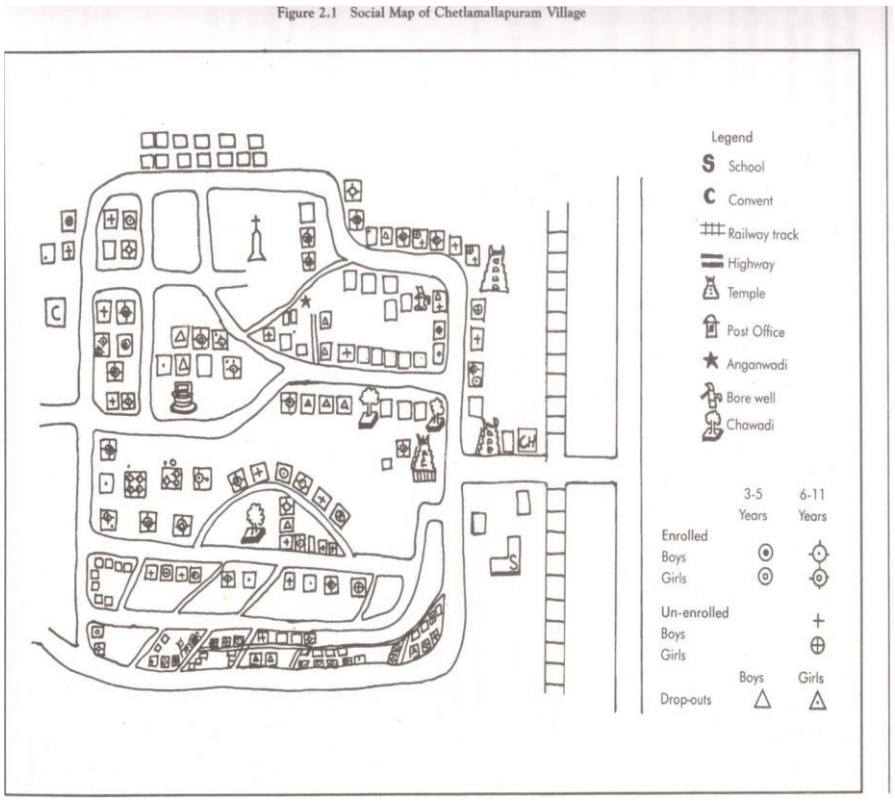


Figure 4-1 Social Map

Resource map is one of the most commonly used PRA methods next to social map. While the **social map** focuses on habitation, community facilities, roads, temples, etc., the **resource map** focuses on the natural resources in the locality and depicts land, hills, rivers, fields, vegetation etc. A resource map may cover habitation as well. At times, the distinction between the resource and social map may get blurred.

A resource map in PRA is not drawn to scale. It is done not by experts, but by the local people. The local people are considered to have an in-depth knowledge for the surroundings where they have survived for a long time. Hence the resource map drawn by the local people is considered to be accurate and detained. It is important to keep in mind, however, that it reflects the people's perception rather than precise measurements to scale. Thus, a resource map reflects how people view their own locality in terms of natural resources.

Resource maps have been used for depicting of various aspects related to the natural resource management of a locality including:

- Topography, terrain and slopes
- Forest, vegetation and tree species
- Soil-type, fertility, erosion and depth
- Land and land use, command area, tenure, boundaries and ownership
- Water, water bodies, irrigation sources, rivers and drainage
- Watershed development, various soil and water conservation measures, denuded areas, etc.
- Agricultural developments, cropping pattern, productivity, etc.

Resource maps have been found especially useful because they provide a focussed spatial structure for discussion and analysis.

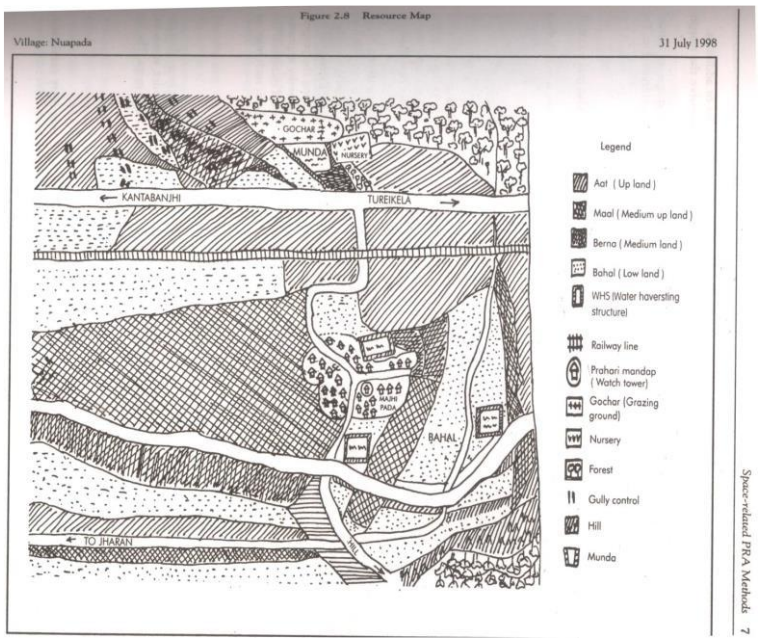


Figure 4-2 Resource Map

4.1.4 *Resource Cards (Sontheimer et al, 1999)*

Description: Resource Picture Cards are useful for facilitating a discussion about who uses and controls resources in a fun and non-threatening way. They show very clearly the resource base of both men and women. This can lead to discussions about differences between men's and women's priorities and their need for resources.

Objective: To learn about differences between men and women in use and control over resources.

With whom: Mixed group of men and women, preferably from the same groups that prepared the resource map.

Time needed: 1.5 hours

Key Questions:

1. What are the resources that women use?
2. What are the resources that men use?
3. What resource do both use?
4. Who controls the use of these resources?
5. Who makes decisions about how resources are used?

How to facilitate:

You can use either pre-prepared cards with pictures or use local material to create symbols for this exercise.

1. Explain to the group that you want to learn about resource use and control.

2. Place three large drawings, one of a man, one of a woman, and one of both, on the ground in a row with adequate space in between them.

3. Ask the participants to think about the resources they named while doing the resource map and any others they have, use and/or think are important.

4. If you want to use local materials, then ask the participants to develop symbols for these resources (leaves or twigs could represent forest and firewood, cow dung or horns can represent cattle, etc). Or you can use the pre-made Resource Cards.

5. If using the Resource Cards, ask them to draw pictures on cards to represent resources not on the cards.

6. Ask the participants to place the symbols or pictures under the symbol of the man, woman or both, depending on who uses the resource.

7. Ask the participants to explain why they made the choices they did.

8. Make another row of the three large drawings, the man, the woman, and both, on the ground underneath the other picture.

9. Repeat the exercise, but this time focus on who has **control, ownership or decision-making power** over each resource.

10. Ask the participants to compare the way they have arranged the symbols or picture cards in both of the drawings.

Hints:

1. There will be a lot of discussion about where to place the symbols, under the drawing of the man, the woman or both. Explain that only the resources used/controlled half by men and half by women should be placed under the "both" column. They should place the symbols or pictures under either the woman or man to indicate who uses/controls them most.

2. Be sure to have blank cards ready to draw in resources that you have not made pictures for.

Materials: Two sets of Resource Picture Cards, including the figures. Or sticks, pebbles, leaves, sawdust, flour, dung or any other local material.

4.1.5 Transect Walk

Transects are observatory walks to study the natural resources, topography, indigenous technology, soils and vegetation, farming practices, problems and opportunities. These are done with a group of villagers-either following a particular course, cross country or covering the area , observing, asking, listening, discussing, identifying different zones, soils, land uses, vegetation, crops, livestock, local and introduced technologies, etc; seeking problems, solutions and opportunities; and mapping and diagramming the zones, resources and findings; general types of transect walk include slope, combing, and loop. A seabottom transect has been conducted the Philippines

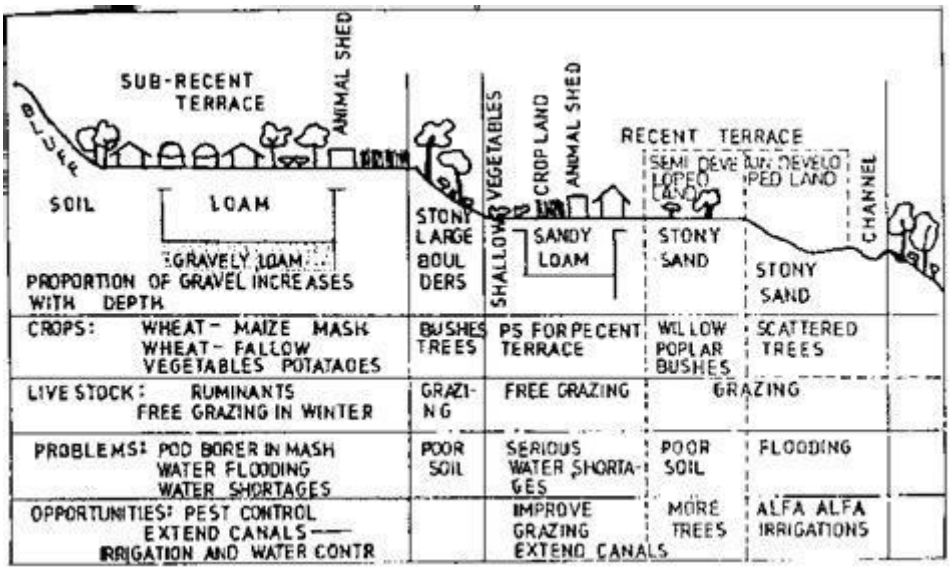


Figure 4-3 Transect of a Village

4.1.6 Time lines

Time line is an important PRA method quite commonly used to explore the temporal dimensions from historical perspective. Time line captures the chronology of events as recalled by local people. It is drawn as a sequential aggregate of past events. It thus provides the historical landmarks of a community individual or institutions. The important point to note here is that it is not history as such but events of the past as perceived and recalled by the people themselves.

