Participatory Rural Appraisal Handbook

Prepared jointly by
The National Environment Secretariat, Government of Kenya
Clark University
Ierton University
The Center for International Development and Environment of the World Resources Institute

Natural Resources Management Support Series—No.1

PARTICIPATORY RURAL APPRAISAL HANDBOOK:

Conducting PRAs In Kenya

PREPARED JOINTLY BY

National Environment Secretariat

Egerton University

Clark University

Center for International Development and Environment
of the World Resources Institute

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Foreword

The NGO Support Services Program of the Center for International Development and Environment was created to help build the capacity of developing-country NGOs (non-governmental organizations) to manage natural resources and influence policies that promote sustainable development. Central to the program's mission is the search for ways that developing communities can meet their needs while renewing the natural resource base upon which their livelihood depends.

In practice, the program tests and disseminates analytical tools to promote sustainable resource use. It provides information on such topics as field appraisal, evaluation, and planning. Practical experience from NGOs working in developing countries is the primary source of the Center's material.

This handbook is part of a new publications series that complements conferences, workshops, and training programs sponsored by the NGO Support Services Program. Each volume has a different focus, but all are designed to disseminate findings and lessons learned in working with developing-country NGOs and the international development community. The series is intended for practitioners of development, whether government development or extension agents, NGOs, community leaders, field workers, concerned academics, or professional trainers in project design, monitoring, and evaluation.

Our hope is that these publications will become "hands-on" tools and that a few years from now all the copies in circulation will be frayed from constant use. Meanwhile, questions and comments from users are welcomed and should be sent to the Director of the Center for International Development and Environment.

Gus Speth
President
World Resources Institute

Acknowledgements

This *Handbook* is a guide for village leaders and field extension officers working in local resource management. It enables agents to help rural communities define problems, prioritise project activities, and adopt village-based resource management plans. Local teams and community leaders should freely add to, delete, or amend the procedures set out in this *Handbook*. Their experiences will strengthen future editions.

Several organisations and individuals helped us develop the PRA methodology and this *Handbook*. Charity Kabutha at the National Environment Secretariat (NES) and Richard Ford and Barbara Thomas-Slayter of Clark University drafted the first version. Julius Muinde, Wycliffe Mutero, Florence Kariuki, Elizabeth Oduor-Noah, Parkinson Ndonye, Charles Mwandawiro, Isabel Asamba, Eliud Ngunga, and A.K. Kiriro (former NES Director) at NES, working with Clark University, have been part of research and field teams developing and refining PRA. David Richards, Tom Fox, Peter Veit, Kirk Talbott, and Kara Page at the Center for International Development and Environment of the World Resources Institute have contributed to or written many of the supporting materials, and the Center has helped fund village appraisals and training programmes. Francis Lelo at Egerton University has played an important role in developing training materials.

In Kangundo Division, Kenya, District Officer John Mosiany, Chiefs Mula Mativa, William Mutuku, and Savana Maveke, Assistant Chiefs William Mutua, Isaac Kaku, and Bonface Sumuni, Community leaders Grace Ngii, Ruth Mwololo, Samuel Moni, and technical officers Nicholas Mageto, Rachael Muya, Mr. Kinyue, and Mr. Musembi have been part of the basic data gathering and implementation process.

Gordon Conway, Jennifer McCracken, and Jules Pretty of the International Institute for Environment and Development, and Robert Chambers of the Institute of Development Studies at the University of Sussex in England have carried out basic research and field work for Rapid Rural Appraisal (RRA), the parent methodology of PRA; at the Ford Foundation, Dianne Rocheleau has given generously of her time in

working with NES and helping to support trial field studies; and at US-AID, Jim Dunn, John Gaudet, and Jim Gingerich have found funds to carry out training and field research. In the Eastern/Southern African region, the village approach has also benefitted from the advice of Drs. Ophelia and Adolfo Mascarenhas, as well as that of Dr. Liberty Mhlanga; and at Clark University, support has come from Sharon Lezberg, John Thompson, James Toledano, Jaana Hinkkanen, Michele Fulk, Bill McConnell, and Mary Hodem.

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Chapter I
Introduction and Background

Improving the quality of life in rural communities is a primary goal of development. While many efforts, such as introduction of hybrid seeds, fertilizer and pesticide packages, or irrigation systems have been effective in some areas, their benefits, unfortunately, have often bypassed the rural poor.[1] In fragile and arid ecosystems, land pressures have been rising, land use changes accelerating, demand for water increasing, and consumption of fuelwood escalating. Given these and other demands on the natural resource base, overall development efforts to sustain basic support systems in Africa have been falling short of desired goals in much of the continent.

Part of the dilemma lies in the fundamental approach to development. For much of Africa, the colonial era brought centralised decision-making and, frequently, coercive implementation of policies. Rural communities played no role in making decisions that affected important aspects of the political, socio-economic, and ecological systems that sustained them.

Following independence, forces external to Africa's poor villages became critical factors in mounting rural development.[2] Governments, non-governmental organisations (NGOs), and international development agencies often used "top-down" approaches to design programmes without consulting intended beneficiaries. Local, national, and international decision-makers often used funds to import technologies from the North, rather than to utilise and enhance locally conceived and sustainable approaches. The failure rate of such projects was high.[3] As a result, disinterest in project activity on the part of the rural people was widespread.

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1 World Commission on Environment and Development, 1987, *Our Common Future* (Oxford University Press: Oxford). p. 124

2 Hyden, Goran, 1983, *No Shortcuts to Progress* (University of California Press: Berkeley, California). pp. 165–170.

3 World Commission on Environment and Development, 1987. p. 124.

Failures of these "top-down" or "blueprint" approaches to rural development are well documented in volumes such as the recent Brundtland Commission report on the state of the world environment, *Our Common Future*.[4] Project failures are especially dramatic in areas of environmental management including soil, water, and trees, where adverse impacts have weakened Africa's long-term ability to feed and clothe itself.[5] The Brundtland report calls for new perspectives and ways to halt environmental decline and to introduce sustainable rural development.

This *Handbook* presents one alternative to conventional top-down approaches to rural development. It is based on village experiences where communities are working effectively to manage natural resources. Called Participatory Rural Appraisal (PRA), the methodology assumes that popular participation is a fundamental ingredient in project planning; that locally maintained technologies as well as sustainable economic, political, and ecological systems are fundamental to reverse Africa's decline; and that truly sustainable development initiatives will incorporate approaches that local communities themselves can manage and control.

PRA is derived from an existing methodology known as Rapid Rural Appraisal (RRA). RRA was developed by Gordon Conway and Robert Chambers with support from the International Institute for Environment and Development (IIED). It is one of several approaches for rapid design, implementation, monitoring and evaluation of rural development.[6] PRA is one subset of RRA; others include Exploratory, Topical, and Monitoring RRA.[7] Kenya's National Environment Secretariat (NES) and Clark University are currently testing and refining PRA in several pilot

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4 World Commission on Environment and Development, 1987. p. 124.

5 Timberlake, Lloyd, 1985, *Africa in Crisis* (International Institute for Environment and Development-NA: Washington, DC); Brown, Lester and Edward C. Wolf, 1986, "Reversing Africa's decline," in *State of the World*, Brown, et al., eds. (W.W. Norton and Co.: New York, New York); and, T. Nawaz and J. Malone, 1985, "Agricultural lending in sub-Saharan Africa," World Bank Working Paper (World Bank: Washington, DC).

6 Molnar, Augusta, "A Review of Rapid Appraisal Tools for Use in Natural Resource Management Planning and Project Design and Execution," Draft Paper for UN Food and Agriculture Organization Forest Department and Asia Environment Division, World Bank, June 1989.

7 Conway, G. and J. McCracken, 1988, "Training Notes for Agrosystem Analysis for Development: Ethiopia"(International Institute for Environment and Development: London). p. 18.

appraisals in different ecological and socio-economic settings. In collaboration with Egerton University in Kenya, NES is helping develop a PRA training component to teach the methodology to field workers and extension officers.

PRA has received support through a project known as "From the Ground Up," administered by the Center for International Development and Environment of the World Resources Institute in collaboration with the Program for International Development at Clark University and numerous development institutions in Africa. "Ground Up" argues that important insights can be gained by analysing effective village resources management activities. The project identifies communities that are already pursuing ecologically sound development and assesses the causes of the community's success—issues such as local leadership, viable institutions, and appropriate technology. Dissemination and training efforts follow to share the case study results with other communities, national policy-makers, and the international development community. Communicating these core elements of success to target groups and collaborating with agencies outside the village may, over the long term, promote decentralised, small-scale natural resource management policies and foster a growth of self-reliance in the communities themselves.

This *Handbook* is an introduction to the rationale and methodology of PRA. The PRA techniques for developing a village-level plan of action have already helped to mobilise community action and development assistance in Kenya's Machakos District as well as in Nyeri, Taita Taveta, and Siaya Districts. Although the examples used in this *Handbook* are drawn from Kenya, PRA is applicable to many other cultural, socio-economic and ecological settings in sub-Saharan Africa as well as other Third World settings.

Chapter II
PRA: A Promising Approach "From The Ground Up"

Participatory Rural Appraisal, like its parent methodology of Rapid Rural Appraisal, is a "systematic yet semi-structured activity carried out in the field by a multidisciplinary team and designed to acquire quickly new information on and new hypotheses for rural development."[8] Its goal is socially acceptable, economically viable, and ecologically sustainable development. PRA assumes that rural communities form the active foundation for reversing Africa's current natural resource degradation and increasing food production. PRA assumes that communities need committed local leadership and effective rural institutions to do the job.

PRA can help:

- *renew Africa's natural resource base* with improved policy and action;
- *focus on rural communities*, especially vulnerable ecosystems;
- *integrate relevant sectors* in rural development by focusing on natural resources;
- *link technical and socio-economic issues* in defining problems and solutions; and
- *systematise participation* so that donors, governments, and non-governmental organisations (NGOs) arrest and reverse Africa's declining productivity.

PRA helps communities mobilise their human and natural resources to define problems, consider previous successes, evaluate local institutional capacities, prioritise opportunities, and prepare a systematic and site-specific plan of action—a Village Resource Management Plan

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8 Conway, G. and J. McCracken, 1988, p. 18.

(VRMP)—for the community to adopt and implement. Derived and managed by those who most benefit through their implementation, VRMPs offer a practical means for facilitating community self-help initiatives.

PRA enables multi-disciplinary teams of specialists and rural leaders to work more closely together and to understand better their problems, needs, and opportunities. Using the theme of natural resource management to integrate development sectors, PRA facilitates multi-sectoral (for example, agriculture, water resources, forestry), multi-disciplinary (economics, sociology, engineering, biology), and multi-institutional (government, NGO, university, donor) collaboration.

PRA is an excellent tool to bring together, on the one hand, development needs defined by community groups and, on the other, the resources and technical skills of government, donor agencies, and non-governmental organisations (NGOs). In so doing, it integrates traditional skills and external technical knowledge in the development process.

Chapter III
Getting Started

A typical PRA has eight clearly defined steps:

1. Site selection and clearance from local administrative officials;
2. Preliminary site visit;
3. Data collection: (a) Spatial; (b) Time-Related; (c) Social; and (d) Technical;
4. Data synthesis and analysis;
5. Problem identification and setting of opportunities to resolve them;
6. The ranking of opportunities and the preparation of a Village Resource Management Plan;
7. Adoption and implementation of the Plan;
8. Follow up, evaluation, and dissemination of findings.

Site Selection

Site selection can be accomplished in two ways. Either a government extension officer or other field worker identifies a village needing development assistance, or an organised community requests assistance. A few examples include:

- a community with a specific problem such as deforestation may request assistance, based on its familiarity with work that PRA has initiated in a nearby community;
- a village committee or leader may see PRA as a way to mobilise community institutions or to attract funding for village projects from a donor or government agency; or

- a Community Development Assistant or a Water Engineer might recommend a PRA for an area which has unique problems requiring special attention.

Whichever method is used, site selection is a prerequisite for work to begin. A visit to the community by members of the organising agencies should clarify the nature of PRA to the appropriate community leaders. If the community remains interested; an invitation to conduct the PRA should be formalised by a letter of request from the appropriate officer (for instance, from the Assistant Chief, Sublocation Development Committee, Community Development Assistant, or PRA team leader to the Divisional Officer, or District Commissioner). A visit to the District Commissioner should also be made to ensure technical and institutional backing. Information about the request and the team's visit should be sent to all concerned individuals and institutions in the village and district including, in Kenya, church groups, village educational leaders, and the Kenya African National Union (KANU, the national political party) representative.

Composition of the PRA Team

The composition of the PRA team greatly influences the quality of information, analysis, and the subsequent management plan. Teams are made up of a team leader and two or three core members from the organising groups, supplemented by technical extension officers (such as the water, agricultural, soil conservation, or cooperative agents) from the area under review, and, as appropriate, village leaders and interpreters. Membership should include both men and women, some with technical and others with social science experience. All should have considerable experience working at the local level as well as a good understanding of rural institutions and processes.

To assure full participation of PRA team members, brief *all* members and their supervisors in detail about the methodology. Several experienced PRA practitioners should be available to help team members less familiar with the methodology. Before embarking on a field exercise, it is recommended that all team members read background documents detailing

the various PRA techniques and, preferably, participate in a PRA field exercise or training course.[9]

Under ideal circumstances, PRA would be institutionalised and organised as a single and fully integrated approach to rural development. However, the present system among development assistance agencies, donors, and governments is not structured in such holistic fashion. Thus, for administrative and funding purposes, PRA is carried out through individuals functioning in conventional sectoral positions. To assure maximum integration on the ground, it is recommended that the PRA team and village leaders organise a Village Coordinating Committee or Sublocation Natural Resources Committee. Such committees can help introduce the PRA exercise to the community and help the PRA team identify important local leaders and institutions for interviewing and organise group discussions to gather and analyse information.

Preliminary Visits to the Site

Three steps are involved in assessing a potential site.

1. Preliminary Site Visit

A preliminary site visit by the PRA team is the first step. The team introduces its approach to a broad representation of the community, including elders, the Sublocation Development Committee, leaders of self-help groups, church leaders, school headmasters and teachers, and other community leaders. The team should emphasize that the purposes of the PRA exercise are to gather information to help the community prepare an action plan—a Village Resource Management Plan—to improve local resources management and to mobilize community efforts to implement the identified activities.

This VRMP will enable community leaders and concerned residents to achieve their development expectations and needs with minimal dependence on external resources and agencies. It also helps the

9 Molnar, 1989.

community strengthen its internal development capacities and to communicate its need for external resources. This delicate balance between bolstering self-sufficiency and marshalling external assistance is essential to sound development.

During the initial visit, the PRA team should encourage the community to examine past successes carefully in order to understand the root causes underlying these performances. The PRA team should begin collecting information on completed or on-going development activities that have worked effectively in the community or in nearby villages, as well as proposals submitted by the village to external institutions for support. Examples of some of these existing activities include projects that have improved water supplies, agricultural activities, soil conservation, reforestation, school expansion, road and transport development, income generation, and health care.