The time line method helps:

- To learn from the community what they consider to be important past events.
- To understand from the community the historical perspective on current issues.
- To generate discussions on changes with respect to issue you are interested in, e.g., education, health, food security, gender relations economic conditions, etc.
- To develop a rapport with the villagers, since a discussion about the past of the village can be a good non threatening and enjoyable starting point.

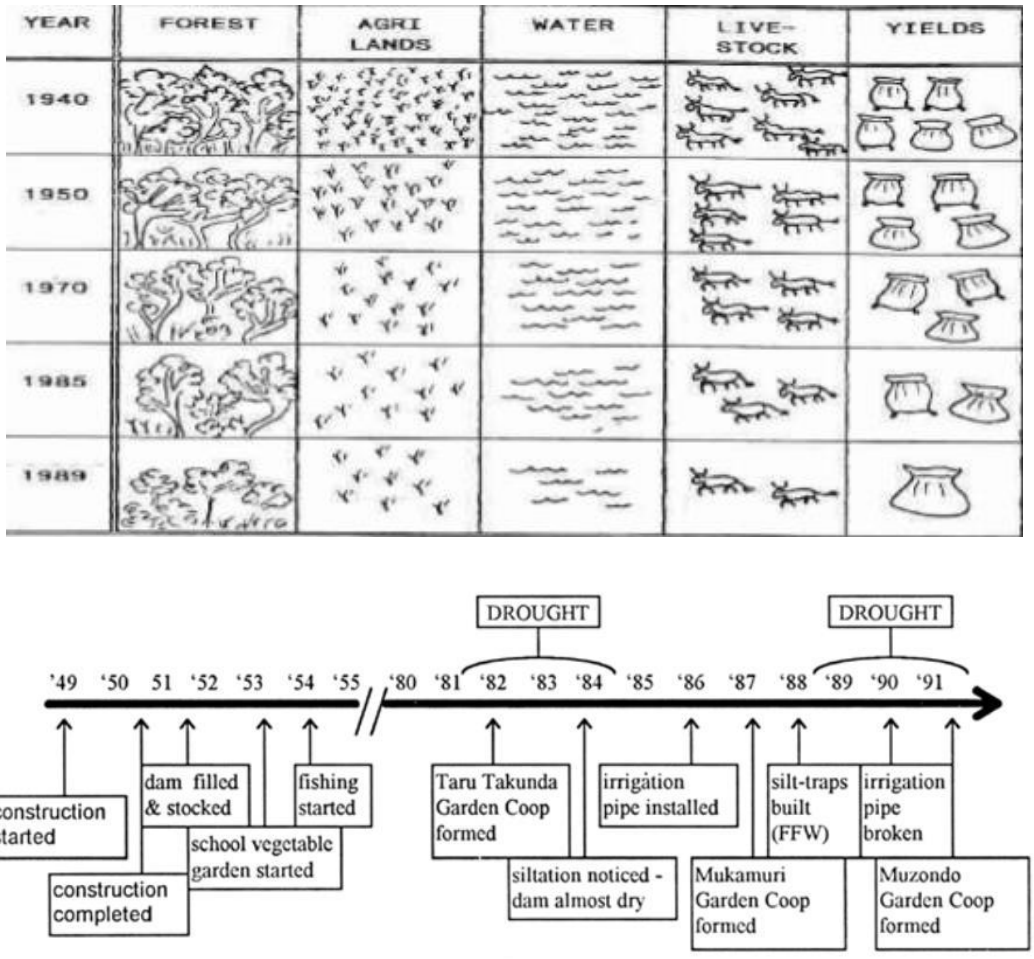


Figure 4-4 Time lines (Townsley ,1996)

4.1.7 Seasonal calendars (Sontheimer et al, 1999)

Also called seasonal diagram, seasonal activity profile and seasonal analysis. Seasonal diagram is one of the popular PRA methods that has been used for temporal analysis across annual cycles, with months or seasons as the basic unit of analysis. It reflects the perceptions of the local people regarding seasonal variations on a wide range of items. Seasonal diagrams, however, are not based on statistics, though they may be triangulated against secondary or primary data in order to verify the information generated.

Seasons are an integral part of people's lives and exert an important impact upon the livelihood of the local people, particularly in rural areas. Seasonal diagrams have been used to explore what happens during the year and when. Quantification and depiction of the magnitude of the various activities adds to their utility and richness.

Seasonal diagram helps to identify heavy workload periods, periods of relative ease, credit crunch, diseases, food security, wage availability etc. It has proved to be useful in project planning, i.e., when to implement various activities. It has been used to identify periods of stress and to plan for when intervention is most required. With a seasonal diagram it is possible to identify and analyse the livelihood pattern across the year. The major strength of seasonal analysis is that it depicts a range of items and their magnitudes, which helps in understanding how these items are related to and influence one another. These relationships can be quite revealing.

Type of group: mixed group for women and men

Description:

A seasonal calendar is a participatory tool to explore seasonal changes (e.g. gender-specific workload, diseases, income, expenditure etc.)

Objectives:

· To learn about changes in livelihoods over the year and to show the seasonality of agricultural and non agricultural workload, food availability, human diseases, gender-specific income and expenditure, water, forage, credit and holidays.

Key Questions:
1. What are the busiest months of the year?
2. At what time of the year is food scarce?
3. How does income vary over the year for men and women?
4. How does expenditure vary over the year for men and women?
5. How does rainfall vary over the year?
6. How does water availability for human consumption vary over the year?
7. How does livestock forage availability vary over the year?
8. How does credit availability vary over the year?
9. When are holidays and how many days in which month?
10. When are most agricultural work carried out by women?
11. When are most agricultural work carried out by men?
12. When is most non-agricultural work carried out by women?

13. When is most non-agricultural work carried out by men?
14. Which could be the most appropriate season for additional activities for men and women? What time constraints do exist and for what reason?

How to facilitate:
1. Find a large open space for the group. The calendar can be drawn on the ground or an very big sheets of paper.

2. Ask the participants to draw a matrix, indicating each month along one axis by a symbol.

3. It usually easiest to start the calendar by asking about rainfall patterns. Choose a symbol for rain and put/draw it next to the column which participants will now use to illustrate the rainfall. Ask the group to put stones under each month of the calendar to represent relative amounts of rainfall (more stones meaning more rainfall).

4. Move to the next topic and ask people during which month the food is usually scare. Discuss the reasons why it is scarce and make sure that the different kind of food donations that people receive are discussed and that this information is shown in the map.

5. Go on like this, meaning topic by topic. After finishing all the columns your matrix should have covered the following 14 topics:

(1) Rainfall
(2) Food scarcity *(many stones means less food available, indicate during which time people receive food donations (e.g. food for work))*
(3) Income (cask and kind) for women
(4) Income (cash and kind) for men
(5) Expenditure for men
(6) Expenditure for women?
(7) Water availability for human consumption
(8) Livestock forage availability
(9) Credit availability
(10) Number of holiday days
(11) Agricultural work load for women
(12) Agricultural work load for men
(13) Non-agricultural work load for women
(14) Non-agricultural work load for women

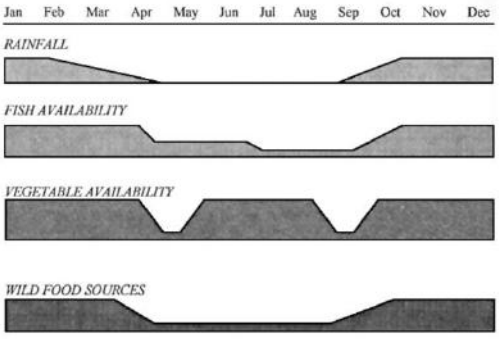


Figure 4-5 Seasonal Calendars (Townsley ,1996)

6. After the calendar is finished ask the group which linkages they see among the different topics of the calendar. Encourage the group to discuss what they see on the calendar.

7. Make sure that your copy of the seasonal calendar - has a key explaining the different items and symbols used on the map.

Material needed: Documentation Sheet, this tool sheet, white paper for copying the seasonal calendar.