2. Community Review

After this initial meeting, community leaders and members should meet in private to consider the PRA exercise. They may need a period for full and open discussion among themselves to review their understanding of PRA and confirm interest in proceeding with the programme.

3. Planning Meeting

If the PRA process is accepted, the PRA team, community leaders, and Village Coordinating Committee should organise a formal planning meeting in which all concerned parties will go over the details and workplan of the PRA exercise. This step initiates three processes:

(1) dialogue among the parties concerning all aspects of village problems and possible actions;

(2) full and dynamic community participation; and

(3) an integrated approach to development involving local residents and government extension personnel from several sectors.

At every step, the PRA team leader should keep local administrative officers and the community fully informed about progress of the PRA exercise.

Chapter IV
Data Gathering

Secondary Data about the Site

Preliminary data collection is critical in preparing an effective Village Resource Management Plan. Before beginning field work, it is helpful to gather whatever secondary data are already available from both published and unpublished sources, as well as from other project activities near the PRA site. The PRA team gathers and summarises the information before the field visit. The secondary data review need not be exhaustive and should not jeopardize or replace fieldwork.

Purpose

Secondary data provide an initial overview of the study area and yield general information on the resource base, land use, problems, opportunities, and past experiences in natural resource management. A basic understanding of the local conditions and overriding constraints enables the PRA team to address the specific needs and potential range of options available to the people.

What Sources

Easily available sources are utilised. Those used most commonly are annual reports, national censuses, project documents and maps, aerial photographs, and satellite imagery. The most useful information covers topography, drainage, vegetation, ecological zoning, production patterns, farm and agricultural resource management practices, population changes, marketing, infrastructure, and overall problems and opportunities. Information collected should be analysed and presented in simple graphs, tables, charts, and reports.

By Whom

The PRA team collects this information. The community and relevant external institutions may help identify sources.

How

The team should consult or visit technical officers, the public map office, and libraries, as well as donors, government ministries and agencies, universities, and international bodies. Maps and aerial photographs, though sometimes expensive, are helpful for data collection.

Field Data

Both Rapid Rural Appraisal (RRA) and PRA have been referred to as "data-economising" or "data-optimising" approaches; they can be used to collect limited data that produces useful results inexpensively and quickly. Their purposes are not scientific perfection, but flexible programme and project design. Data-gathering is intended, first, to encourage community residents to think systematically about their problems and possible solutions, and, second, to help the PRA team comprehend the region's conditions and circumstances, and to analyse problems and present options for addressing them.

The rapidity of the PRA approach does not lead to an incomplete or shallow collection of data, however. Unlike most conventional research methodologies, PRA uses a diversity of sources, including the assembled lore of the villagers themselves, to ensure that comprehensive information is collected. Investigating the community's situation through a variety of means makes it possible to cross-check the data and increases the accuracy of the analyses.

Several types of field data form the core of the PRA study, including spatial, time-related, and people-related information, as well as technical data (on, for instance, water potentials, tree species, and soil types). Each set of data expands the information base on local problems, needs, and opportunities—a compilation that forms the basis for preparing the Village Resource Management Plan.

Several techniques are utilised to collect each type of information. These include village maps, transects, and farm sketches for spatial information; time lines, trends, and seasonal calendars for time-related data; household interviews and institutional studies for people-related

information; and detailed sector specific studies for technical data. Each technique is designed to maximise local participation in data collection and analysis. Principal findings are presented in a simple visual form for rapid communication and comprehension to encourage lively discussions and debate.

Both PRA and RRA include a repertoire of more than 30 tools for collecting information and ensuring local participation. Some other common techniques include various ranking exercises, decision-making trees, resource profiles, production flow diagrams, and cartooning. In addition, combinations of spatial and time-related techniques, such as historical-transects and historical-seasonal calendars, have produced some interesting results. Some techniques are used to collect highly specific information (on, for instance, skin fold, height, weight, and other human characteristics, to determine the local health and nutrition situation). More techniques are being developed and adapted to focus on such issues as gender and age distinctions and inter-household variability in economic strategies.

To conduct the exercises and collect the data, the PRA team may work most effectively as a single unit or divided into several groups of two to three individuals with specific responsibilities. For example, in some circumstances it may be more constructive for only one group to prepare the necessary transects, while another prepares the seasonal calendar or other data table. In other circumstances, it may be better for two groups to work independently to prepare separate transects of the same area. The composition of these groups can vary from exercise to exercise or from day to day to facilitate team interaction. At the end of each day, the entire PRA team should gather together to present group findings, discuss inconsistencies, and identify information gaps for follow-up.

1. Spatial Data

Maps, transects, and farm sketches are powerful visual tools that provide, at a glance, a sense of location and differential relationships, and encourage the PRA team and the local people to view community problems and opportunities from a spatial perspective.

Most of this spatial information is obtained through direct observation. Whichever team members are recording the information should note field conditions and objects, processes (such as erosion), and relationships (such as the allocation of land to food or cash crops) while walking or travelling through the site.

a. Sketch Maps of the Site

Purpose

A map shows where resources, activities, problems, and opportunities are located, as well as the dimension and scope of issues to be investigated. It is critical to understanding the boundaries and characteristics of the community involved, both for the PRA team and for the community itself.

What should be included

Topographical data (elevation, slope, drainage, etc.) are basic when drawing a map; so is information on soils, vegetation, agro-ecological zones, water availability, and such infrastructure as roads, schools, health facilities. A map should also identify areas with specific problems (such as water-shortage) or potential for improved production (say, coffee crops for cash).

Whom

A team comprised of the core PRA members, extension field staff, and community representatives should undertake this exercise. The various parties bring different but complementary ideas to the process. While the agriculture and water officers will verify technical issues, the community representative will provide clear guidance on such matters as the correct position of boundaries and other site-specific details.

How

Where no detailed map of the site exists, a large-scale topographical map (1:50,000) can be used to delineate the boundaries. This is done by walking (or driving) the village perimeter with assistance and guidance from the local people. Once the boundaries are in place, a more comprehensive reconnaissance can be conducted to gather other relevant information. Several maps of the same area can be produced to highlight different problems or opportunities. (*See Figure 2.*)

E X A M P L E S

☐ **FIGURE 1. Sketch Map of Mbusyani Sublocation**

☐ **FIGURE 2. Sketch Map of Water Points in Mbusyani Sublocation**

Figure 1. Sketch Map of Mbusyani

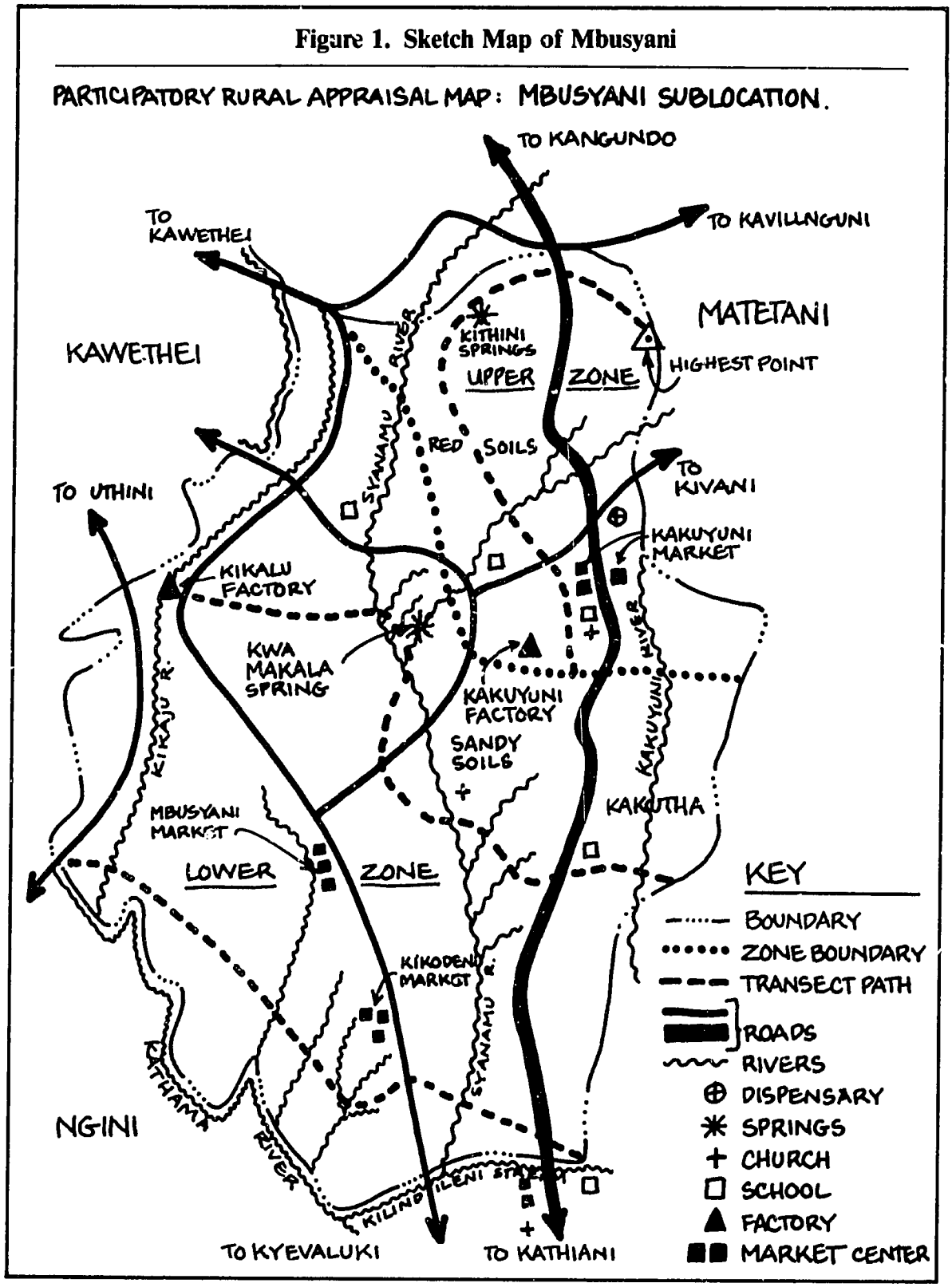
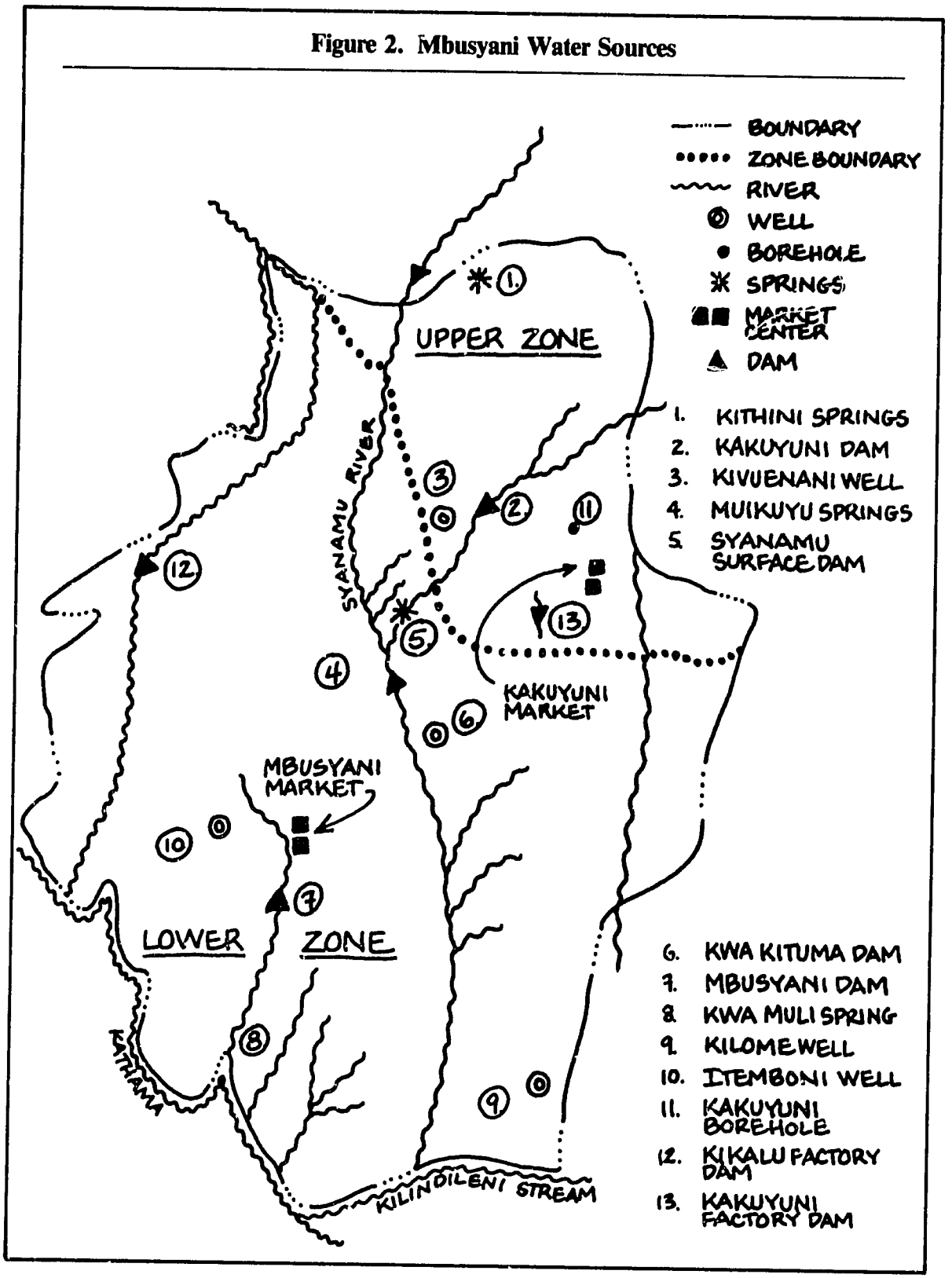


Figure 2. Mbusyani Water Sources



b. Transect

The transect is a cross-section or straight cut through the community to capture the greatest diversity of ecosystems, land use, etc. It helps the team organise and refine spatial data gathered through direct observation and summarises the local conditions and the community's problems and opportunities.

The transect may be identified from north to south or high to low or any other direction, as long as it covers all major ecological and production zones and assures representation of maximum topographical, resource, and socio-economic variation of the community. A large and highly variable community may require more than one transect.

Purpose

The transect provides mapping information beyond that collected during the initial reconnaissance and verifies the information on the sketch map. It adds detail on specific characteristics (slope, drainage, vegetation, water, soils, other resources) that further refines the PRA team's understanding of the area and the interactions between the physical environment and human activities.

What Should Be Included

The transect should include more detailed and specific information than the sketch map, such as data on cropping patterns, trees, and other vegetation, and average farm size.

By Whom

A team composed of the researchers, the extension staff, and the community takes charge of this exercise. People encountered along the route should be casually interviewed to give meaning and context to issues already identified and to provide information on other conditions.

How

There are a variety of ways to select a transect line, some (like remote sensing) are very technical, some (like random sampling of routes) are rigorous, and others (like reviewing the map to estimate the line of greatest

diversity) are quite simple. PRA uses the latter since it is rapid and provides a reasonable approximation.

The team depends on the information gathered in the mapping exercise, as well as on the extension staff and the community members for guidance in this process. Possible procedures follow:

- Through discussions with the community, extension officers, and team members, choose a logical starting point for walking the transect line. Depending on the route selected, this starting place might be the highest point of the area under study, or it might be one boundary of the community.

- Assign responsibilities for observations and notetaking to team members. For instance, the agriculturalist should note soils, cropping patterns, and farm-size; the water officer should be responsible for water points, slope, and drainage; the social scientist should observe socio-economic indicators, etc.

- Some parts of the transect line can be walked and others driven. It may be that the transect line can be sub-divided and assigned to two or three smaller teams so that a single team need not walk the entire length.

- Proceed along the designated line, taking time for brief and informal interviews of residents in each of the ecological zones. During these open-ended interviews, focus on such resource issues as soil management, access to and availability of water, or fuelwood problems. Take time to discuss the critical issues already identified in the transect by the technical officers. Let team members ask questions of those being interviewed and let residents help steer the discussion and ask questions of the PRA team.

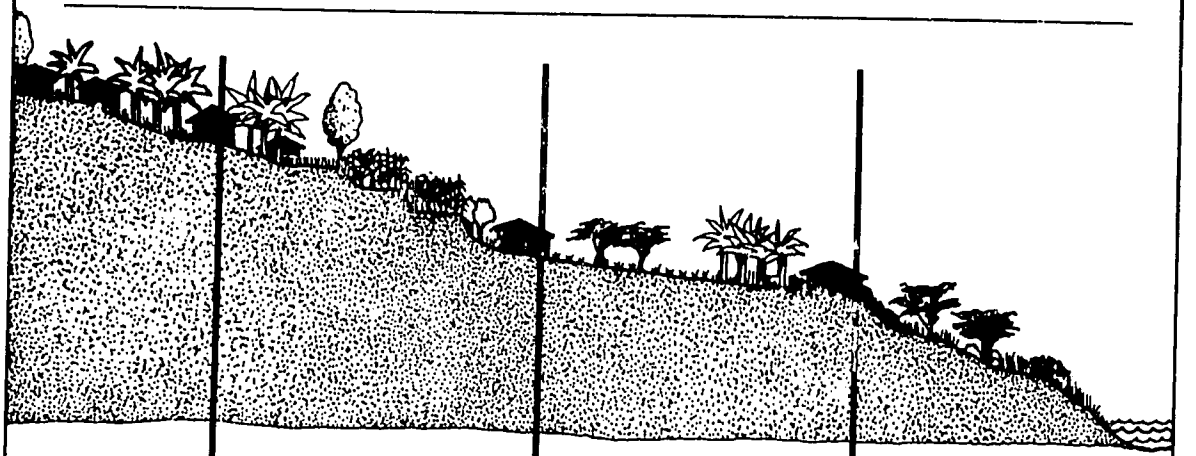
- Allow sufficient time for this task. It may take as much as a full day for the team or groups to complete the transect.

- At the end of the exercise, compile field notes and construct a chart similar to the example shown below. The information from the interviews can also be used later to help determine problems and opportunities.

E X A M P L E

☐ **FIGURE 3. Transect of Mbusyani**

Figure 3. Transect Through Mbusyani



SOIL	LOOSE, DEEP RED SOIL	SANDY SOILS AND SMALL PATCHES OF RED SOILS	SHALLOW SANDY SOILS. ROCKY IN MOST PARTS.
WATER	ABOUT 3/4 OF HOUSEHOLDS HAVE SHALLOW WELLS, AREA ALSO HAS 3 DAMS & ONE SPRING	A RIVER INFESTED WITH BILHARZIA, 2 POORLY MAINTAINED DAMS.	WATER IN KILINDILONI RIVER SALTY. RIVER KATHANA HAS BILHARZIA, ROOF CATCHMENT IN PROGRESS.
VEGETATION	ALL NATURAL VEGETATION CLEARED TO GIVE WAY TO SETTLEMENT.	HIGH PROPORTION OF NATURAL VEGETATION, MAINLY ACACIA LANTANA, CANOLA GRASSES.	NATURAL VEGETATION CONSISTING OF ACACIA, SHRUBS AND GRASS.
SOCIAL-ECONOMIC INDICATORS	½ OF HOUSEHOLD HEADS IN WAGE EMPLOYMENT, MAJORITY HAVE MABATI ROOFS BRICK OR STONE WALLS.	½ OF HOUSEHOLD-CORRUGATED IRON ROOFS. ½ GRASS THATCHED, BRICK WALLS.	MAINLY GRASS THATCHED HOUSES.
FOOD CROPS	MAIZE, BEANS, PIGEON PEAS, BANANAS.	MAIZE, BEANS, A LOT SORE PIGEON MILLETS, FRUITS, BANANAS.	MAIZE, BEANS, PEAS, BANANAS, FRUITS.
CASH CROPS	COFFEE	COFFEE	COFFEE
ACHIEVEMENTS (LAST 5 YEARS)	SOIL CONSERVATION, TREE PLANTING, WATER DEVELOPMENT - WELLS, ROOF CATCHMENT.	SOIL CONSERVATION, WATER DEVELOPMENT - DAMS	SOME SOIL AND WATER CONSERVATION
FORESTRY/ AGROFORESTRY	WIDESPREAD AGROFORESTRY WITH GREVILLEA, EUCALYPTUS, MANGOES, AND PAWPAWS.	MINIMAL TREE PLANTING. BUT MANGOES AND PAW PAWS PLANTED	VERY LITTLE TREE PLANTING
RESOURCES MANAGEMENT	A LOT TERRACING. EMBANKMENTS REINFORCED WITH MULTI-PURPOSE GRASSES	A LOT OF BENCH TERRACING	LIMITED SOIL CONSERVATION
PROBLEMS	INADEQUATE WATER, EDUCATION AND HEALTH FACILITIES. FAMINES AND LACK OF DIP FACILITIES	WATER, FAMINE, INADEQUATE EDUCATION AND HEALTH FACILITIES	WATER, TRANSPORT AND FOOD
OPPORTUNITIES	REHABILITATION 3 DAMS, 1 SPRING. EXTERNAL ASSISTANCE - TOOLS, MARKET.	WATER DEVELOPMENT - DAM, WELL, ROOF CATCHMENT. GOVERNMENT ASSISTANCE	WATER DEVELOPMENT - DAMS, ROOF CATCHMENT. EXTERNAL ASSISTANCE.

c. Farm Sketches

Purpose

Most decisions on resource management are made and implemented at the household level. Thus, what farm families decide about natural resources management affects the collective decisions and options of the whole community. The purpose of the farm sketch is to show how individual farm families manage land resources. Farm sketches of different households in the area may reveal variations in terms of farm size, crops cultivated, planting strategies, and the other variables of household resource use.

What to sketch

A small sample of farms—perhaps eight to ten for the community or Sublocation—should be identified. One way to select the sample is to choose farms along the transect line that appear to represent different zones of the community, as well as different social classes and land-use practices. Another is to work with the Village PRA Coordinating Committee to select a representative group of farms. A third approach is to sketch the farms of the families selected for detailed household interviews. (*See Section 3.a.*)

The farm sketch should include the farm layout, cropping patterns, crop diversity, resource conservation practices, stands of trees, positioning of buildings, fallow land, storage, and grazing. Sometimes one family will cultivate several plots in different areas and at different times of the year. If possible, all household plots and boundaries should be sketched. Information should also be collected on farm types not in production at the time of the PRA exercise.

By Whom

This information is collected by one or two researchers with the assistance of the head of household. It may be helpful to have several team members do farm sketches independently. Preparing the farm sketch often leads to lively discussions of farming options, and thus it may make sense to conduct the farm interviews at the same time.

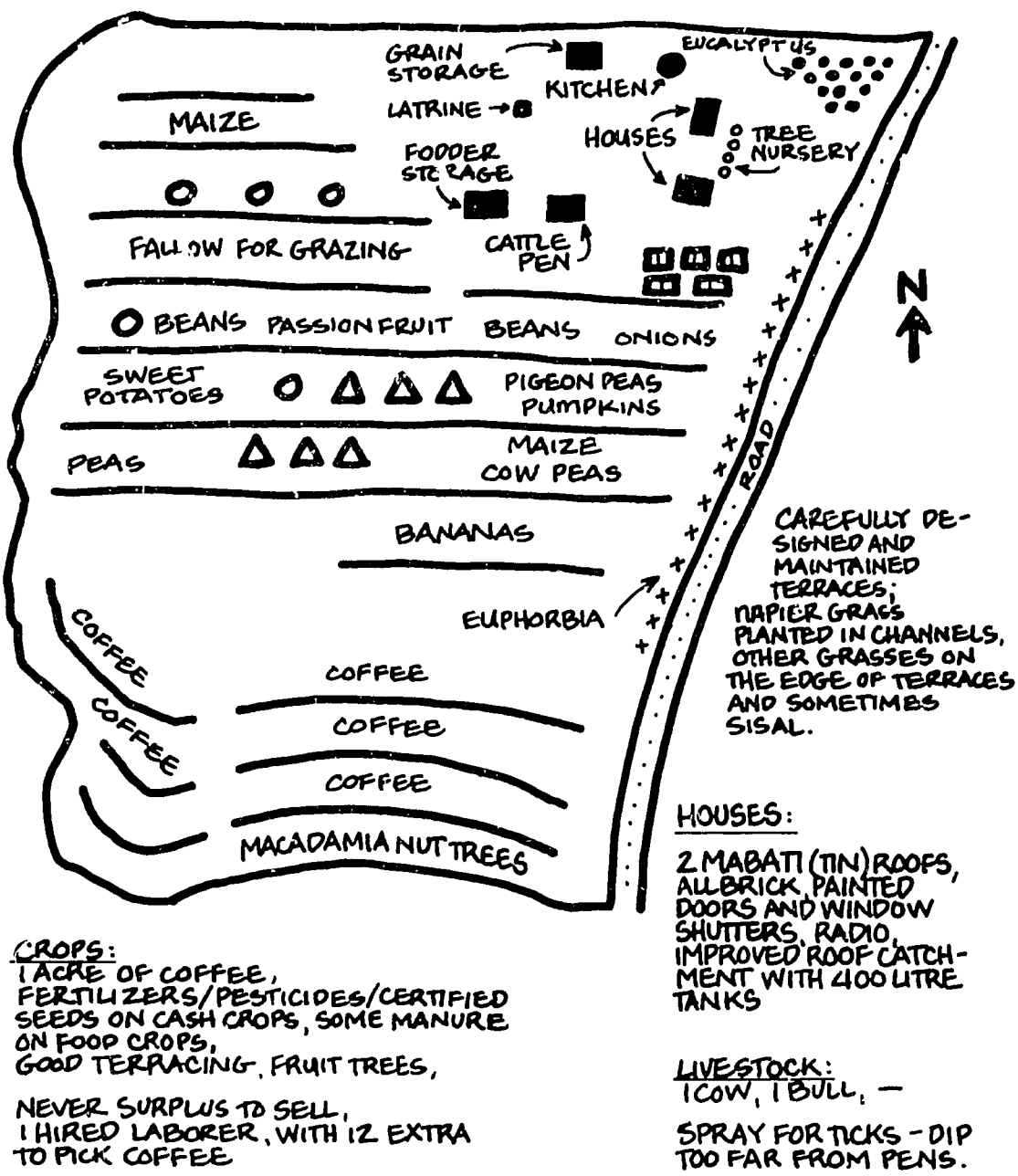
How

Delineate the farm boundaries, dividing the farm into blocks by land use, including homestead, subsistence, and cash crops (annual and perennial), grazing land, fallow, and such resource conservation structures as terraces, cut-off drains, etc. The quality (in size or number) of these various items should be noted so that the PRA team can make comparisons across households and zones.

EXAMPLE

FIGURE 4. Farm Sketch from Kyevaluki

Figure 4. Farm Sketch From Kyevaluki



2. Time-related Data

Besides the data on spatial relationships, the PRA team also needs information about connections over time. There are three principal time-related data sources: time lines, trends, and seasonal calendars. Each technique requires approximately half a day to complete, and is best conducted in the context of one or more group discussions.

a. Time Line

In planning projects, the PRA team needs to find out about significant events in the community's past. Every community has a heritage of experience and environmental knowledge that influences present attitudes and behaviors. A time line is a list of key events in the history of the community that helps identify past trends, events, problems, and achievements in its life.

Purpose of Time Line

The time line helps the team better understand what local, national, and international events the community considers to be important in its history and how it has dealt with natural resource issues in the past. The PRA team prepares a time line through discussions with small groups of local residents, with emphasis on community elders. These discussions stimulate exchanges about problems and achievements as far back as the oldest local residents can remember or were told by their parents and grandparents.

What to Collect

The time line should go back as many generations as villagers can recall and record details on influential events that relate to natural resource management issues under consideration by the PRA team. The group discussions of the time line provide a good opportunity to ask elders about previous trends and traditional community responses, as well as about possible opportunities to resolve current problems.

By Whom

Collect information from one or more groups that include elders and some long-time residents of the community, and perhaps one or two leaders from church groups, self-help groups, political units, or the local administration. Both women and men should be included. If the

community is very large, the team should break up and meet with two or more groups, comparing responses later.

How

Organise one or more groups, ideally of eight to twelve members. Group discussions are preferred to interviews of key individuals because they encourage dialogue among the elders, helping them remember events from the distant past. Explain that the PRA team needs to understand what the community thinks is important in its past. Rather than defining what is "important" for them, ask the elders to identify events that shaped and otherwise influenced individual and community activities. If possible, use large sheets of paper and felt pens to write in large letters in the local language for the entire group to see and understand. Discussion may start slowly. If so, consider opening with questions such as:

- When did settlement first begin in this community? What people were the founding residents?

- What was the first important event that you can remember in your community?

- Have there been significant migrations into or out of your community?

- Have there been serious droughts, epidemics, famines, floods, or other natural disasters?

- What are some of the best things your community has done? What have been some of the happiest times?

The secondary data review may have identified some important events and these can also be mentioned as starters.

If you have difficulty establishing dates for particular events, try to relate them to such known events as World War I, World War II, Independence, etc. As a further guide to setting events in a chronological context, check the national census for a list of important events for the country or region. (Such listings help census takers determine the age of individuals.)

Once the time line is established and agreed upon, determine whether one or another type of event (drought, for instance) seems to be increasing in intensity or frequency. With the group, discuss these trends and how the community has adjusted to them. Ask participants for their opinion about recent efforts by the government, church, or other groups to address the community's problems and seize opportunities.

EXAMPLE

☐ **Excerpts from Mbusyani Timeline Analysis (prepared by the PRA team in the field)**

☐ **Timeline: Mbusyani Sublocations, Machakos District**

Example: Excerpts From Mbusyani Timeline Analysis

"In Mbusyani Sublocation, famines and droughts are some of the most important events in the minds of the local people. These seem to have become even more frequent, especially between 1980–1987.