1) If drawing on the ground: soft ground, stones, sticks and other available material to produce symbols, or

2) if drawing on a paper: BIG sheet of paper, pencils, markers

Time: 2 hours

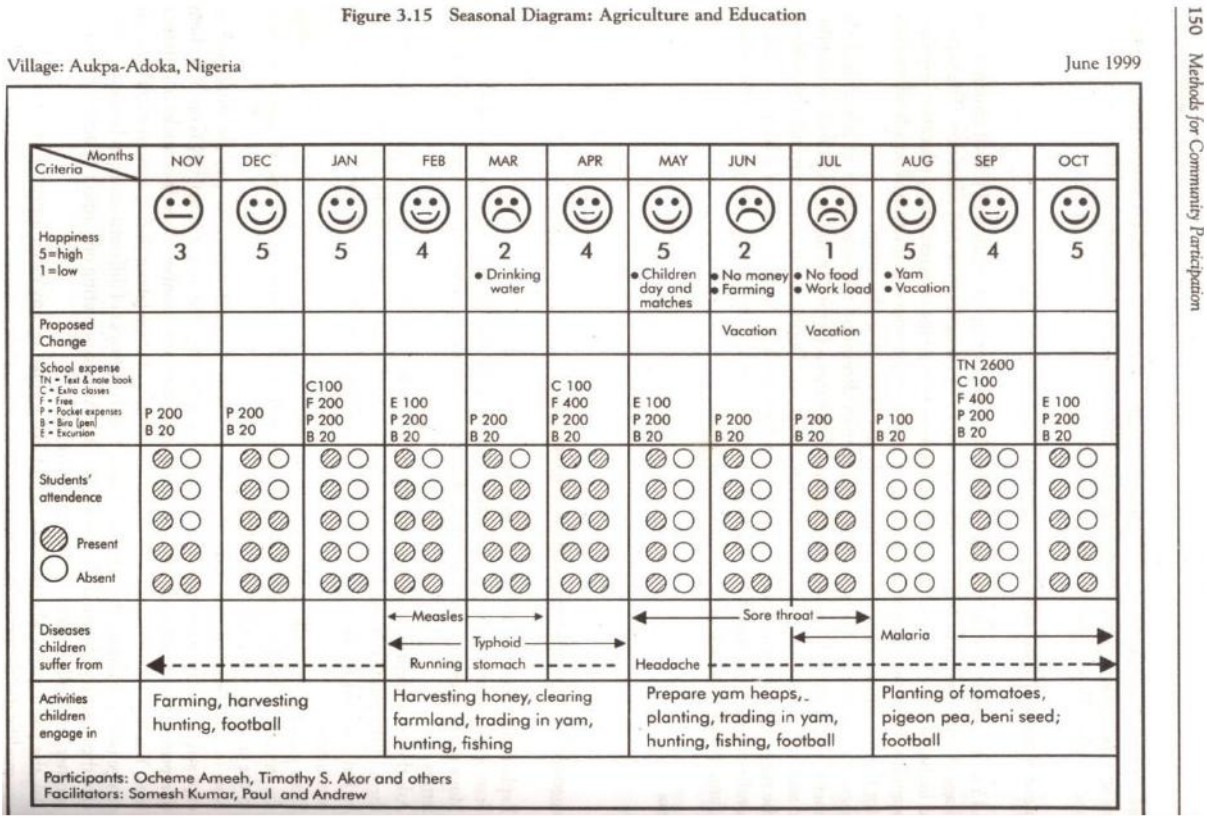


Figure 3.15 Seasonal Diagram: Agriculture and Education

Village: Aukpa-Adoka, Nigeria — June 1999

Criteria \ Months	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
Happiness 5=high 1=low	3	5	5	4	2 • Drinking water	4	5 • Children day and matches	2 • No money • Farming	1 • No food • Work load	5 • Yam • Vacation	4	5
Proposed Change								Vacation	Vacation			
School expense TN = Text & note book C = Extra classes F = Free P = Pocket expenses B = Biro (pen) E = Excursion	P 200 B 20	P 200 B 20	C100 F 200 P 200 B 20	E 100 P 200 B 20	P 200 B 20	C 100 F 400 P 200 B 20	E 100 P 200 B 20	P 200 B 20	P 200 B 20	P 100 B 20	TN 2600 C 100 F 400 P 200 B 20	E 100 P 200 B 20
Students' attendence (Present / Absent)												
Diseases children suffer from				Measles, Running	Typhoid, stomach		Headache	Sore throat	Sore throat, Malaria	Malaria		
Activities children engage in	Farming, harvesting hunting, football			Harvesting honey, clearing farmland, trading in yam, hunting, fishing			Prepare yam heaps, planting, trading in yam, hunting, fishing, football			Planting of tomatoes, pigeon pea, beni seed; football		

Participants: Ocheme Ameeh, Timothy S. Akor and others
Facilitators: Somesh Kumar, Paul and Andrew

150 Methods for Community Participation

Figure 4-6 Seasonal Calendars

4.1.8 Daily Activity Clocks (Sontheimer et al, 1999)

Description: Daily Activity Clocks illustrate all of the different kinds of activities carried out in one day. They are particularly useful for looking at relative work-loads between different groups in the community. Comparisons between clocks show who works the longest hours, who concentrates on a few activities and who does a number of tasks in a day, and who has the most leisure time and sleep.

Objectives: To learn what different people do during one day and how heavy their workloads are.

With whom: Female and male focus groups; you can also do this with focus groups of boys and girls, if there is time.

Time needed: 1 hour

Key Questions:

1. For each person, how is his or her time divided?
2. What is the difference between the women's and the men's clocks?
3. Who has the heaviest workload?
4. Who has time for rest and leisure?
5. How much time per day do women or girls spend collecting water and fuelwood?

How to facilitate:

1. Organize separate focus groups of men and women. Make sure that each group includes people from different socio-economic groups.

2. Explain that you would like to learn about what they do on a typical day.

3. Ask the groups of men and women to prepare their clocks. You can start by asking them what they did yesterday and how they generally pass their day this time of the year. It's easy to start the clocks by asking them what time they usually get up.

4. Build up a picture of all the activities they carried out the day before, and how long they took. Plot each activity on a circle which represents a clock. Activities that are carried out at the same time (such as child care and cooking) can be noted in the same spaces.

5. When the clocks are done, ask questions about the activities shown.

6. Note the present season (for example raining season, dry season).

7. If there is time, ask the participants to produce new clocks to represent a typical day in the other season.

8. Compare the clocks.

9. Use the key questions above to guide a discussion about people's activities and workloads.

Be sure to draw a picture of the clocks on paper. Be sure that the name of the group/person is noted on the clocks and also the season of the year.

Materials: Flip chart paper, coloured markers and a ruler.

Hints: You can start by drawing a picture of how you spent your day yesterday.
Draw a big circle on paper and indicate when you wake up, what time you go to bed and all the activities in-between. No need to go into great detail, but be sure to show that all kinds of activities are included such as work, housework, child

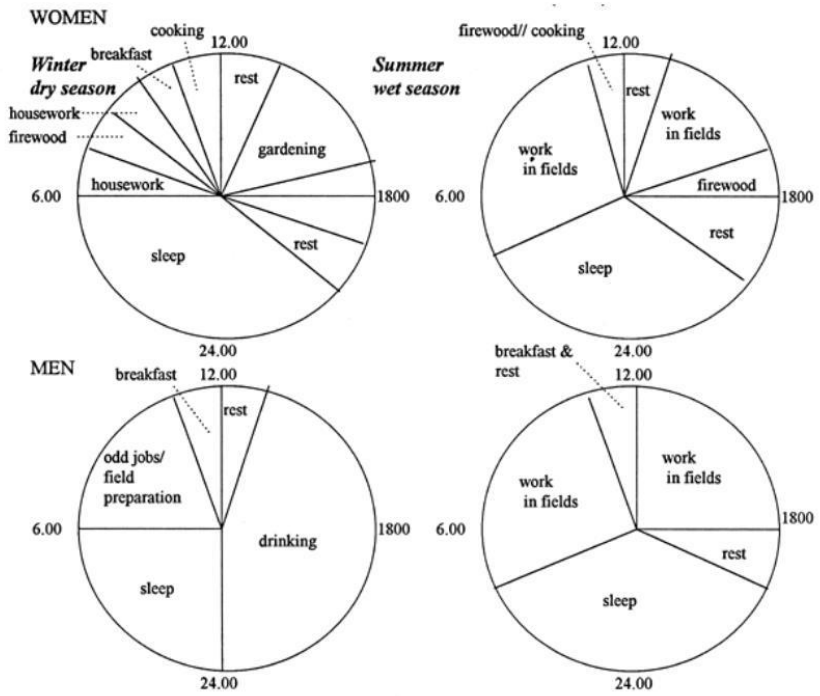


Figure 4-7 Daily Activities Clocks (Townsley ,1996)

4.1.9 Institutional Venn diagramming (Sontheimer et al, 1999)

Description:

The Venn Diagram on Institutions shows institutions, organisations, groups and important individuals found in the village (Kushet), as well as the villagers view of their importance in the community. Additionally the Diagram explains who participates in these groups in terms of gender and wealth. The Institutional Relationship Diagram also indicates how close the contact and cooperation between those organisations and groups is.

Objectives:

· To identify external and internal organisations/groups/important persons active in the community
· To identify who participates in local organisations/institutions by gender and wealth
· To find out how the different organisations and groups relate to each other in terms of contact, co-operation, flow of information and provision of services

Key Questions:
· Which organisations/institutions/groups are working in or with the community?
· Which institutions/groups do the villagers regard as most important, and why?
· Which groups are addressing household food security and nutrition issues?
· Which organisations work together?
· Are there groups which are meant for women or men only?
· Are some particular groups or kind of people excluded from being members of or receiving services from certain institutions?

How to facilitate the process?

1) If time allows it will be good to form separate focus groups for women and men. Make sure that also the poorest and most disadvantaged join the group.

2) Make sure that you have all material that is needed. You can a) either draw and write with a stick on a soft ground or b) you might use a BIG sheet of paper, pencil and markers. If you decide to use paper, people should first use a pencil to be able to still change the size of the circles that the participants will draw.

3) Explain to the participants the three objectives (see above) of the Venn Diagram on institutions.

4) Ask the participants which organisations/institutions/groups are found in the village (Kushet) and which other ones from elsewhere are working with them. Make sure that they also think of the small not formal groups like e.g. neighbourhood committees. These questions will be useful to ask:

What kind of ways of assisting each other do exist among people? Which local groups are organised along environmental issues (water, grazing, arable land), economic issues (saving, credit, agriculture, livestock), social issues (health, literacy, religion, tradition, education, sport). Are their political groups? Who makes important decisions in the Kushet?

5) Ask one of the villagers to write down all the institutions that are mentioned and to give each organisation a symbol which everybody can understand.

6) Ask the participants to draw a big circle in the centre of the paper or on the ground that represents themselves.

7) Ask them to discuss for each organisation how important it is for them. The most important ones are then drawn as a big circle and the less important ones as smaller circles. Ask the participants to compare the sizes of the circles and to adjust them so that the sizes of the circles represent the importance of the institution, organisation or group.

8) Every organisation/group should be marked with the name or symbol.

9) Ask them to discuss in which way they benefit from the different organisations.

10) The facilitator and notetaker have to listen very carefully and the notetaker writes down, why the different organisations are considered important or less important!

11) Ask them to show the degree of contact/co-operation between themselves and those institutions by distance between the circles. Institutions which they do not have much contact with should be far away from their own big circle. Institutions that are in close contact with the participants and which whom they co-operate most, should be inside their own circle. The contact between all other institutions should also be shown by the distance between the circles on the map:

largely distanced circles:	no or little contact or co-operation
circles close to each other:	only loose contacts exist
touching circles:	some co-operation
overlapping circles:	close co-operation

12) Ask them which institutions are only accepting women or men as members. Are their any institutions or groups that do provide services either only for men or only for women? Show the answers by marking the circles with a common symbol for men or women.

13) Ask them to discuss in which organisations poor people do not participate and why. Ask if there are any services of certain organisations from which the poorer people are usually excluded. Mark these institutions on the map by using a symbol for poor. You might also ask if there are other groups of people that usually are excluded from some of these institutions or services.

14) Ask the participants which institutions/groups are addressing household food security and nutrition issues. Ask them to discuss in which way they address these issues? Mark the mentioned institutions with a common symbol.

15) Only if time and the motivation of the participants allows, ask the group to discuss and document the strength and weaknesses of those institutions which were reported as most important.

Material needed: The notetaker will need the Documentation Sheet for the Venn Diagram, this tool sheet, white paper for copying the map

1) If drawing on the ground: soft ground, sticks and local material for symbols, or
2) if drawing on a paper: BIG sheet of paper, pencils, markers

Time: 1,5 - 2 hours

Hints: If people find it difficult to understand this tool, it will be helpful to draw a simple example for them.

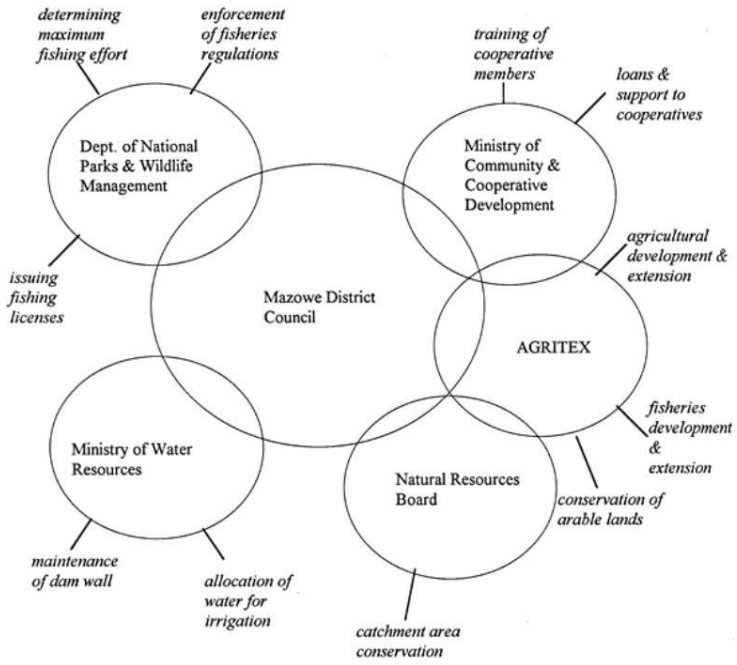


Figure 4-8 Institutional Venn diagramm

4.1.10 Wealth grouping and ranking (Sontheimer et al, 1999)

Objectives:

1. To investigate perceptions of wealth differences and inequalities in a community
2. To identify and understand local indicators and criteria of wealth and well-being
3. To map the relative position of households in a community

Methods:

1. Ranking
2. Mapping

Selecting Key Informants:

Carry out the exercise with a few key informants who know the community well.

Facilitator:

Two PRA-team members

Key Questions:

1. What are local perceptions of wealth, well-being and inequality?
2. What socio-economic groupings are there in the community and who belongs in what group?

Steps:

1. A numbered list is made of all the households in the community (see social map) and the name each household head and the household number is written on a separate card.

2. A number of key informants who know the village and its inhabitants very well are asked to sort the cards in as many piles as there are wealth categories in the community, using their own criteria.

3. After sorting, ask the informants for the wealth criteria for each pile and differences between the piles. Assure the informants of confidentiality and do not discuss the ranks of individual families, so as not to cause bad feelings within the community.

4. List local criteria and indicators derived from the ranking discussion.

— identifying groups or rankings of households according to wellbeing or wealth, including those considered poorest or worst off; often leading to the identification of key indicators of well-being.

— Analysis of difference, especially by gender, social group, wealth/poverty, occupation and age. Identifying differences between groups, including their problems and preferences. This includes contrast comparisons — asking one group why another is different or does something different, and vice versa.

— Matrix scoring and ranking, especially using matrices and seeds to compare through scoring, for example different trees, or soils, or methods of soil and water conservation, or varieties of a crop;

4.1.11 Income and Expenditure Matrix (Sontheimer et al, 1999)

Description:

	The Income and Expenditure Matrix is a tool that helps us to identify and quantify the relative importance of different sources of income and expenditures. The tool also helps us to understand how secure or how vulnerable certain groups of people incomes are. In the Expenditures matrix, we can see if all, most or only some of people's total income is spent to meet basic needs - food, water, clothing, shelter, health care, education. We can also ask whether people have any money left over to save or to invest in tools, fertilizer, or other important items that could help them in their work.
Objective:	To learn about sources of income (cash and kind) and how income is proportionality spent by gender and wealth.
With whom:	Two mixed focus groups (men and women), one looking at gender differences, the other at wealth differences.
Time needed:	2 hours

Key questions:

Income matrix:

1. What are the most important sources of income in the community, both cash and in kind?
2. Who has only a few sources of income?
3. Who has many sources of income?
4. How do poor peoples sources of income compare to rich people's?
5. How do women's sources of income compare to men's?

Expenditure matrix:

6. How are expenditures spread out over the year?

7. Which expenditures are common to almost every one?

8. For each social group, what proportion of income is spent on basic needs like food, clothing, housing, health care and education?

9. Who can save?

10. Who can buy equipment, tools, agricultural inputs, or other things that help improve their work?

11. How do women's expenditures compare to men's?

How to facilitate:

For the group looking at wealth differences:

1. Explain to the group that you want to learn about where their income comes from and how they spend it. Reassure them that you don't want to know how much they make but are only interested in learning about where their money comes from.

1. Ask the group to list their sources of income. Be sure to prompt them to include both cash sources and payments in kind or by barter.

2. Start drawing the matrix on the ground or a large piece of paper.

3. Put the sources of income in the horizontal axis. The group may want to use symbols to represent the various sources.

4. Collect 50 small stones (ask the children for help). Explain that these stones represent the total income for the whole community for the year.