"Comments suggest that floods occurred mainly between 1950 and 1962. Although the people could remember a few times when they have had a fairly good harvest and have had to buy a minimal supply of food, they agreed that only in 1962 did they have a bumper harvest. The floods of 1950—Mamboleo—were reported to have severely damaged crops. A long drought followed in 1950–1951. On uncultivated land, it is said to have caused little damage and not as much soil erosion as the floods that followed in 1951–1952—Mbua ya Kavisi. In 1962—Yua ya Ndege—floods cut off all communication and the residents had no food in their granaries. Relief food was dropped to them by planes.

"Human and animal diseases have been present but were not reported as frequent. There was a rinderpest outbreak in 1897. In 1918–1919 diarrhea killed many of the people left in the area after most men had gone off to serve in World War I. At the same time, the animals suffered "Muimu wa mavui" (lung disease) and many died. A cholera outbreak occurred in 1984–1985 after a long drought period.

"Previous conservation measures include forced destocking by the colonial government during WWI; forced digging of trenches, grass and tree planting, building of gabions (soil dams to prevent erosion) in 1942 and forced digging of dams in 1949–1951. In 1939–1940, there was forced destocking. Local groups joined together and marched to Nairobi, led by a populist organizer, Muindi Mbingu. They protested coerced conservation and destocking.

"In 1950–51, the government carried out further forced destocking. Conservation measures imposed through coercion rarely succeeded because the local people never accepted them and did not view them with a positive attitude.

"Other memorable events included dances, the building of the railway line, and the arrival of a Catholic mission at Kangundo. The Mau-Mau (Emergency) outbreak in 1952–1954 was remembered as a period of fear and uncertainty."

Example: Time Line and Analysis: Mbusyani

1836	YANGORO FAMINE
1850	YA KLASA FAMINE
1861	MUTULUNGO FAMINE
1870	NGETELE FAMINE
1880	NDATA FAMINE
1885	KYUMBE (DANCE)
1897	RINDERPEST OUTBREAK
1898	LUAYA/MUNYILIA/MBALIA/KILUMI DANCE
1898-1900	MISSION AT MUISUINI - KANGUNDO
1899	RAILWAY LINE AT KONZA
1906-1910	SOME IMMIGRATION FROM MBOONI; CHIEF NTHEKETHA
1910	NDATA ILA YAUMIE
1910-1911	YUA YA NDATA (MALAKWE) FAMINE
1912-1914	MONEY INTRODUCED
1914-1918	DESTOCKING BY WHITE MAN - MALUA
1914-1918	MEN CARRIED TO WAR
1915-1918	COMPULSORY SCHOOL
1918	DIARRHEA
1918-1919	EPIDEMIC LUNG DISEASE OF DOMESTIC ANIMALS - MUNYILYA
1928-1929	NZALUKANGYE FAMINE
1930-1931	LOCUSTS
1931	KUTHUVA KIKUYUNI: FENCING WITH SISAL
1939-1940	MUINDI MBINGU FORCED DESTOCKING
1939-1945	WORLD WAR II
1942	MUNYOLOKO FAMINE: ENFORCED CONSERVATION MEASURES
1943-1945	MWOLYO
1949-1951	DAMS STARTED
1950	MBUA YA KANZI / MAMBOLEO FLOODS
1950-1951	DROUGHT AFTER FLOODS; FORCED DESTOCKING
1951-1952	MBUA YA KAVISI
1952-1954	EMERGENCY
1960-1961	FOOD FOR WORK
1962	YUA YA NDEGE: BUMPER HARVEST; PROJECTS ON SERVICE DAMS STARTED
1965	YUA YA ATTA
1973	DROUGHT; ECLIPSE OF THE SUN
1978	EARTHQUAKE
1980	NDAKUA NGWETE
1984	DROUGHT; ARMY WORMS
1984-1985	CHOLERA OUTBREAK; EPIDEMIC ON LEMON TREES
1987	NDEKENGWATIE

b. Trend Lines

Just as it is important to know what key events the community thinks are important, it is also helpful to understand the residents' perceptions of significant changes in the community over time. It is crucial that changes in rainfall, productivity, soil loss, tree planting, and other aspects of resource availability and use over time be highlighted for and by those people participating in the preparation of a Village Resource Management Plan (VRMP).

Purpose

Trend analysis will help the PRA team:

- learn from the community how it views change over time in various sectors;
- integrate key changes into a village profile, which will simplify problem identification; and
- begin to organise the range of opportunities for the community to consider.

Additionally, it will focus community attention on the positive and negative changes over time in terms of resource use and on its traditional resource management practices.

Data collected in trend lines are important for several reasons. Topics indicate the themes that people consider important. The direction of the trend is significant even if the change cannot be quantified or is statistically inaccurate because it shows how villagers view their ever-changing situation. Finally, the very process of discussing trends in resource use in different groups will bring out important resource management issues for preparing the VRMP.

Differences in how different individuals and various community groups perceive conditions in the village are important. If, for example, respondents in rich agricultural zones within a community identify land productivity as constant, but those in poorer areas suggest it is declining, insight into some economic and class differences within the community is

gained. Experiment by showing one group a trend line prepared by another and asking the members to compare it to their own.

What

The team should collect information on trends over the past ten to forty years in the areas that support the community. While the list may vary from community to community, depending on what the villagers and PRA team deem important, a core set of trends should include changes in water availability, soil loss and fertility, deforestation and tree planting, grazing land availability, employment rates, food production, and population.

Who

Whereas the time line focuses on discussions among elders and long-term residents, the trend exercise can include much younger participants. Leaders of church groups, women's credit cooperatives, political associations, self-help groups, and administrative units are all important. As many farmers as possible, both women and men must be included in the discussion groups, since their commentary on changes in resource use reflects first-hand experience full involvement of women is critical. At least three groups of roughly similar representation should be assembled with eight to ten people per group. Make certain that all ecological zones in the study site are equally represented.

How

Four steps are involved:

(1) Organise the groups for trend line discussions;

(2) Explain the concept of trends and trend lines using a sample graph. Ideally, the PRA team can draw trend lines on a blackboard, modify them as the group sees fit, and later copy them onto paper. Alternatively, the team can use large sheets of paper and felt pens, though regular sheets of paper will do. If there is neither blackboard nor paper, draw in the sand or loose dirt. Draw a blank matrix (see examples of completed trend lines) and explain how time in years moves from left to right along the bottom axis, and how the rate of increase/decrease in the resource use/availability is indicated on the upright axis. (In some cases, it may not be possible to quantify the level of activity. For instance, residents may know that soil erosion has increased over the years,

but they probably will not be able to tell how much soil was and is being lost.)

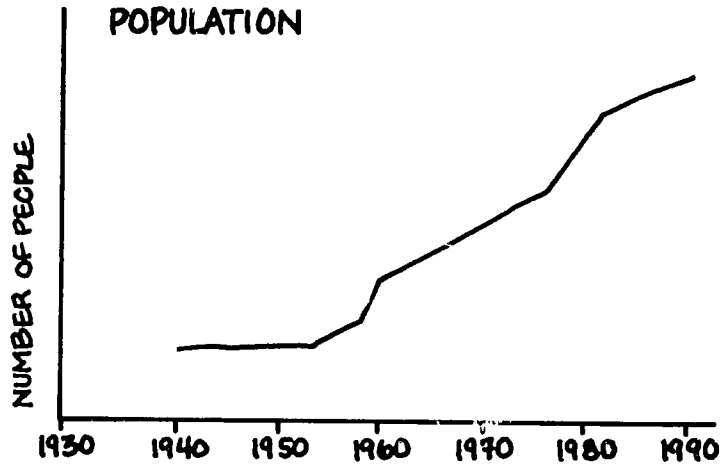
(3) Ask the group members what they think are some of the most important changes in the village. If responses are slow in coming, raise questions about topics related to natural resources, such as tree planting or soil erosion control. Explain that you want to draw a line that will show when, for example, tree planting was increasing and when it was decreasing. If there is disagreement, draw two lines representing the two points of view and then ask others to comment on which seems to be more accurate. Once the villagers grasp the concept, the team may ask specific residents to draw the trends for the group.

(4) Use the discussion of trends to probe for explanations of the changes. This will help identify underlying problems and traditional activities to correct the situation. For example, if the group agrees that soil erosion is getting worse, ask why. Find out what solutions have been tried in the past and how well they have worked. Ask what they think might ease the situation.

E X A M P L E

☐ **FIGURE 5. Trend Lines From Mbusyani**

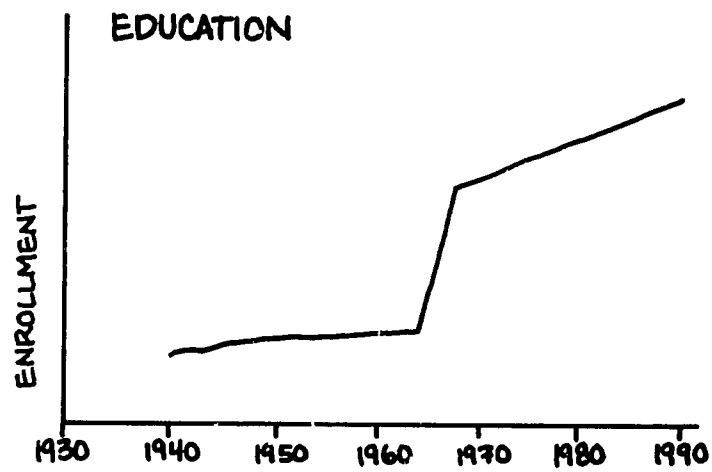
Figure 5. Trend Lines From Mbusyani



1939-1954 - NEARLY CONSTANT POPULATION DUE TO: LATE MARRIAGES (WOMEN ABOUT 25 YEARS); CHILD SPACING OF AT LEAST 3 YEARS UNTIL PREVIOUSLY BORN CHILD WAS BIG ENOUGH TO CARRY A NEWBORN BABY.

1954 - THINGS START RELAXING

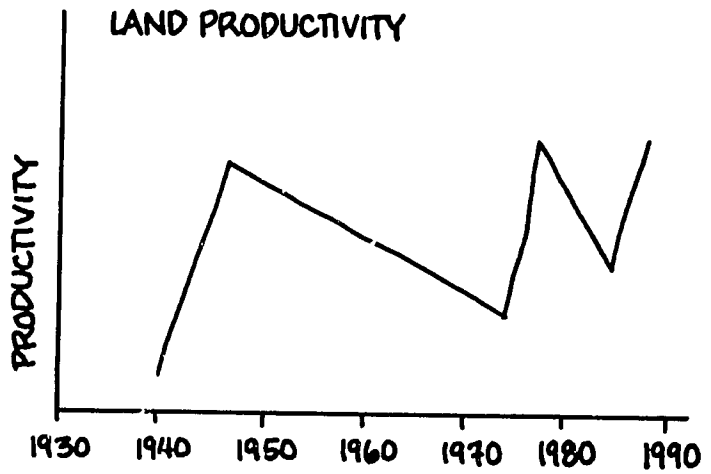
1959-1960 AND 1975-1988 - SUBSTANTIAL IN-MIGRATION



1939 - ABOUT 18 STUDENTS AT KAKUYUNI A.I.C. VERY FEW OF THEM FEMALE

1963 - BIG INCREASE IN ENROLLMENT AFTER INDEPENDENCE

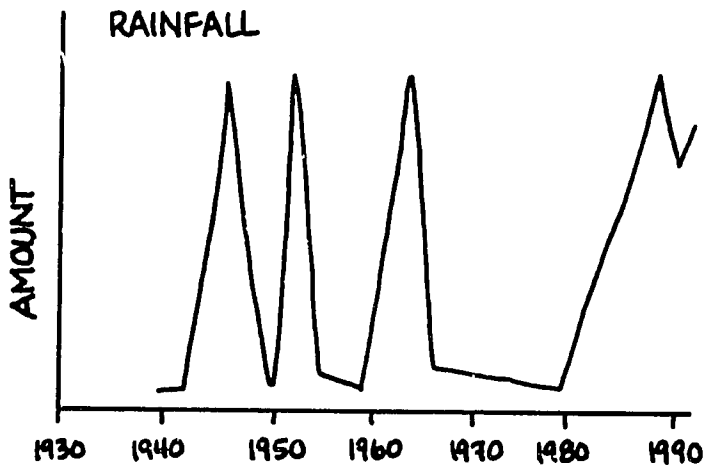
Figure 5. Trend Lines From Mbusyani (Continued)



1945- A BUMPER HARVEST DUE TO GOOD RAINS

1977- INCREASE IN YIELDS DUE TO TRAINING CARRIED OUT AT MACHAKOS FARMERS TRAINING CENTRE. FREE SEEDS WERE PROVIDED (BEANS AND MAIZE) AND FREE FERTILIZER AS WELL.

1988- INCREASE IN PRODUCTIVITY DUE TO: APPLICATION OF CHEMICALS; MANURE; FERTILIZERS APPLIED TO SHAMBAS IN 1987 WERE NOT USED BY CROPS DUE TO SHORTAGE OF RAINS PLUS DESTRUCTION OF CROPS BY CUTWORMS, CRICKETS, AND STALK BORER



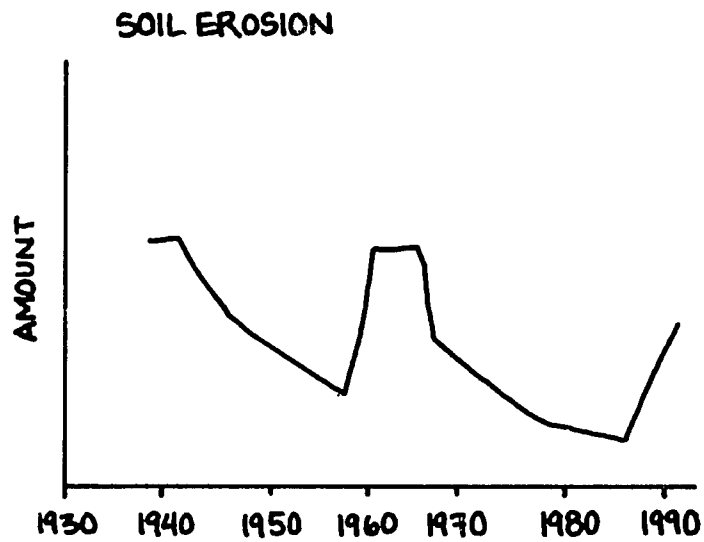
1940-1942 - MBULUNGA FAMINE

1943-1945- MWOLYO FAMINE

1960- MAA YA NDEGE (FAMINE DUE TO FLOODS, FOOD BROUGHT BY AIRPLANE)

1978- NIKWA NGWETE FAMINE

Figure 5. Trend Lines From Mbusyani (Continued)



1946-	GOVERNMENT INTRODUCES NARROW BENCH TERRACES
1951-1954 -	NORMAL BENCH TERRACES INTRODUCED
1955 -	CLAN GROUPS UNDERTAKING SOIL CONSERVATION WORK
1959-1963-	IMPACT OF EMERGENCY PERIOD
1965-1968	DECREASE OF SOIL EROSION DUE TO SOIL EROSION CONTROL COMPETITION ON INDIVIDUAL FARMS
1976-1986-	FURTHER DECREASE IN SOIL EROSION DUE TO GOOD WORK BY MWETHYA GROUPS
1987-1988	INCREASE IN SOIL EROSION DUE TO: INADEQUATE TOOLS AS A RESULT OF BEING EXPENSIVE; HEAVY RAINS WHICH HAD BEEN PRECEEDED BY A DRY SPELL; SOME FARMERS RELAXING

c. Seasonal Calendar

The third time-related technique is the seasonal calendar. This is a detailed and comprehensive task, but not necessarily complicated. The seasonal calendar attempts to establish regular cycles or patterns of activities and occurrences within a community over 12 to 18 months.

Purpose

A seasonal calendar helps present large quantities of diverse information in a common time frame. It compares village activities, month by month, across sectoral boundaries. It identifies cycles of activity that occur within the life of a community on a regular basis and helps determine whether there are common periods of excessive environmental problems or opportunities over the course of a normal year. These yearly cycles are important in determining, for example, labour availability, timing for project activity, potential absorptive capacity for new activities, times of disease and food shortages, and variations in cash flow.

What

The actual themes to be recorded will vary from community to community. The team should work with the village leaders and residents to identify the priority issues, focusing on themes that may show variability within the year and that may present special problems and require special answers. Some of the more commonly used topics include annual rainfall, water availability, temperature, cash and food crops, commercial crops, livestock, labour demand, food shortages, and human, crop, and animal diseases. The calendar should show times when problems may be acute, harvest times, periods when conservation and community development work takes place, and variation in labour demand by gender and age (adult/child).

Who

Data for seasonal calendars should be collected from village groups. If a community has two or three distinct ecological zones, groups should be selected from each so that differences in cycles based on agro-ecological potential are reflected in the calendars. Efforts should be made to insure diversity in each group so there are men and women, administrative and informal leaders, and young and old residents.

How

There are several ways to organise the data. A blackboard or large sheets of paper and felt pens may be used, or sketches may be made on the ground on loose dirt. The data are presented in a single page chart with a common time scale on the horizontal axis so that people can scan the conditions up and down for a specific month or time period. Set up a sequence of months across the bottom and/or top of the page. (*See examples.*) While most start with January, there may be compelling reasons to start with the advent of rain, planting time, or some other significant event in the yearly cycle of the community. Some find that colour coding the wet and dry (or hot and cold) seasons is helpful. While the exercise is primarily geared to a 12-month period, it may be helpful to extend the calendar to 18 months or so to allow for completion of, for example, a planting season. As is the case with trend lines, the seasonality of certain activities or resources is frequently the critical information in these calendars, and it may not be necessary to quantify the scale of these events.

For field collection, it may be advisable to collect information for each topic on separate calendars and to integrate them later. For review, as in the case of the two Mbusyani examples that follow, there may be reason to integrate different combinations of themes and create two to three calendars for a particular community. A different calendar may include a more comprehensive body of information across several sectors, all on one page. Additionally, a calendar can relate the timing of different problems within the context of a yearly cycle.

If macro-climate data for the area are available from secondary sources, note average monthy rainfall and temperature across the top of the calendar. The team should introduce pertinent topics, such as crop activity or plant diseases. Members of the village group should supplement these with their own topics. Group discussion should remain informal, with questions like, "Tell me when you plant maize. When do you harvest?" If it would help, the team might bring along an example seasonal calendar from some other village to stimulate the group discussion. For the later analysis of problems and possibilities, notes pertaining to this topic can be useful (*See Chapters V and VI*).

E X A M P L E

Examples of two seasonal calendars from Mbusyani are attached. In the first example, the Mbusyani PRA team examined cropping in association with plant disease and, in the second, labour availability in conjunction with the agricultural and conservation calendar.

☐ **FIGURE 6. Seasonal Calendars from Mbusyani**

Figure 6. Seasonal Calendar From Mbusyani

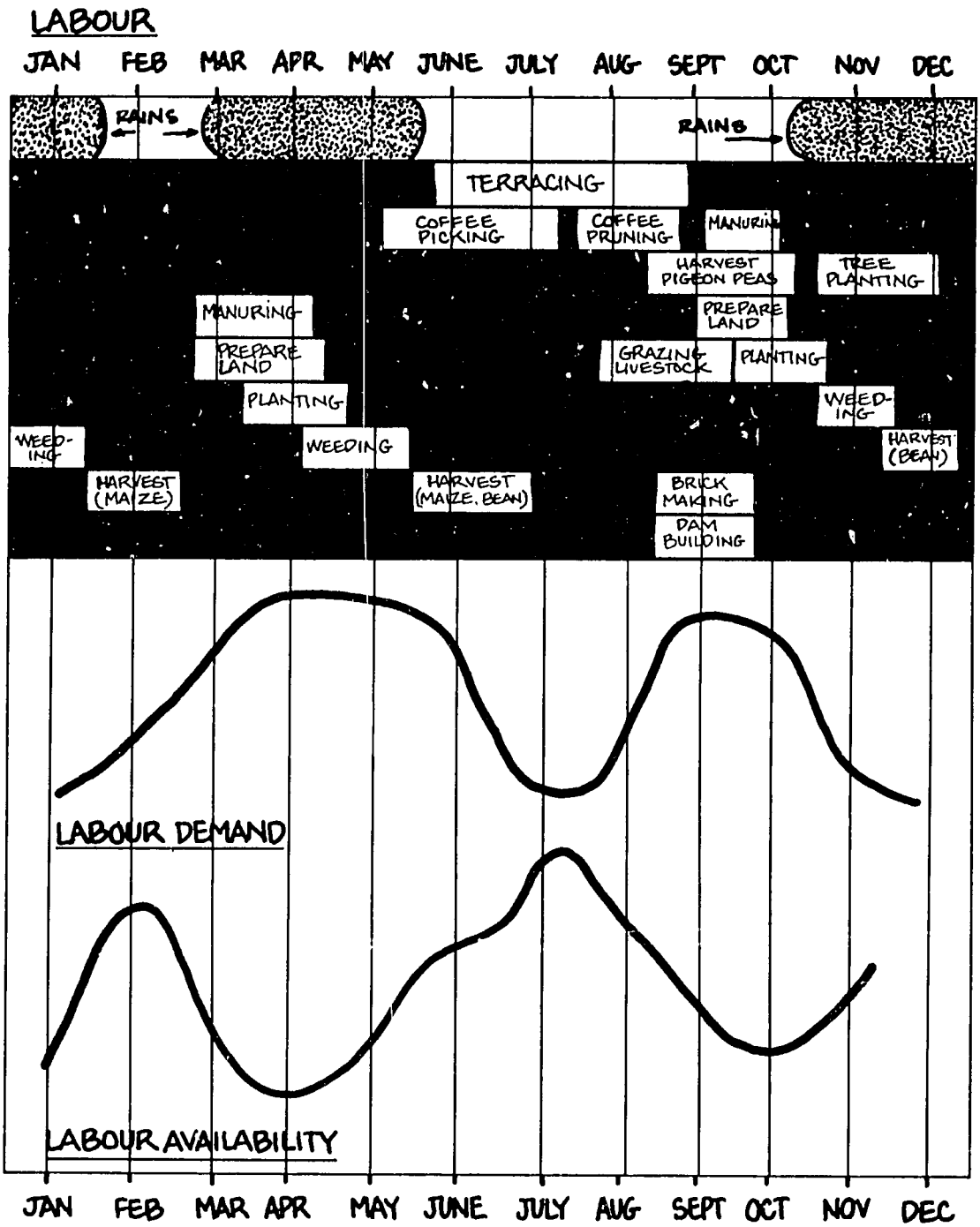
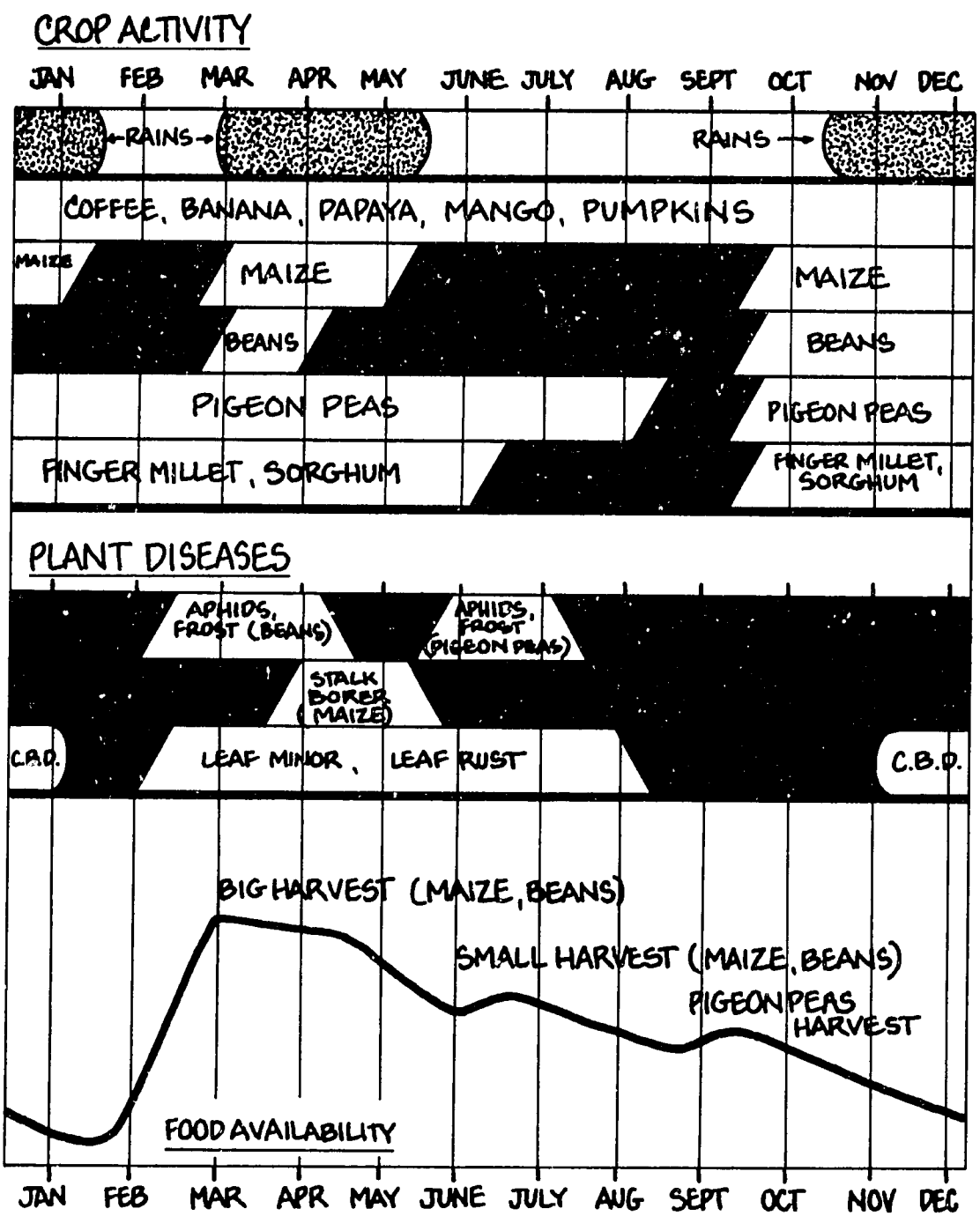


Figure 6. Seasonal Calendar From Mbusyani (Continued)



3. Social Data

a. Farm Household Interviews

Purpose

The purpose of farmer interviews is to collect socio-economic information from a cross section of farm households to gain an understanding of the wide range of variations between families. These interviews give the team the chance to talk with residents who might not normally be included among the leaders or in group meetings. Topics to be investigated include the nature of resource management practices, the characteristics of the particular farm household, and the respondents' observations on household and community problems.

What

Interviews each last about one hour each and are based on an informal, pre-developed questionnaire. The focus is on farm resource management and on the interviewees' perception of problems and opportunities related to development and the quality of life. Interviews will be conducted by one or two team members. An interpreter may be necessary.

Who

After determining the ecological zones, villages, or other natural demarcations of the community or Sublocation, the PRA team should randomly select five or six farm households from each zone. If random sampling is not possible, avoid the standard biases, such as selecting only houses near the road. The sample should include households from among both well-off and poor families within the zones and the community at large, selecting some households headed by men and others headed by women. There may be up to 20 interviews for an entire Sublocation. *In all cases, the interviews should be conducted with adults who have primary responsibilities in the household,* although other members of the household may be present.

How

Semi-structured interviewing is a delicate procedure. If the PRA team is unfamiliar with participant-observation research, they must be trained to use this data collecting technique. Training should focus on two topics:

appropriate research attitudes and data-gathering techniques. The first includes: identifying common biases and ways to counteract them, adopting multiple approaches, learning how to listen and learn, and showing respect for the scientific discipline and the contributions of other team members. The second includes: selecting informants, establishing rapport with the villagers, and conducting open interviews and field observations. Several exercises for training team members in these techniques can be found in the Freedom from Hunger Foundation's *Rapid Rural Appraisal for Project Analysis and Planning.*[10]

Certainly, there are local variations on doing interviews. Several ideas follow:

(1) The PRA team enlists the help of local residents or the Village PRA Coordinating Committee in identifying the sample. For example, the Committee or an elder may be asked for a list of households in the village, and the team could choose every N^{th} household to interview.

(2) The interviewers visit the household and conduct the interview on site. Should a designated resident not be home at the time of the visit, return later or substitute a neighbor with a similar socio-economic profile.

(3) Using the questionnaire for guidance, the interviewers proceed in an open and informal style, encouraging the respondent to elaborate on points of interest and relevance. Some suggestions for interviews:

- Be sure to identify yourself and the purpose of the interview;
- Assure the respondent of absolute confidentiality. Names are not recorded; no individual information is passed along to any other party;
- Establish rapport, follow the local protocol, make people comfortable;

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10 Zazueta, Aaron, *Rapid Rural Appraisal for Project Analysis and Planning*, Freedom from Hunger Foundation, April 1988.

- Use clarifying questions to focus the interview; for example, "Can you tell us a bit more about that?";
- Give encouragement and positive feedback during the interview;
- Be patient and listen carefully;
- Don't rely entirely on the questionnaire—allow new questions and directions to emerge;
- Don't ask challenging, threatening, or personal questions or bias the responses; and
- Avoid questions that have a "yes" or "no" answer.

(4) Much information can also be gathered through critical observation and the use of indicators. For example, bicycles, radios, and tin roofs are signs of wealth in many areas in Kenya and can help rank a household in terms of its economic standing.

(5) Should it become clear that the respondent does not want to answer a particular question, move on, leaving that question blank, but make a note about the circumstances or observations of the respondent. If the respondent does not wish to participate in the process at all, thank him or her and find another household to interview.

EXAMPLES

☐ **Farm Interview—Household Data Form**

☐ **Farm Interview—Questionnaire Guidelines**

Example: Farm Interview—Household Data Form

National Environment Secretariat/Egerton University
Clark University

Training Course In Participatory Rural Appraisal
Kyevaluki Sublocation

This Household Data Form is to be completed for each interview and submitted to the PRA team leader at the end of the day. It records basic household data. The remaining information is to be collected as Field Notes, using the categories described in the Questionnaire Guidelines.