5. Ask the participants to divide the 50 stones between 3 groups - poor, middle and rich.

6. Ask the group to select a representative for each of the 3 wealth groups, and give these representatives the portion of the stones the group decided they should have.

7. Ask the representative to stand along the vertical axis with his/her stones.

8. Ask the representative to take turns placing their stones in the matrix to indicate their sources of income. Carry this out until all the stones are divided.

9. Record the matrix, counting all the stones for each source of income for each socio-economic group.

10. Repeat the same process for expenditures. Create a new matrix, using local symbols if desired, asking the group to list all of their expenditures, including savings.

11. Ask the representatives to collect back their stones and to redistribute them according to how they spend their money.

For the gender group

1. The process is almost the same. Put two columns on the horizontal matrix - men, women. Again let the group list their sources of income.

2. Again collect 50 stones. Divide them equally among the men and the women (25 each). Select a representative and start the distribution.

Hints:

Discussing incomes and expenditures can be highly sensitive. People are reluctant to talk about these issues in public. Be sure to reassure the participants that you do not want to know about amounts, but will only be talking about relative proportions for each group. There will be a sensitive moment when you ask the group to agree on how to divide the stones among the rich, middle and poor groups. Be sure that you limit the total number of stones for the community as a whole. We suggest 50 stones.

Materials: Local material to create symbols and stones.

4.1 GROUP AND TEAM DYNAMICS METHODS / PLANNING TECHNIQUES

4.1.1 SWOT - TOWS ANALYSIS

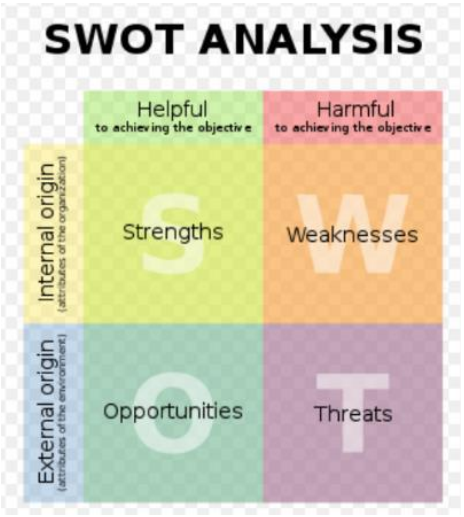
SWOT (Strengths, Weaknesses, Opportunities and Threats) Analysis is a method of systematic group reflection. The purpose is to gather, analyze and evaluate information and identify strategic options facing a community, organization, sector or individual.

It is used to categorize significant internal and external factors influencing a sector's strategies. It generally provides a list of the sector's strengths and weaknesses by an analysis of its resources and capabilities, plus a list of the threats and opportunities that an analysis of its environment identifies.

The SWOT analysis has the capacity to incorporate not only the present conditions (through strengths and weaknesses) but also the future conditions (through opportunities and threats)

The consultant will facilitate stakeholder centered decision on the objective, principles and strategy for the development of both private and public irrigation in Kosovo as the sub-sector evolves in response to domestic and regional demand for agricultural products.

The SWOT is often portrayed as a 2x2 matrix, which presents an overview of major issues to be taken into account in developing strategic plans for a sector.



In order to reduce the available time, participants will be asked to propose strengths and opportunities together in a first brainstorming session and then weaknesses and threats in another. This is done to avoid doing 4 brainstorm sessions and also in the process of deciding if one issue is a strength or an opportunity, some inputs can be lost. The classification in the two categories will be done afterwards.

Brainstorming strengths and opportunities: the participants will be solicited ideas. All suggestions will be record on a flip chart. Duplicate entries will be avoided, but at this point, the goal is to capture as many ideas on the flip charts as possible. Evaluating the strengths and opportunities will take place later. Common Strengths and Opportunities in irrigation are:

Strengths (are present)

- Available arable land for irrigation expansion,
- Social protection aspects of agriculture.
- Institutional arrangements for water users associations to operate, maintain and pay for the infrastructure.
- High agricultural contribution to rural and national economy
- Good quality waters coming from the mountains.
- Existing irrigation schemes (although they need rehabilitation)
- Existing good practices in certain irrigation schemes (water management, fee collection, high income crops, access to markets, agroindustrialization, etc.)
- Existing dams with available storage not used.

Opportunities (are not existing currently, or are incipient)

- Self-employment creation by the farmers
- Women's self-determinism from income earned,
- agribusiness and agro-industrialization development.
- Value adding and product diversification services to supply the global/international market for foreign exchange earnings.
- Other techniques/technologies such as green houses, greenery coverings, modern irrigation techniques, etc.
- Conservation activities that are also directly productive like fodder producing to curb soil erosion and improve the rangeland or pastures.
- train farmers more on soil nutrients replenishing practices.
- Intensive farming options.
- Irrigation instead of rain fed farming.
- Irrigation schemes using groundwater
- effective input acquisition policies (consulting, maintenance, knowledge products)
- private investment in on-farm irrigation improvements for specialized value chains (drip/sprinkler/storage/greenhouses)
- potencial for high value or high added value crops production.
- Support through grants/subsidies
- Integrated rural development strategies where irrigation is combined with rural/eco tourism
- Develop new areas with new large storages with hydropower and flood regulation.
- Multiple use systems for drinking water and irrigation.
- Watershed management.
- Commercial irrigation development.

- Institutional arrangements for company based service delivery to operate, maintain and pay for the infrastructure.
- Extensive farming mechanization and other productive policies and programme
- Public Private Partnership opportunities through:
    - Operation, Management and Maintenance (OMM) contract
    - Infrastructure concession
    - Public land concession or lease
    - Farm service agreement

Duplicate points will be consolidated by asking the group which items can be combined under the same subject. Strengths and Opportunities will be separated in to columns. Any items the participants have question about should be clarified. The top 5 or max.10 strengths and opportunities will be identified, by voting if there is no obvious consensus. Top strengths and opportunities will be summarized on a single flip chart page.

The procedure will be repeated for weaknesses and threats. Usual weaknesses and threats in the irrigation sector are, for example:

Weaknesses

- field application efficiencies are low
- poor techniques of soil moisture conservation
- farmers are not trained and helped with irrigation techniques of moisture trapping and regulation.
- techniques of improving germination and emergence are not applied,
- use of relevantly high yielding hybrids is not done
- Lacking tractor resource
- lack of commitment on the part of the farmers in terms of observing schedules for implementation, get involved and agree upon performance goals and monitoring indicators.
- Lack of effective management, operation and maintenance (MO&M) of public irrigation schemes
- Drainage canals are interrupted by roads and urbanisation
- Poor drainage delays planting dates.
- Climatic and Ecological hazards: Late and early frosts, occasional hailstorms, high intensity or low rainfalls, snowfalls and low untimely temperatures, drought.
- Environmental Implications/Risks: soil erosion, uncontrollable weeds, soil acidity, low soil fertility and water holding capacity, soil diseases, water logging, leaching and salinization
- Topography: fields on the non-flat areas makes soils to be prone to sheet erosion, gully erosion and possible splashes that can erode plants themselves.
- Farmers who lack capital resources and inputs are neglected by the free market
- underemployment, under-productivity, unemployment.
- political bias in distribution of inputs,
- inefficient delaying inputs delivery systems resulting in loss of appropriate time for planting,
- improper application of funds for inputs, biased distribution of inputs by public officials,
- misapplication or improper application of inputs by farmers
- Land tenure issues
- Few farmers pay the water tariff.
- Irrigation service providers do not collect enough to cover O&M costs
- Irrigation service providers are overstaffed, which create unnecessary high water tariff.

Threats

- arable land expansion for irrigation may not be available in the long-run
- Urbanisation is using high potential agricultural land
- poor financial and economic viability
- Lack of connection to global market trends through agribusiness and industrialization
- Water pollution from cities, industry and mines.
- Reduced water resources
- Scarce hydrological data collected
- There is no watershed management
- Inadequate gravel and sand extraction from river beds.

TOWS analysis: Strategies and plans formulation:

The resulting 2x2 matrix obtained at the SWOT is used to evaluate the following questions:

- **Strengths–Opportunities**. Use your internal strengths to take advantage of opportunities.
- **Strengths-Threats**. Use your strengths to minimize threats.
- **Weaknesses-Opportunities**. Improve weaknesses by taking advantage of opportunities.
- **Weaknesses-Threats**. Work to eliminate weaknesses to avoid threats.

The chart below is a great visual explanation of this exercise:

	Opportunities (external positive)	**Threats** (external negative)
Strengths (internal, positive)	**Strengths–Opportunities strategies:** which strengths can be used to maximise identified opportunities	**Strengths-Threats strategies:** how can strengths be used to reduce threats
Weaknesses (internal, negative)	**Weaknesses-Opportunities strategies:** what actions can be taken to minimise weakness using identified opportunities	**Weaknesses-Threats strategies**: how can be weakness minimised to avoid identified threats.

The answer to these questions will create actionable strategies. By adding a few blocks to the SWOT analysis chart these strategies will be written paper. For example, see table of SWOT/TOWS analysis results

	Strengths (internal, positive) 1. Available arable land for irrigation expansion, 2. Institutional arrangements for water users associations 3. Existing irrigation schemes (they need rehabilitation) 4. Existing good practices in certain irrigation schemes 5. Existing dams with available storage not used.	Weaknesses (internal, negative) 1. Poor trained farmers in on farm management 2. Lack of effective MO&M of irrigation schemes 3. Drainage canals are interrupted by roads and urbanisation 4. Farmers lack capital resources 5. Land tenure issues
Opportunities (external positive) 1. agribusiness and agro-industrialization development to supply the global/international market for foreign exchange earnings. 2. Improve extension services 3. Support farmers with loans/grants/subsidies 4. Rehabilitation of existing schemes with adequate water supply 5. Public Private Partnership opportunities	Strengths–Opportunities Strategies 1. PPP for land concession, lease or farm services 2. Provide loans grants and subsidies mechanisms 3. Rehabilitation of water available schemes 4. Promote WUAS for O&M and agribusiness/agro industrialization 5. Replication of good practices programs	Strengths – Threats Strategies: 1. Stablish Basin management of water resources 2. Stablish municipal urban planning to preserve best agricultural land. 3. Promote high value and high value crops production.
Threats (external negative) 1. Reduced water resources 2. There is no watershed management Urbanisation is using high potential agricultural land 3. poor financial and economic viability 4. Lack of connection to global market trends through agribusiness and industrialization	Weaknesses – Opportunities Strategies: 1. Improve agricultural extension services. 2. Improve MM&O of existing schemes 3. Restore drainage and forbid further blockage. 4. Promote land consolidation programs. 5. Institutional and legislative reforms	Weaknesses –Threats Strategies: 1. Promote marketing services and alliances with international/global clients. 2. Simplify export/import procedures for agricultural products/inputs

Table 4-1 SWOT TOWS table

4.1.2 STRATEGIC PLANNING (SANOFF, 2000)

Strategic planning is an organized effort to produce decisions and actions that shape and guide what a community is, what it does, and why it does it. Strategy is the act of mobilizing resources towards goals. It includes setting goals and priorities, identifying issues and constituencies, developing an organization, taking actions and evaluating results

Strategic planning requires information gathering, an exploration of alternatives, and an emphasis on the future implications of present decisions.

It can facilitate communication and participation, accommodate divergent interests and values, and foster orderly decision making and successful implementation.

A strategic plan is a method of developing strategies and action plans necessary to identify and resolve issues. The challenge in creating a plan is to be specific enough to be able to monitor progress over time. To be usable, a strategic plan should have built in flexibility to allow for revisions

to occur, as new opportunities become apparent. Strategic planning is action oriented and considers a range of possible futures and focuses on the implications of present decisions and actions in relation to that range.
The development of a strategic plan requires the creation of a vision statement to provide suitable guidance and motivation for the ensuing process. The vision should emphasize purposes and arrived at through group sessions in order to establish a common reference point for the broad objectives of the community. It outlines the key areas of concern within the community and will help people make decisions that support that vision.

1) Environmental Scan (ES)

The foundation for a strategic plan, often referred to as environmental assessment, considers needs, priorities, issues and opportunities. Environmental Scan, is the practice of using methods such as surveys, questionnaires, observation's of people's behavior, and focus groups to discover exactly what makes the environment work well for its users. ESs are a procedure that involves the user in their own assessment of their every day physical environment.
ESs can be effective in correcting environmental errors by examining the environments, or in preventing potential errors through the use of information results in a projects' programming stage.
ESs have also helped to persuade clients to choose design alternatives that they might not otherwise have considered.

2) Goal Setting

The results of an environmental assessment can serve as a starting point for the identification of goals. A goal is an end toward which an effort or direction is specified. A goal specifies a direction of intended movement not a location. In this sense a goal reflects an underlying value that is sought after and is not an object to be achieved. Goal setting can be seen as the guiding process necessary for successful community design.
Goals begin as openended ideas derived from knowledge of community needs. While a goal is the desired general result, an objective is the desired specific result. Objectives should respond to each goal by defining a direction. They are definable and measurable tasks that support the accomplishment of goals.
There are three stages of development integral to goal setting that require examination.

a) Goal identification, the first stage requires an awareness of the problem and a willingness to confront controversial issues.
b) Goal clarification is the attempt to understand and describe feelings and emotions that may be explicit or unexpressed and implicit.
c) Identifying goal priorities is a process of rank ordering according to some criterion.

Goal setting entails documentation and analysis. It also entails people; local informants, a community of clients, all of whom have their own social, political and economic agendas. Goal setting is about collecting stories and identifying themes that are common and that bind people together. Local people can provide knowledge about function, values, history and structure of community institutions. Story gathering or qualitative research is an approach where people are treated as informants, not as subjects.
Goal statements should contain one major thought and not specify how they will be met (that comes later when strategies are identified for accomplishing goals). Statements should begin with an action word such as *develop, provide, maintain, reduce, continue, increase* or *upgrade*.
Equally important as writing clear goals is making sure they represent stakeholder's views.

Strategies further clarify the methods required to reach a goal. There may be a variety of strategies required to reach a goal.

An action plan defines what action will be taken, who is responsible for getting it accomplished, and when the action plan should be complete (Figure 2.1). An action plan is expressed as:
What-A document that defines the actions to be taken, the person(s) responsible, and the time frame for completion.
Why- to define roles and responsibilities and provide a tool for tracking implementation.
How- Define actions; gain commitments; agree on deadlines.
While participants in the strategic planning process are amenable to supporting the actions required, a sense of ownership and accountability for all enabling actions will effect successful implementation.

3) Strategy Selection

A group process for identifying strategic issues is referred to as the "snow card" or "snowball", technique that combines brainstorming-which produces a long list of possible answers to a specific question-with a synthesizing step, in which answers are grouped into categories according to common themes.
Each of the individual answers is written onto a five-by-seven inch index card called a "snow card;" the individual cards then are fastened to a wall according to common themes, producing several "snowballs" of cards.
Guidelines for using the snow card technique are:

- Select a facilitator to guide the process.
- Form the group(s) that will use the technique. The group size can vary between five to twelve members. Several groups can be formed if large numbers of people wish to participate.
- Participants should be seated around a table where the index cards can be read clearly by all members.
- Participants should focus on a single problem or issue.
- Participants should silently brainstorm as many ideas as possible and select five best items to be transcribed onto separate index cards.
- Cards are collected by the facilitator, fastened to the wall, clustered by all participants, then discussed until agreement is reached about categories and their contents.

Several conditions need to be satisfied for a strategic planning process to be effective. They are:

- There must be a compelling reason to undertake a strategic planning process. Key decision-makers must see some important benefits from strategic planning or they will not be active supporters and participants.
- The process must be supported by important and powerful leaders and decision-makers.
- There must be a process advocate; a person who believes in strategic planning and assumes the role of facilitating the thinking, deciding, and acting of key decision-makers.
- The process must be tailored to the community situation.
- Key decision-makers talk with one another about what is important for the community as a whole.
- Resources needed are the attention and commitment from key decision- makers.

4.1.3 VISIONING

Visioning is a process that seeks to create living, useful guides for public actions intended to position the community for the future.

Participants are asked to think about how the community should be and find ways to identify, strengthen and work toward a community vision (Figure 2.2). Participants are asked how they would like their community to be in 20 years and to try to put that vision into words or images. It is effective to start the process with a large group informally brainstorming what should be included in the community vision.

Then, breaking into small working groups of about 7 people, the ideas should be discussed and then presented to the larger group. Once participants present their views, common themes are identified and strategies are developed to move the community in the direction of the vision. While specialists may carry out specific policies and recommendations, citizens remain responsible for the framework where decisions are made. The shared vision belongs to the group rather than to any one individual.

Community visioning projects are conducted by citizens, often referred to as stakeholders, who care about the future of their communities.

The stakeholders in successful visioning processes represent the community's diversity. As the planning group for the visioning process, they set goals, develop the action plan and implementation strategies.

A 8-step process can be identified:

I. *The Initiating Committee*- this group of about 10-15 people representing the broader community focus on the process and logistics necessary to move the process forward.
II. *The Project Kickoff*- This initial event allows participants to get to know each other and to understand the purpose of the visioning process.
III. *The Environmental Scan*- At this stage it is useful to examine those forces from the state and national level that can impact the community and the current circumstances in the community and examine their future if no intervention occurs.
IV. *The Community Vision Statement*- A vision is the way to develop a framework for projects and priorities for 10, 20, or 30 years into the future.
V. *Action Plans*- Participants identify projects, implementation strategies, timelines, and responsible parties.
VI. *A Community Celebration*- A visioning process should conclude with a celebration acknowledging the work of all participants and announcing the plan to the community.
VII. *Shifting from Planning to Implementation*- This is the transition stage where responsible parties build on the momentum of the celebration and begin their work.
VIII. *The Implementation Committee*- Successful visioning projects require a group to oversee and support the implementation process.