Name _____Position in Household _____ Zone_____

Male _____ Female _____Age _____ Marital Status_____

Highest level of education attained for husband and wife:

husband _____ wife_____

Place of origins of parents and grandparents?

How many children have been born to you?

How many children are living?

How many children are living with you on the farm?

How many people are living on the farm?

Does anyone in this family have a job outside Kyevaluki?

Do they help sometimes with such things as school fees or money for fertilizer?

Example: Farm Interview—Questionnaire Guidelines

National Environment Secretariat/Egerton University
Clark University

Training Course In Participatory Rural Appraisal
Kyevaluki Sublocation

These questionnaire guidelines should help the PRA team gather basic information from the farm household. Use your own judgment about areas to expand, particularly when valuable information is forthcoming. When recording answers on your note pads, please be certain to write down the number of the question. When field notes have been compiled, attach the Household Data Form to provide the appropriate background information.

1.0 *SOCIO-ECONOMIC STATUS*

Type of housing: Walls, roof, floor, windows

Type of farm implements owned: ox cart; plough, wheelbarrow

2.0 *RESOURCES AND RESOURCE USE*

2.1 Land Use interviewer to note slope and terrain of the land, soil type, soil conservation (Do sketch map, as noted in Figure 4.)

2.12 What is the size of your holding(s) in acres?

2.13 What cash crops do you grow on the farm? Crops? Acreage?

2.14 What major food crops do you grow? Crops? Acreage?

2.15 Which of the following farm management practices do you use or undertake in your farm?

(i) Use of the following inputs: organic manure, pesticides, certified seeds, chemical fertiliser

(ii) Soil conservation practices: cut-off drains, Fanya Juu terraces, grass strips, mulching, rehabilitation of gullies, other (specify),

2.16 In good years, do you produce surplus food for sale? Which foods?

Questionnaire Guidelines (continued)

2.17 What are your main sources of advice on land use and land management practices?

2.18 What are your agriculture-related problems? What solutions do you propose?

2.19 What do you think are the causes of land use problems?

2.2 ***Livestock***

2.21 ***Livestock owned***

Collect the following information on cattle, goats, sheep, donkeys, poultry, and rabbits:

Type _____ Number _____ Breed (local, improved, pure)

2.22 Are there cattle dips in the sublocation? How many? Do you use them? How often? How far is the dip from your farm?

2.23 Are there Artificial Insemination services in the sublocation? Do you use them? Are they reliable? Adequate?

2.24 What are the major problems in regard to livestock? What are the possible solutions?

2.3 ***Afforestation and Energy***

2.31 Have you planted trees in the last two years? What species? For what use?

2.32 Where do you obtain your seedlings?

2.33 What is the source of advice on afforestation? Is it adequate?

2.34 What are the problems related to trees and afforestation? Opportunities?

2.35 How do you obtain your firewood supply? collect freely or limited opportunity to collect or buy, (specify details)

2.36 What do you do to save energy?

2.37 What specific problems and opportunities do you see in the area of energy?

Questionnaire Guidelines (continued)

3.0 ***WATER***

3.1 ***Household water supply:*** Distance in km _____ Quality _____

Personal well _____

Roof catchment (capacity in lt.) _____

River (specify) _____

Community water well/spring/dam _____

3.12 What distance do you have to travel to fetch water?

dry season _____ wet season _____

3.13 Are the sources permanent or seasonal?

3.14 What water conservation measures have you practiced on your farm?

3.15 What changes in water access would be most helpful to you?

3.16 What problems have you encountered in water access? What opportunities do you see?

4.0 ***INFRASTRUCTURE AND SERVICES***

4.1 ***Health***

4.11 Which diseases are common in this area? Frequency?

4.12 Is malnutrition a problem in this area? (specify nature)

4.13 Which is the nearest health facility? How many kilometers away from your home?

4.14 Do you have family planning services available?

4.15 Do you know if people use these services willingly? Why or why not?

4.16 What problems and opportunities exist for health?

4.2 ***Education***

4.21 Do you think the schools in this sublocation are adequate?

Questionnaire Guidelines (continued)

4.22 How far do your children have to travel to school?

4.23 Are there adult education classes or other programmes in the area?

4.24 Is there a village polytechnic in your area?

4.25 Do you or any of your family members attend these classes?

4.26 What are the most important problems in education? What are the best ways to address them?

4.27 Have schools in the Sublocation planted any trees?

4.28 Are your children involved in trying to conserve water?

4.3 ***Transportation and Communications***

4.31 What is your principal mode of transport?

4.32 How do you get your produce to market?

4.33 Who maintains your rural access roads?

4.34 Have you undertaken any communal road repair activities?

4.35 What are your major problems in terms of transport? What is the best way to address these problems?

4.4 ***Institutions***

4.41 What are the different institutions and groups in this area?

4.42 Out of these, which ones have had the most positive impact on people's lives? (specify)

4.43 Do you belong to any of these organizations or groups? Why or why not?

4.44 What activities are carried out by these groups?

4.45 What activities would you like to have undertaken by these groups?

4.46 What problems do institutions face in this area? What opportunities do you see for addressing these problems?

b. Institutions

There are many important actors and institutions in every community, among them government agencies, women's groups, churches, 4-K Clubs, schools, polytechnics, and cooperatives. It is critical to know which institutions are the most important, have the respect and confidence of the community, and can engage in sustainable development activities.

Purpose

Institutional analyses help the PRA team:

1. learn about the activities of the various groups and organisations within the community as expeditiously as possible;
2. understand how the community views these institutions and how they rank them according to their contribution to community development; and
3. assess the relationships among these institutions by creating a diagram of institutional importance and interactions.

The purpose of these discussions is not to develop a precise "road map" of the community's institutional network. Rather, the goal of the institutional exercise is for the PRA team to gain an increased understanding of the roles of the local organiastions and the perceptions people have about them, and for the participants to become more aware of the roles that local institutions play in community development.

What

Working with the local authority, the PRA team should call one or more meetings of village leaders and some members of each local organisation. Invite discussion about the role of institutions in the community's and region's development. Meetings may last two to three hours and should be conducted where there is access to a blackboard or where sheets of paper can be posted.

Who

The meeting(s) should involve ten to fifteen persons from the community. They should represent the full range of institutions active in the community and Sublocation, and they may include some other

residents. If it is a large community, organise two or three parallel meetings.

How

Identify and list all development-related institutions in the community. Invite a representative of each local group or organisation to describe the activities of his/her association briefly. Take the time to clarify their roles, activities, and resource base.

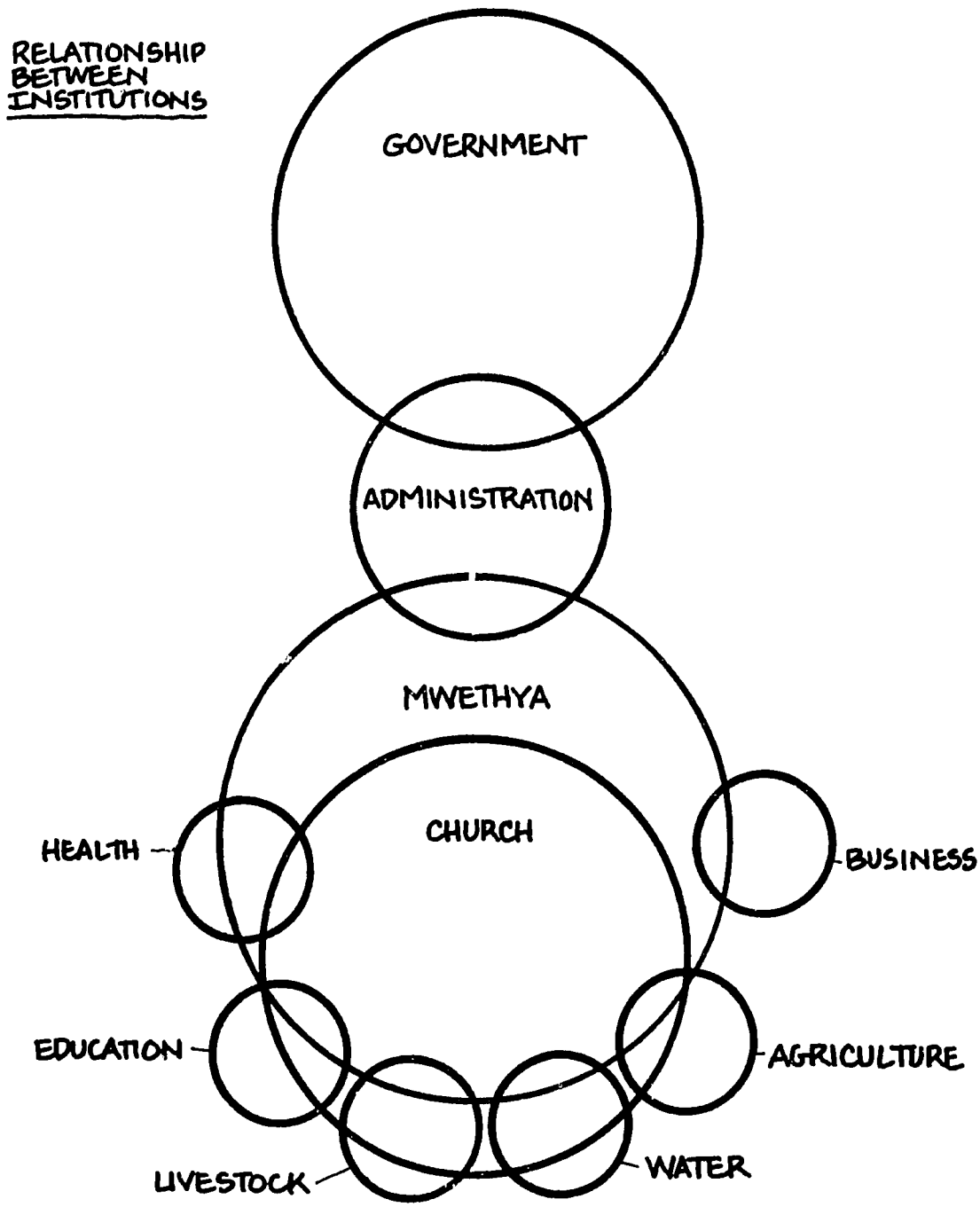
Ask the group collectively to rank the institutions for their contribution to community development. Discussion can begin with the question, "Which institution is most important in this community for promoting development?" Let the group members decide what "important" and "development" mean for them, but ask the participants to detail their criteria for the PRA team. The team member recording the discussion should note the reasons given for the rankings.

Focus on the relationships among institutions by creating an institutional diagram. Cut out (ahead of time) paper circles of differing sizes and lay them on a table or on the floor. (*See Figure 7.*) Ask the group to link the most important institutions, in terms of their contributions to community development, to the largest circles, less important to medium-sized, and the least important to the smallest circles. Then ask which institutions work together and how closely. For those establishments that cooperate or overlap a great deal, place the paper circles partly together. Discuss as many groups as possible and position them in relation to one another. There will probably be considerable discussion and repositioning as the task continues. By the end of the session, there will be a diagram of institutional relationships within the community. Use cellotape or a stapler to preserve the "chart" for future reference. Two or three different discussion groups should rank institutions and prepare diagrams since there are often variations in the way different villagers perceive institutional importance and relationships.

E X A M P L E

☐ **FIGURE 7. Institutional Diagram from Mbusyani**

Figure 7. Institutional Diagram From Mbusyani



4. Technical Data

As priority problems and options begin to emerge, it may be useful to prepare detailed technical surveys before village discussions rank activities in formal order. (*See Chapter VI.*) For example, during a PRA in Kyevaluki Sublocation (Machakos District), it became clear about half way through the exercise that improved water management would be a high priority in virtually every zone of the Sublocation. Rather than wait for the village ranking meetings, the team decided to collect more technical data on water potential. These data would be used to enhance discussions at the ranking meetings. The water engineer for the division joined with the PRA team and visited every present and potential water point in the Sublocation. A brief status report was prepared with commentary on the potential for water source development or rehabilitation, with a rough estimate of the technical, social, and cost feasibility of each site.

When and how much technical data should be collected before the ranking discussions is a matter of judgment. On one hand, there is no need to do detailed technical surveys for soil, trees, agriculture, health, water, and livestock before the village has ranked its options. The probability is that much of these data may be unnecessary. On the other hand, if a sector is clearly emerging as an area in which to act, carrying out pre-feasibility reviews makes the village ranking meeting more effective. The plan from the village meeting in Kyevaluki outlined immediate action for nine water sites and delays on roughly nine additional water projects. (*See Kyevaluki Village Resource Management Plan, Chapter VII.*) Much of the reasoning and deliberations for these priority rankings were based on integrating socio-cultural perspectives, issues of sustainability, equity considerations, and the technical data produced during the village reconnaissance.

Under other circumstances, PRA might schedule one or more technical feasibility studies after the village meeting has ranked projects. In most cases, the technical work is carried out by the extension officers assigned to the site, who are familiar with local ecological considerations.

E X A M P L E

☐ **Technical Survey of Water Potential from Kyevaluki (prepared by the water extension officer in the field)**

Example: Survey of Water Point Opportunities—Kyevaluki

National Environment Secretariat/Egerton University
Clark University

(June 1989)

Opportunity	Nature	Site	Potential for Development
ZONE I			
Kathome Dam	Dry		Seek alternative site as dam; doesn't hold water after rains. There may be a broken rock fissure.
Kwa Kathuli Primary School	Seasonal	School	Roof catchment may serve the school and neighbors and also serve as an example.
Kwa Makalya Spring	Seasonal		Presently broken. Rehabilitation by digging, remove the eucalyptus trees from site. Deepen the well. Protect by fencing.
Muu River	Partially seasonal; bilharzia low; population high		Build a dam and river intake. River will feed downstream users by gravity. Protect by fencing.
Kwa Nzambu Dam/Pan	Semi-permanent; good water		Needs protection. Conserve catchment area.
Kithunthi Well	Permanent; good water; Catholic Church aided in 1987		Protect by fencing. Install pump that is already purchased. Repair cover.

Water Point Survey—Kyevaluki (continued)

Opportunity	Nature	Site	Potential for Development
ZONE II			
Yenyeni Dam	Seasonal; dries Aug/Sept; has seepage problem; built 1961; cleaned 1984	Near Kyevaluki Market	Protect the site by tree planting; no cultivation up stream. Fence dam site. Use separate access points for animal and human use. Reseal embankment with special materials (soils). Scoop and desilt. Use syphoning to deliver water to animal and human sites.
Yenyeni Well	Permanent Built 1962	2 to 3 km from Kyevaluki	Protect by fencing. Rehabilitate to improve yield. Install hand pump. Conserve catchment by tree planting of proper species.
Kwa Kiluli Dam	Permanent Dam on Kakuyuni River; built by Salvation Army 1986	Central location	Protect catchment by tree planting and other conservation measures. Spillway protection. Treat bilharzia. Protect with fence. Construct well below dam wall for human draw pipe.
Kwanthuku Spring	Seasonal; dries Aug. and Feb.	Next to border; serves few	Clean water. Rock catchment can be improved by containing many such RC and expanding storage tank.
Kwa Kiomo Spring	Seasonal; dries Aug. and Feb.	Next to border	Can combine this with the Kwa Kiomo Primary School catchment and build a large reservoir.
Thwake River	Seasonal though water remains in sand during dry season.	Boundary	Construct sub-surface dam. Construct a well on the banks and lay perforated pipe to the well from which water can be pumped to higher elevation or drawn directly using hand pumps.
Kathiani Dam connection	May have political implication		Connect the broken 2 inch PVC pipeline to cross Thwake River to serve Kyevaluki.