4.1.4 CHARRETTE PROCESS (SANOFF, 2000)

The word *charrette* derives from the French translation of chariot or cart., like the one used to collect architectural designs produced at the Ecole des Beaux Arts in Paris at the end of the 19th century. Often, the students would be drawing while the carts were moving, giving the word the meaning of a last-minute burst of activity to meet the deadline. The charrette process, as used today, refers to the rapid pace at which these designs were finalized and the energy that ensued from that production.

The contemporary charrette operates simultaneously as a product and a process. Depending on the nature of the product, the necessary tools will vary. The typical charrette process maximizes participation over a three to five day framework. In addition to a structured schedule and an open process for participation, the charrette follows through three defined mechanisms:

i. The first, idea generation, requires a knowledge transfer among all affected parties.
ii. The second charrette mechanism, decision making, requires a dialogic discourse about the ideas presented.
iii. Lastly, problem solving provides recommendations and proposals as process outcomes.

The Charrette Process has proven to be a successful goal setting technique, a collaborative exchange and an interdisciplinary problem solving approach. It is a successful participatory design strategy when applied to specific goal oriented objectives of a clearly defined problem. The charrette becomes less of a technique and more of a collaborative planning process when used in conjunction with other participatory techniques within a defined program. In general, the two main objectives of the charrette are:
1 To gain the unified support of a representative cross section of citizens who are committed to implementing the proposed solutions.
2 To get the commitment of the power structure to secure the necessary resources in order to affect the changes.

The basic strategies of a *charrette* are:

- Perception of a common goal or sense of urgency.
- Involvement of all factions of the community.
- Full citizen participation (includes those not experiencing the problem).
- Maintain a sense of individual contribution to the total process.
- Resolve conflict and redirect its energy toward community tasks.

First of all, the community must have a sense of urgency about certain issues in order for a *charrette* to become an effective mechanism for change. It is important to get the various factions to work together toward the common goals of the charrette. If the individuals within these factions feel a sense of personal contribution is particularly important for the Steering Committee to know which faction of the community have the greatest interest in solving the problems, because these are the people most likely to formulate the solutions.
Creating a dialogue within working groups will allow people who are not experiencing the problem to learn from those who are. The charrette manager must maintain control of the group dynamics: get the groups to work and if necessary, be able to diffuse any disruptive behavior. The essential ingredients of a charrette are:

- An identifiable problem.
- User participation.
- Involvement of professionals from within and from outside the community.
- The adoption of short and long term goals.
- A commitment to put the recommendations of the charrette into action.

A traditional design charrette is usually a one or two day program, under some circumstances it may run from four days to two weeks. Practicing professionals focus on producing solutions to a well-defined problem. Results usually include a design plan for a specific irrigation system, a building such as a homeless shelter, a streetscape, urban park, on a defined site.
In the charrette, the process requires an accelerated rate of participation and an unveiling of all agendas. With all parties at the table, the transactive dialogue evolves into decision making. An individual's interests are not ignored whole-heartedly. Rather, they are considered with respect to others and are modified accordingly.
The role of modification during the charrette process is important to identify at the outset of the charrette. The eventual goal is local consensus.

4.1.5 FISHBOWL PLANNING (SANOFF, 2000)

The basic objective of fishbowl planning is "to ensure that planning for public works projects is highly visible to all interested individuals and organizations". Concerned citizens are to be involved in the

planning process from the beginning. Throughout the planning process, citizens serve as a check on agency planners and contribute ideas, insights, and alternatives of their own.
The four procedural components of fishbowl planning are

i. workshops,
ii. public meetings,
iii. citizen committees, and
iv. a brochure of the study: is an essential component of fishbowl planning. It provides a written record of all alternative solutions suggested by citizens or agencies. The brochures serve as a forum for debate about alternatives.

The fishbowl experience can not bring about consensus on a single alternative. Rather it is designed to improve communication among all concerned groups, with the hope that proponents of each alternative could accommodate the concerns of others. The important point is that it is not judged as a failure if consensus does not emerge.

4.1.6 COMMUNITY ACTION PLANNING (CAP) (SANOFF, 2000)

Community Action Planning is an approach that empowers communities to design, implement, and manage their own programs. Its key characteristics are participatory, community-based, problem driven, and fast
Traditional planning methods, such as master plans or development plans, is argued, take too long to develop, demand substantial resources to implement and are unrelated and of no benefit to the poor majority of the populations.
While the issues may be broad in scope, the process begins with small-scale projects that are additive in nature promoting appropriate technologies and local enterprises. While stakeholder participation is at the core of action planning, building coalitions between government and non-government groups, between competing government departments as well as between competing community groups. Participation occurs when people and organizations are convinced that their interests will be better served in partnerships than without them.
At the heart of the action planning process is a series of phases and techniques that include:

- Direct observation allows the planning team to see the conditions of the environment under consideration.
- Interviews and focus group discussions help to generate insights into those community characteristics that are not visible through direct observation.
- Measuring is a quantitative view of environmental conditions.
- Surveying resources, a community function, identifies local people and places that are important to any proposed program, similar to the “yellow pages.”
- Prioritizing is an ongoing process where stakeholders consider their needs and the feasibility of implementing projects.
- Brainstorming is used to allow groups to explore alternative ways of solving problems.
- Diagramming allows time-line and population information to be presented in an easily understood graphic format.
- Mapping and modeling allows people to record their feelings, perceptions, social networks and to examine existing conditions as well as evaluate proposals for improvement.
- Gaming and role-playing can be used to build awareness of planning procedures, to anticipate potential difficulties as well as to allow participants to become sensitive to each others needs.
- Group work during all stages of the planning process helps to build cooperation.

- The process begins with identifying problems and with identifying opportunities in a workshop setting. The workshop is organized into four phases:

1 Deciding what was needed (identifying key problems and priorities)
2 Sorting out how to achieve what was needed (preparing proposals)
3 Assessing what will get in the way of implementation (project viability)
4 Building a plan of action (tasks, partners, schedules, organizations, etc.) and getting projects going.

The workshop produces a viable community action plan that set a development process in motion. At its conclusion, a planning unit is to be established and project coordinators can be selected from the community to pursue the tasks identified
Following the workshop the project must be presented to representatives of local government who can sustain what had been
A follow-up program allows the ideas to fully implemented. Evaluating the impact of Action Planning events is important to help focus attention on long-term objectives and help improve the process.

4.1.1 Game simulation (Sanoff, 2000)

Participation can take place through other types of involvement s as design and planning games for organizing group decision making. One of the key factors in the learning process is participation-particularly by the use of games that incorporate the formal properties of the phenomena for which the game is an analogue. A game is a simulation of a real situation allowing participants to act out situations and experience the interactions of a community activity.

Games are educational since their purpose is to create an environment for learning and prepare people to act. Gaming is a participatory approach to problem solving that engages a real life situation compressed in time so that the essential characteristics of the problem are open to examination.

This technique permits learning about the process of change in a dynamic environment requiring periodic decisions. Essentially, a complex problem is identified, its essence is abstracted, and the end result is a process referred to as a simulation. Games consist of players, placed in a prescribed setting, with constraints within this setting represented by rule systems and methods of procedure.

Games used for teaching in the community produce outcomes such as learning of principles, processes, structures, and inter-relationships; empathy and understanding for predicaments, pressures, and real-world problems presented by role players; and a strong sense of efficacy. Games used for skill development by businesspersons, police officers, and diplomats help to develop skills in persuasion, bargaining, and strategic planning. Game use in social planning is helpful when players try out different forms of social structure, resource-allocation, and communication within a simulated environment, to test the effectiveness of ideas, costs, and rewards of options. Games used by groups to explore values, ideas, and behaviors as a communication function, result in a better understanding of themselves and others. Games used in conflict resolution facilitate communication between dissimilar or opposing groups

Design games get people involved in their play and in their design and planning results. There are several reasons for this, but three are central:

1 Participants take a role and argue the problem from that posture.
2 Games organize complex details into an overview model. This allows the player to grasp details that might otherwise be lost.
3 Games require trial decisions, and this commitment sharpens the thought processes of the participants who are required to act.

A familiar feature of games is that of winning and losing. The behavior and the interaction of participants in a game can possibly involve competition, co-operation, conflict or even collusion, but usually limited or partially described. The basic format of this chapter, however, is group discussions that are collaborative in nature and that require consensus decisions.

Bargaining and voting methods create situations that have only two sides. These methods are increasingly more unrealistic and usually force people to take extreme positions in order to influence votes. Also, losers in any situation become disgruntled. Therefore, all the gaming exercises in this book are based on the premise that there should not be winners or losers in the decision making process. Every participant should be a winner. The consensus process, then, replaces the traditional process of voting.

All of the techniques included here have gone through the test of experience. Each method aims to accomplish specific tasks ranging from increasing people's awareness to particular environmental issues, to teaching concepts and relationships, to clarifying value differences between decision makers. Values are those beliefs we hold to have some intrinsic worth. Value differences between individuals often account for an inability to achieve agreement in group problem solving situations. Quite often so-called "differences of opinions" result from basic value differences not made explicit. Values clarification methods encourage people to examine their own beliefs.

In each design game the individuals make choices, hold positions and debate them. In making choices individuals have to examine their feelings, self-concepts, and values. The final goal of the exercise is a plan of action for an entire group of people; a goal that requires some compromising.

Participants in these design groups learn about each other's value differences, and use the game props to clarify and reconcile those differences. Each design game provides a variety of materials including lists of objectives, activities, activity symbols, and environmental settings. The range of possibilities has not been exhausted. It would be appropriate to add or eliminate from any list of objectives, as well the opportunity for participants to include their own choices of objectives or settings.

The games included in this book help to facilitate an understanding of strategies for solving a variety of environment problems, and imparting information in a meaningful way. Each game has a structure that helps to focus the group process and control extraneous variables, and increase the probability that certain learning will occur for the participants. While games help to understand the complex interweaving of environmental and social forces, they can provide insights into situations so familiar that their characteristics are not perceived. Games help sharpen perceptions.

Another form of design game requires the direct involvement of community residents in an organized decision process. Specific community issues, however, should guide the development of this process. The quality of leadership through the decision procedure will effect the success of this approach. Leadership is necessary to assure that all the participants contribute to the fullest of their abilities.

The process should reflect the willingness of people to work together, yet not force their involvement beyond their competence. Attempts at involving community residents in all stages of the design process may lead to early withdrawal, particularly if progress toward implementation is slow. An effective process for involving people must be carefully designed. The random involvement of people without a clear sequence of events and without clearly understood roles can result in chaos.

There are several factors that contribute to the success of any type of participation. Initially, there needs to be a shared view of the goals of the project and what the participants want to achieve. As

the process moves ahead the goals may change, yet the structure should be adhered to since open-ended processes that permit people to join and drop out usually end in frustration. Creating a steering committee or citizen's council at the outset can ensure continuity of the process. Their role includes the need to maintain open communication between all participants at all times. Open dialogues often protect against hidden agendas that may emerge. The process requires a clear beginning and end where participants understand their responsibilities and their interconnection with each other and with the designer or planner. The role of the professional in this process is not only as the facilitator, but also as the technical specialist who makes recommendations and develops the necessary documents. Since the design process is open to lay people, clear and readable communication systems must be employed.

Steps to designing a game include the following considerations:

- Define the problem area to be simulated.
- Define the objective and scope of the simulation.
- Define the people and organizations involved.
- Define the motives and purposes of the participants.
- Define the resources available to the participants.
- Determine the transactions to be simulated and the decision rules to be followed.
- Formulate the evaluation method.
- Develop the prototype.
- Test and modify the prototype.

The Irrigation Management Game (Burton,2000) is an example of a training exercise designed to change understanding, attitudes and behaviour in relation to irrigation water delivery in the main system. In addition, attitudes are strongly affected by the day-to-day

The Irrigation Management Game places participants in the position of either irrigation agency staff responsible for managing the main canal system or farmers responsible for managing irrigated landholdings within the main canal command area. Usually one or two people take on the role of the main system service provider and eight to 16 people take on the role of farmers managing landholdings within the eight tertiary units (with one or two participants per tertiary unit). The exercise is run by two trainers, one as the Game Controller, the other as the Trader. The game usually takes a full day to play, including a debriefing and discussion session at the end.

In the game the tables and chairs in the training room are set out following the layout of the main canal and eight tertiary units. The available water (represented by blue counters) at the river intake is distributed by the main system management staff to the eight tertiary units within the system, working down the system from top to bottom. The farmers take their allocation of water from the main system managers and distribute it among their four fields.

The farmers have to decide on the crops to be grown on each of their four fields (based on data provided on crop costs, yield response to water and prices), and then use yield response to water graphs to decide how to allocate the available water among the four fields. Water is generally in short supply, so the final crop yield is dependent on water allocation decisions made in each of the three crop growth stages.

The main system management staff have to make decisions on the water allocations to each tertiary unit based on different water allocation procedures for each allocation round. In the first round allocation is in proportion to tertiary unit command area, in the second round in proportion to irrigation water demand, and in the third round based on demands and actions at the tertiary unit

gate by the farmers. In the third round farmers can override the allocation by the main system managers by 'breaking' padlocks on the gates and adjusting the gate settings to suit their needs. These actions tend to benefit the upstream farmers, and lead to (simulated) conflict between head and tail-end farmers.

The exercise serves to demonstrate the interactions between the main system management staff and the farmers, and the impact that their decisions and actions have on farmers and agricultural output from individual tertiary units within the system. It also raises issues of system maintenance, corruption, water trading, value of irrigation water, yield response to water, performance assessment and inter-personal relations, both between the main system managers and farmers and between the farmers themselves.

4.1.2 COMMUNITY WORKSHOP (SONTHEIMER ET AL, 1999)

Objectives:

7. To present the main findings and conclusions of the appraisal to the community at large.

8. To provide an opportunity to the community for discussion of the main findings of the appraisal.

9. To reach a consensus on the way forward and the roles and responsibilities of the community, the community support staff and the project.

Methods:

7. Presentation
8. Group Discussion

Target groups:

Organize a meeting with the community at large, ensuring that men and women are equally represented, as well as people from different socio-economic groups and ages.

Facilitators:

All PRA-team members

Key Questions:

12. What are views of the community on the main findings of the appraisal.
13. In anticipation of project approval and implementation, what actions can the community and the community support staff already initiate, using locally available resources, to start address some of the problems raised during the appraisal.

Procedure:

1. The PRA-field team Leader presents an overview of the activities of the last four days.

2. Each PRA-team member presents the main findings of the PRA exercise facilitated by him or her. Main findings and conclusions should be presented using the Evaluation Matrix, giving: key questions, main findings, strengths within the community, weaknesses within the community, opportunities outside the community, threats outside the community, and conclusions.

3. Following the presentation of all findings, the gathering should be split up in five groups:

Community Leaders, Adult Men, Adult Women, Young People, and Community Support Staff.

4. Each groups should discuss among themselves the findings and conclusions of the PRA and identify what actions could be undertaken by themselves (young, old, men, women, leaders, support staff) to address some of the identified problems within limits of the local resource base (human, financial, natural, social, institutional, etc.). PRA team members may facilitate this exercise, allowing maximum participation from the group members, and using the various elements of the SWOT analyses as entry points. For example, what are the weaknesses in the community that the community needs to address and what are the strengths that need emphasizing? How can opportunities coming from outside be utilized and threats reduced and what is the role of the community support staff in that?

5. Each group presents its findings and conclusions to the plenary meeting.

6. The PRA field team leader explains what the steps prior to the actual implementation of the project will be: causal analysis at regional level, project planning and formulation, review and approval of the project proposal by a tri-partite review meeting (BSF, FAO, Government of Ethiopia)

7. The PRA field team leader expresses the commitment of the project to follow-up on the process initiated through the PRA. Namely, the first step following the approval of the project proposal would be the initiation of a “Community Action Planning” process, building on the findings of the appraisal, and resulting in the implementation of various community based micro-projects.

8. Vote of thanks by the various stakeholders.

Materials:

1. Flip charts with the “Main Questions and Findings, SWOT and Conclusions” of the various exercises prepared prior to the meeting.

2. Flip charts for documenting the group discussions.

5 PRACTICAL APPLICATIONS

RRA approaches and methods have been used for appraisal, analysis and research in many subject areas. These include agroecosystems; natural resources, including forestry, fisheries, wildlife management, and the environment; irrigation; technology and innovation; health and nutrition; farming systems research and extension; pastoralism; marketing; disaster relief; organizational assessment; social, cultural and economic conditions; and many special topics.

PRA approaches and methods have evolved and spread so fast that any inventory is likely to be incomplete. In early 1994, most of the known applications can be separated into four types of process, and into four major sectors.
The four major types of process are:

— participatory appraisal and planning;
— participatory implementation, monitoring and evaluation of programs;
— topic investigations;
— training and orientation for outsiders and villagers.

The four major sectors are:

(a) *Natural resources management*
— Watersheds, and soil and water conservation: e.g., participatory watershed planning and management
— Land policy
— Forestry, including: social and community forestry; degraded forest assessment, protection, nurseries and planting; identification of tree uses; and uses and marketing of forest products
— Fisheries
— Biodiversity and wildlife reserve buffer zones
— Village plans: preparing Village Resource Management

(b) *Agriculture*
— Fanner participatory research/farming systems research and problem identification and analysis by farmers
— Livestock and animal husbandry
— Irrigation,
— Markets: investigating markets and smallholder marketing potentials

(c) *Poverty and social programs*
— Credit: identification of credit needs, sources and interventions;
— Selection: finding and selecting poor people for a program, and deselecting the less poor
— Income-earning: identification of nonagricultural income-earning opportunities.
— Women and gender: participatory appraisal of problems and opportunities

Training Material prepared by
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