COMMENTS IN GENERAL FOR ENTIRE SUBLOCATION

Roof catchment

Recommend for institutions (schools) and individual houses with tin roofs since many homes have metal roofs on homestead.

Mvoni Dam - Kathiani

This is a site within the regional master plan. It will need a lot of capital for it requires:

- treatment plant
- delivery pipe and large distribution network
- bringing water from long distance outside division

External location of source may have political implications.

Kithathani Dam (alternative source to Mvoni Dam)

This site seems to have many advantages over Mvoni Dam.

- location at Ngumuti Hill is within the location
- survey is completed
- holding capacity is large enough to serve entire location
- no need for pumping as site high enough for gravity
- feed throughout location
- less expensive to implement than Mvoni
- no treatment required
- distribution cheaper

The PRA Water Task Force recommends the Kithathani Dam in preference to Mvoni Dam as a more viable source for Kyevaluki Sublocation.

Chapter V
Organisation Of Problems And Opportunities

A primary goal of the PRA exercise is to initiate an interactive process between the community and the PRA team so that a Village Resource Management Plan can be prepared. Once data are gathered, a structure for analysis must be established. We recommend that the PRA team meet alone (or perhaps with one or two village leaders) to draw up *preliminary* lists of problems and opportunities. First review the information collected in the above exercises, then use the list as the basis for a village meeting.

Purpose

The purpose is to organise the disaggregated information into manageable structures for the community to assess and to rank.

What Data

Consider the issues that the community has identified by reviewing all the sources of data collected. These should be discussed by all team members to assure a comprehensive compilation of possible problems and options.

Develop a list of these problems and a compendium of possible options to deal with each. The options will include possibilities that the village groups and leaders have identified, as well as prospects that extension and other technical staff may suggest. These options should be as specific as possible.

These ideas should be compiled in an Options Assessment Chart, pair-wise ranking matrix, or other visual form that can be used in the following community discussions. Leave space for the villagers to edit and amend the list of problems and options compiled by the team.

By Whom

The PRA team, a few community leaders and informed residents, the Village PRA Coordinating Committee, and technical officers from the area should be included in preparing this preliminary list.

How

The most effective way to compile the lists is for the PRA team to review and prepare a draft list of the basic issues identified during the entire exercise. Then they can go through their notes, matching opportunities to the problems. At this stage, the data should be organised but no attempt should be made to weigh or rank the information. Ranking is carried out by the community, as noted in Chapter VI.

There is no magic formula for compiling lists of problems and opportunities. In most cases, the listing will be by problem or sector—soil erosion, water availability, disease, declining productivity, deforestation, etc. Opportunities that may speak to two or three problems can be listed more than once. The example from Mbusyani provides a good standard.

E X A M P L E

☐ **List of Problems and Opportunities from Mbusyani**

Example: Mbusyani Problems and Opportunities

The PRA team and Mbusyani residents identified the following problems and opportunities while gathering data during the PRA exercise. Water resource development was consistently identified as the priority problem.

Problems	Opportunities
1. Water – quantity – quality	–Boreholes –Roof catchment –Natural springs –Rehabilitate dams –Shallow wells –Develop new surface dams
2. Tools	–Seek outside funding to purchase tools –Harambee (Kenyan word meaning "community action") to purchase tools
3. Income Generation	–Posho mill –Drought-tolerant crop like sunflower (growing and processing for oil) –Improve marketing of baskets (Nthungi) –Poultry keeping –Goat keeping –Vegetable growing instead of flower growing –Fruit growing –Fish farming
4. Marketing – baskets – other goods	–Seek external assistance in finding a market for baskets
5. Soil Erosion	–Continue Mwethya group conservation efforts –Dig cut-off drains at the top of hills
6. Food Availability	–Diversify food production to other crops –Introduce dry land crops –Emphasize food crop production over cash crop production –Intercropping of food crops with coffee –Irrigated vegetable growing

Problems and Opportunities (continued)

Problems	Opportunities
7. Health a) Distance to clinic b) Lack of drugs c) Maternity Ward d) Animal Health – distance of dip – acarids (mites)	–Mobile clinic –Build maternity ward (outside funding?)
8. Tree Planting a) Termites b) Low survival sources rates c) Technical Assistance d) Lack of seedlings	–Increase tree planting efforts –Have tree nurseries near water
9. Energy in Zone 1	–Intensify tree planting efforts
10. Lack of a nearby posho mill	–Seek outside funding or loan for Mwethya groups to start posho mill
11. Unemployment	–Start Jua Kali (informal sector craftsmen and artisans) and light industries
12. Lack of cooperation between Mwethya Groups/Leadership	–Leadership training courses –Encourage interaction between Mwethya groups and outside communities/groups
13. Pasture availability	–Plant more grass on terrace embankments –Seek advice from Livestock Extension Officers on appropriate grass species for the area
14. Transport	–Mwethya groups and local community organize to repair roads
15. Rural electrification	
16. Paraffin depot	
17. Availability of loans to self-help groups	

Chapter VI
Ranking Problems and Opportunities

Once problems and opportunities have been listed, the major task of ranking them remains. This may be the most important step in PRA since it enables village leaders, local development committees, representatives of key institutions, and others to join with technical officers, NGO staff, donors, and other interested parties to discuss and agree upon priorities.

Ranking problems and opportunities also achieves a second important goal. It creates community awareness of an information base oriented toward them and their needs. Specifically, expect increases in knowledge of the community's natural resource management issues, interest in participation and action, technical information for specific problems, awareness of funding mechanisms available to village communities, and understanding that effective resource management can be carried out by communities acting primarily on their own initiatives.

Purpose

Because financial, labour, and other resources are limited, development projects must be assigned priorities. Ranking is based on locally accepted criteria, as well as on such externally identified categories as environmental sustainability, stability, equity, and productivity or cost, time to benefit, and social and technical feasibility. Besides drawing out village perspectives on possibilities for each opportunity, ranking also serves as a basis for developing the Village Resource Management Plan.

What

A large village meeting provides the setting in which community members first prioritise the identified problems and then rank the opportunities that address the most crucial of these.

Who

The PRA team, technical officers, village leaders (both formal such as the Assistant Chief, and informal, such as church group or self-help group

leaders), and village residents (both women and men) should be included in this process.

How

The ranking process may be carried out by a variety of approaches, ranging from use of a formal "Options Assessment Chart" to pair-wise ranking to an open-ended discussion followed by voting or "buying" of options.

Specifically note the following suggestions:

- Assemble village leadership and guests as noted above. It may be best to meet in a large room in a church or school. There may be more than 30 or 40 people who will form the primary decision-making body. Plan a whole day or the equivalent over two days.

- Review the process of gathering data, the kinds of information that the community has provided to the team, and the key changes/trends emerging in the community. It may be useful to present and discuss briefly the time line, seasonal calendar, transect, and other techniques for gathering data.

- Display the preliminary problem and opportunity charts prepared by the PRA team. Review the information on the charts carefully with the community to verify the issues. New information can be included and corrections made. A separate sheet with a master list of points can be used for the ranking process.

- Prepare a short list of the most pressing problems in the village. This is usually not a difficult task because in many communities a few problems stand out clearly to all village members. Further, in many cases it is not necessary to develop a precise ranking; often a grouping of the top 3 to 5 points is enough.

- The next step is to rank actions that can be taken to solve each priority problem. Discuss criteria to be used for ranking options with the group. The criteria used to prioritise problems may be quite different from those used to rank actions. The villagers may identify such criteria as the relevance of cost, social and technical

feasibility, and the time before benefits can be realised. It may be up to the PRA team to introduce such concepts as sustainability, equity, and productivity, as in the Options Assessment Chart procedure. These should be explained in clear terms, using illustrations and meaningful examples to demonstrate.

- When the initial list of criteria for ranking options has been established, review it with the group. The community should be given another opportunity to amend the set by either adding new criteria or deleting one on the list.

- At least three methods for ranking options exist: (1) Pair-wise ranking; (2) Options Assessment; (3) Ranking by Voting. Instructions for each technique are detailed below in the examples.

- The outcome of the ranking activity should be agreement on the priorities for community action.

EXAMPLES

☐ **FIGURE 8. Pair-wise Ranking Matrix**

☐ **FIGURE 9. Options Assessment Chart**

☐ **FIGURE 10. Ranking by Voting**

Figure 8. Pairwise Ranking Matrix

PROBLEMS	CLIMATE	PESTS	WEEDS	COST OF INPUTS	LACK OF LAND	LACK OF IRRIG.	LACK OF TECH.K.
CLIMATE		CLIMATE	CLIMATE	COST OF INPUTS	CLIMATE	CLIMATE	CLIMATE
PESTS			PESTS	COST OF INPUTS	LACK OF LAND	LACK OF IRRIG.	PESTS
WEEDS				COST OF INPUTS	LACK OF LAND	LACK OF IRRIG.	WEEDS
COST OF INPUTS					COST OF INPUTS	COST OF INPUTS	COST OF INPUTS
LACK OF LAND						LACK OF LAND	LACK OF LAND
LACK OF IRRIGATION							LACK OF IRRIG.
LACK OF TECH. KNOWHOW							

PROBLEMS	NUMBER OF TIMES PREFERRED	RANK
CLIMATE	5	2
PESTS	2	5
WEEDS	1	6
COST OF INPUTS	6	1
LACK OF LAND	4	3
LACK OF IRRIGATION	3	4
LACK OF TECHNICAL KNOWLEDGE	0	7

PAIR-WISE RANKING

To prepare a pair-wise ranking of opportunities (or problems) use the sample ranking table as a model. Prepare separate exercises for the set of options for the most important 3 to 5 problems. The options for each problem are listed on the top and left side of the matrix. Each open square represents a paired comparison of the points listed at the top and extreme left. For each comparison, ask the group which option is more likely and why. Record the most likely option in the square and develop a list of reasons for the selections. When the chart is completed, add up the number of times each item was identified as more important than the rest, and arrange them in appropriate order. Repeat the exercise for the other major problems and options.

Figure 9. Mbusyani Options Assessment Chart

BEST BET OR INNOVATION	PRODUCTIVITY	STABILITY	SUSTAINABILITY	EQUITABILITY	TIME TO BENEFIT	COST	TECHNICAL & SOCIAL FEASIBILITY	PRIORITY
BOREHOLES	?	0	−	0	3	3	3	6
ROOF CATCHMENT	+	+	++	+	1	1	2	3
NATURAL SPRINGS	+	+	+	++	1	2	2	
REHABILITATE DAMS	++	+	++	++	1	2	2	
SHALLOW WELLS	+	+	++	0	2	1	2	
NEW SURFACE DAMS	++	+	++	++	1	2	2	

KEY

?	UNKNOWN
−	NEGATIVE IMPACT
0	NO IMPACT
+	POSITIVE IMPACT
++	VERY POSITIVE IMPACT

	TIME	COST	FEASIBILITY
3	LONG	HIGH	LOW
2	MEDIUM	MEDIUM	MEDIUM
1	SHORT	LOW	HIGH

Figure 9. Mbusyani Options Assessment Chart (Continued)

OPTIONS ASSESSMENT CHART

Begin with a discussion of the identified Options Assessment Chart (OAC) criteria. For instance, explain sustainability in terms of the local availability of natural resources, skills, and materials, and the capacity of the local people to manage the option over time. Discuss productivity in terms of inputs to labour and the return on resources required to make the option work. Consider equity as the distribution of benefits that will flow from the project to the community.

Alternatively, rather than evaluate each option against all OAC criterion, the procedures may be simplified by reducing the number of criteria or by using only criteria selected by the community.

When the PRA team feels that the OAC criteria are generally understood, take one "opportunity" and use it as a trial. Lead a discussion on this option, making sure that the various criteria are fully covered. In leading these discussions, the team must assess each opportunity on its own merits and not begin choosing between opportunities before ranking is complete.

Go through each column of the OAC (sustainability, stability, etc.) and see what people think will be the long-term impact on the criteria (for example, sustainability) of introducing the specific opportunity (say, a borehole in location X). If the impact is to achieve high sustainability, place double plus marks in the box. If it is moderate sustainability use a single +. If there is no impact, use 0; and if there is a negative impact use a −. Rank the rest of the criteria for the first "opportunity" as a means to make sure people understand the chart. If using pluses is too confusing, devise a simpler system of letters or numbers to set rankings. The main point is that the team should adapt the chart so that it helps the groups reach a consensus about ranking a set of options.

Note: These criteria were identified by the PRA team. Other options may be identified by the villages as more important to them.

Figure 10. Ranking By Voting

PRIORITY RANKING BY VOTING (NUMBERS ARE FOR ILLUSTRATION ONLY)

PROBLEMS	NUMBER OF PEASANTS' RESPONSES				
	MOST IMPORTANT	NEXT MOST IMPORTANT	THIRD	FOURTH	TOTAL RESPONSE
CLIMATE (DROUGHT)	10	7	5	3	25
PESTS	7	7	3	1	18
WEEDS	4	3	2	0	9
COST OF INPUTS	2	4	1	0	7
LACK OF LAND/ POOR LAND	2	2	1	0	5
LACK OF IRRIGATION	2	3	2	0	7
LACK OF TECHNICAL KNOWLEDGE	1	1	0	0	2

VOTING/BUYING

Finally, the group may suspend ranking until after discussion of all the options and then determine the most important by voting or "buying" the best options. The voting can be an open hand-raising exercise or a confidential balloting. A "buying" game gives 3 to 5 stones or other tokens to each participant, and asks them to "purchase" the most important of the long list of options. By putting their stones in an envelope or box representing a certain project's bank account, an individual decides either to buy several different activities, or to put all his/her tokens toward one option. As in the case with voting, the buying can be conducted in private or in the presence of the other participants.

Chapter VII
Creating Village Resource Management Plans (VRMPs)

Purpose

The final and possibly the most concrete output of the entire study is a Village Resource Management Plan. The Plan serves a variety of purposes and audiences. It is a record of all the community's development priorities and potential and is used as a basis for development. The Sublocation Development Committee uses the document for programming and project development and transmits it to the District Development Committee for possible funding. Similarly, the plan can help external donors and implementing agencies determine whether the community's common development goals are in line with their own priorities.

What

The Plan covers several issues:

- Development priorities as agreed on by the community;
- Proposed actions and requirements;
- Duties and responsibilities for individuals and groups;
- Work schedules; and
- Identification of areas where the community needs external assistance.

Who

The community takes the lead in developing the VRMP. The extension staff and the research team act as facilitators and make technical information available to the community to help them come to rational decisions. It is also preferable to involve NGOs and donor agencies in this activity because in many cases, external input, especially funds, technical support, and training, may be critical for the success of the VRMP. If these

groups are present while the plan is being prepared, they may be more likely to help implement it.

How

After the team leader explains the process and importance of creating a formal plan, the first step is to validate the ranked priorities on the Options Assessment Chart or other tables used.

On the basis of the rankings, the community recommends specific actions to accomplish the activity. The appropriate technical officer advises on material inputs and estimated costs; the villagers identify local resources and labour that can be mobilised within the community. There is a great deal of dialogue and consultation during this session. Decisions should be made democratically.

For each activity identified (for example, rehabilitating a water source), duties are assigned to specific individuals or institutions. These may include tasks for the Water Engineer, for community groups, for an NGO, for the Assistant Chief, etc.

A schedule should also be set, linking duties and roles to a time frame that will help villagers and others evaluate their performance to date. If additional training may be required, specify what it will be and how it might be obtained. Be as specific as possible.

If outside resources are needed, indicate which external institution will provide them, whose responsibility it will be to ensure that these resources are secured, and when they will be needed. List likely sources or ways for obtaining support, including fund raising activities within the village, proposals to donor or NGO groups, church sources, etc. By involving donors and NGOs in this process, they may immediately accept certain responsibilities in the VRMP.

At all stages, emphasise that implementing and monitoring the progress of the VRMP is the responsibility of the community. Since the end result for PRA is to have communities in charge of their own natural resources management, this final point is paramount. When the initial VRMP activities have been completed, it will be up to the community to

develop or ask for help to develop follow-up VRMPs for continued progress.

E X A M P L E

☐ **Selection from the Kyevaluki Village Resource Management Plan (prepared by the PRA team in the field)**

Example: Kyevaluki Village Resource Management Plan (VRMP)

National Environment Secretariat/Egerton University
Clark University

June, 1989

Introduction

This Village Resource Management Plan (VRMP) has been organised by a Participatory Rural Appraisal (PRA) team. Sponsored jointly by the National Environment Secretariat (NES), Egerton University, and Clark University, the team spent two weeks (June, 1989) in Kyevaluki Sublocation (Machakos District). The team consisted of technical officers in water, agriculture, health, community development, and forestry as well as field officers from local NGOs. The team members met with leaders of village organizations, including the Sublocation Development Committee and such village institutions as churches, schools, self-help groups, and the Kenya African National Union.

The team worked with local officials and community residents to gather and analyse data on resource-management needs in the Sublocation. It placed special emphasis on water, soil, forestry, and health. The results of the exercise are presented here as a VRMP.

When the time came to implement the Plan the Sublocation Development Committee took responsibility for overall management while individual committees looked after specific projects. The Assistant Chief was responsible for administrative oversight; extension officers in technical fields were available, as needed, for advice and to provide some materials, such as cement, seeds, and timber.

Community institutions and associations will contribute labour, materials, and related support to individual projects, as noted in this Plan. Village committees also work with technical officers and staff from NES to prepare proposals to groups outside of the Sublocation, such as the District Development Committee (DDC), NGOs, and donor organizations in search of materials not readily available within the Sublocation.

A modest budget is available immediately to acquire materials for small projects listed as first priorities for action. A Coordinating Committee consisting of representatives from the PRA Team will visit the Sublocation periodically to monitor progress in implementing the plan, and provide advice and guidance as needed.

The PRA Team wishes to thank the Chief in Kakuyuni Location, the Assistant Chief in Kyevaluki, and the entire community for cooperation during preparation of this VRMP.

Details of the Kyevaluki Village Resource Management Plan follow:

VRMP (continued)

WATER: Zone I

Source: By Priority	Estimated Requirements	Committee Responsibility	Estimated Time
Kathome Primary School Roof Catchment	1. Ballast (21 tons)	1. Community	Group will work on a weekly basis, using parent volunteers; will start week of 20 June 1989.
	2. Sand (28 tons)	2. Community	
	3. Building Stone (1750 running ft)	3. External	
	4. Cement (150 bgs)	4. External	
	5. Waterproof Cement (50 kilos)	5. External	
	6. Gutter (200m)	6. External	
	7. Facia Board (200 ft)	7. Community	
	8. Round Bars (1200m)	8. External	
	9. Timber (6x1 @ 1000 ft; 3x2 @ 600 ft)	9. External	
	10. Unskilled Labour	10. Community	
	11. Skilled Labour (30 days)	11. MOWD	
Kithunthi Primary School Roof Catchment	1. Ballast (21 tons)	1. Community	Group will work on a weekly basis, using parent volunteers; will start immediately.
	2. Sand (28 tons)	2. Community	
	3. Building Stone (1750 running ft)	3. External	
	4. Cement (150 bgs)	4. External	
	5. Waterproof Cement (50 kilos)	5. External	
	6. Gutter (200m)	6. External	
	7. Facia Board (200 ft)	7. Community	
	8. Round Bars (1200m)	8. External	
	9. Timber (6x1 @ 1000 ft; 3x2 @ 600 ft)	9. External	
	10. Unskilled Labour	10. Community	
	11. Skilled Labour (30 days)	11. MOWD	
Kwa Nzambu Dam Rehabilitation	1. Posts and Wire	1. External	Deferred until site in public trust.
	2. Terracing	2. Community	
	3. Afforestation	3. Community	

VRMP (continued)

WATER: Zone I (continued)

Source: By Priority	Estimated Requirements	Committee Responsibility	Projected Time
Kwa Nzau Well	1. Hand Pump 2. Cement Rings 3. Cement and cover 4. Sand 5. Ballast 6. Labour	1. External 2. MOWD 3. External 4. Community 5. Community 6. Community	Immediately

WATER: Zone II

Kwa Kiluli Dam Rehabilitation	1. Posts and Wire 2. Terracing 3. Afforestation 4. Spillway Protection	1. External 2. Community 3. Community 4. Community	Work will start on 20 June 1989 on the spillway.
Kwa Kiluli Well	1. Hand Pump 2. Cement Rings 3. Cement 4. Sand 5. Ballast 6. Labour 7. Cover	1. External 2. MOWD 3. External 4. Community 5. Community 6. Community 7. External	Immediately
Yenyeni Springs Well rehabilitation	1. Dig Well Deeper 2. Protect Site 3. Technical Design 4. Hand Pump 5. Sand 6. Ballast 7. Cement 8. Wire and Poles 9. Rings and Cover	1. Community 2. Community 3. MOWD 4. External 5. Community 6. Community 7. External 8. External 9. External	Work to assemble materials will start on 19 June 1989. Actual building will start when water level drops and digging can begin.

VRMP (continued)

WATER: Zone II (continued)

Source: By Priority	Estimated Requirements	Committee Responsibility	Projected Time
Kyevaluki Primary School Roof Catchment	1. Ballast (21 tons) 2. Sand (28 tons) 3. Building Stone (1750 running ft) 4. Cement (150 bgs) 5. Waterproof Cement (50 kilos) 6. Gutter (200m) 7. Facia Board (200 ft) 8. Round Bars (1200m) 9. Timber (6x1 @ 1000 ft; 3x2 @ 600 ft) 10. Unskilled Labour 11. Skilled Labour (30 days)	1. Community 2. Community 3. External 4. External 5. External 6. External 7. Community 8. External 9. External 10. Community 11. MOWD	Immediate to assemble materials. Work on tank will start as funds and materials are available.
Kyevaluki Secondary School Roof Catchment (note that the catchment is in Zone II but the project is for entire Sublocation	1. Ballast (21 tons) 2. Sand (28 tons) 3. Building Stone (1750 running ft) 4. Cement (150 bgs) 5. Waterproof Cement (50 kilos) 6. Gutter (200m) 7. Facia Board (200 ft) 8. Round Bars (1200m) 9. Timber (6x1 @ 1000 ft; 3x2 @ 600 ft) 10. Unskilled Labour 11. Skilled Labour (30 days)	1. Community 2. Community 3. External 4. External 5. External 6. External 7. Community 8. External 9. External 10. Community 11. MOWD	Immediate to assemble materials. Work on tank will start as funds and materials are available.

VRMP (continued)

WATER: Zone III

Source: By Priority	Estimated Requirements	Committee Responsibility	Projected Time
Kiomo Primary School Roof Catchment	1. Ballast (21 tons)	1. Community	Immediate to assemble materials.
	2. Sand (28 tons)	2. Community	
	3. Building Stone (1750 running ft)	3. External	
	4. Cement (150 bgs)	4. External	
	5. Waterproof Cement (50 kilos)	5. External	
	6. Gutter (200m)	6. External	
	7. Facia Board (200 ft)	7. Community	
	8. Round Bars (1200m)	8. External	
	9. Timber (6x1 @ 1000 ft; 3x2 @ 600 ft)	9. External	
	10. Unskilled Labour	10. Community	
	11. Skilled Labour (30 days)	11. MOWD	
Kiomo Roof Catchment and Spring Rehabilitation	1. Building Blocks	1. Community	Immediate to assemble materials.
	2. Waterproof Cement	2. External	
	3. Sand	3. Community	
	4. Ballast	4. Community	
	5. Round Bars	5. External	
	6. Pipes	6. External	
	7. Labour	7. Community	
	8. Concrete Rings & Cover	8. External	
	9. Cement	9. MOWD	

VRMP (continued)

WATER: Zone III (continued)

Source: By Priority	Estimated Requirements	Committee Responsibility	Projected Time
Kamwanyani Primary School Roof Catchment	1. Ballast (21 tons)	1. Community	Immediate, with work groups spending one day per week to gather materials.
	2. Sand (28 tons)	2. Community	
	3. Building Stone (1750 running ft)	3. External	
	4. Cement (150 bgs)	4. External	
	5. Waterproof Cement (50 kilos)	5. External	
	6. Gutter (200m)	6. External	
	7. Facia Board (200 ft)	7. Community	
	8. Round Bars (1200m)	8. External	
	9. Timber (6x1 @ 1000 ft; 3x2 @ 600 ft)	9. External	
	10. Unskilled Labour	10. Community	
	11. Skilled Labour (30 days)	11. MOWD	
Kyandu Well Rehabilitation and Protection	1. Sand	Deferred	Deferred
	2. Ballast		
	3. Cement		
	4. Hand Pump		

VRMP (continued)

Part II: CROP PRODUCTION

Problem/Need	Action	Responsibility	Time
Use of drought tolerant and certified seeds	Demonstrations and distribution of Makueni, Katumani, and 511 maize seeds	MOA Technical Assistant and community participation in demonstration	Sept/Oct Mar/April
Use of pesticides, manure, and fertiliser	1. Demonstrations 2. Improved availability of inputs	1. Technical Assistant 2. MOA Kangundo explore possible stocking site in Kakuyuni or request stockists to take action	Sept/Oct Mar/April
Conserving soil moisture	1. Demonstrations 2. Implementation	1. Technical Assistant 2. Community	August and March
Diversification of crops including fruits & vegetables	1. Extension education and demonstration 2. Implementation	1. Technical Assistant 2. Community	Sept/Oct
Improved Access to Credit	1. Find out about credit access 2. Advise MOA of need 3. Contact District Cooperative Officer	1. Technical Assistant 2. District Agric. Offc. 3. Cooperative Officer	Sept/Oct

VRMP (continued)

Part III: AFFORESTATION

Problem/Need	Action	Responsibility	When
Assistance with seedlings, and problems with pests and diseases	MOA; MOE, Forest Department provide training and education in seed selection and related areas	Soil Conservation in MOA, Forest Department, MOE, Community	—
Establish tree nurseries	Nurseries at primary schools and other sites where land and water are available; possibly visit forestry demonstration centers at sites such as in Kitui	Women's Groups, Forest Department, MOA, School parent groups, 4-K Clubs	—
Shortage of fuel-wood and high cost of fuel	Plant trees; Increased demonstration and awareness on energy conservation measures	NGO's, MOE, and Community	—

VRMP (continued)

Part IV: SOIL CONSERVATION

Problem/Need	Action	Responsibility	Time
Shortage of tools and other inputs	1. Division Soil Cons. Officer to survey catchments; 2. Tools provided only to groups in catchment area 3. Bulking plot for grasses for distribution to farmers	Community, MOA and Forest Department	Immediately
Better Mgt of Excess Runoff	Form Sublocation Soil Conservation Committee	Assistant Chief	Immediately
Promotion of Tree Planting	For Catchment Area 1. polythene tubes 2. seeds 3. watering cans 4. training for nursery attendants	Soil Conservation in MOA; Forest Department	Immediately

Chapter VIII
Epilogue: Evaluation and Monitoring

Theoretically, PRA concludes with the preparation of the VRMP. From there, it is the responsibility of the local administration (Assistant Chief) and community and regional institutions (local technical officers, church leaders, chiefs, self-help groups, etc.) to carry on and implement the plan. In practice, though, continued support and technical advice from extension services will be required for a time to get the VRMP under way.

Those planning to carry out PRA and then to implement a VRMP need to consider the importance of preparing local groups for the task. Leadership is critical. One or more formal or informal local leaders will be needed to organise work groups, follow-up when schedules slide, insure that materials are being gathered, coordinate activities with extension officers, and maintain contact with Division and District administrative officials. While this work is normally carried out by an Assistant Chief, it may also be a leader of a farm cooperative, an active member of a women's group, a political leader, or a member of the clergy.

At another level, commitment and backing is required from government officers, especially at the District and Division level. Those concerned with follow-up need to keep administrative officers informed of progress and to enlist their help as needed. At still another level, support from private foundations and bilateral and multilateral agencies will be helpful as the community begins the search for funds to implement the VRMP.

Finally, it will be helpful to have a few community leaders, such as the school headmaster, a retired civil servant, or the Assistant Chief, learn how to raise village development funds from agencies already supporting regional or local resource-management activities. The VRMP is in a form that many development assistance agencies consider an acceptable proposal. There are inevitably a few NGOs that can be contacted, and there are increasingly larger amounts of local development funds available through regional development offices. Churches may also have funds, as

do the various bilateral donors and international agencies. The degree to which village leaders can use the data, priorities, and organisation developed through PRA and VRMP in raising funds will be a measure of how much the village will be able to operate on its own initiatives.

To ensure the success of the PRA process, setting up the following components and aspects of a "typical programme design" may be helpful:

- A village or Sublocation development, natural resources committee, or Village PRA Coordinating Committee to manage and monitor project activity;

- An environmental committee at the district or division level representing several development sectors and including members from NGOs;

- Sound technical management, usually through the locally-based extension officer;

- A financial management system, accountable to the village leadership and designed to receive funds to purchase materials and other resources; and

- A means by which technical officers, village leaders, and members of community groups can visit nearby sites where effective resource management is under way, as well as receive training in natural resources management.

PRA involves basic techniques for data collection and including local people in project design. When conducted properly, it leads to the preparation of Village Resource Management Plans that facilitate grassroots self-help action in natural resources management. In this respect it offers hope of a better life to the many communities and villages clustered throughout sub-Saharan Africa and perhaps elsewhere, in locales typically isolated from large-scale development assistance.

Chapter IX
Suggested Reading

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