

Participatory Research for Sustainable Livelihoods

*A Guidebook for Field
Projects*

J. Keith Rennie
Naresh C. Singh



IISD INTERNATIONAL INSTITUTE FOR
SUSTAINABLE DEVELOPMENT

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DÉVELOPPEMENT DURABLE

Participatory Research for Sustainable Livelihoods: A Guidebook for Field Projects

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With contributions from participants at the two
IISD Workshops on Adaptive Strategies for Sustainable Livelihoods
in Arid and Semi-Arid Lands
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Project on Adaptive Strategies for Sustainable Livelihoods
in Arid and Semi-Arid Lands

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PREFACE

The first version of this guidebook was drafted on the basis of discussions at a workshop in Nairobi (September 1994) organized for the purpose, to assist implementation of IISD's project on adaptive strategies for sustainable livelihoods in Arid and Semi-Arid Lands (ASALs). Originally conceived purely as a guide to participatory research techniques for the IISD project, it became clear that the needs of project executants were not so much for a tools manual as for a guidebook that would help them apply an abstract set of concepts in a concrete field situation and guide the fieldwork design and implementation. There are many sources of information on participatory research techniques in general, and most participants had some skills and experience, but there was little help on how to apply them in practice to the concerns of this project.

By the time a *second* workshop was held in South Africa (March 1995), community and policy studies had been drafted in relation to nine sites in five countries, although the Kenya field study was not available for circulation. We were thus able, in the course of other tasks, to share ideas and experiences about the conduct of the project. The first version of the guidebook had served its initial purpose, and it was agreed that it would now be useful to incorporate the insights, experiences and lessons learned from the project in order to promote similar projects elsewhere, and to share these with a wider community. This would serve both to extend the understanding of the concepts of adaptive strategies, and to strengthen the policy recommendations.

This revised version has benefited from the submission of updated materials from project participants.

J. K. Rennie

N. C. Singh

August 31, 1995

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This guidebook draws on the experience of many individuals and institutions both directly and indirectly.

In 1994–95 the International Institute for Sustainable Development (IISD) sponsored a series of pilot research projects in five African countries, focusing on agropastoralists in Arid and Semi-Arid Lands (ASALs). The outcome of this project was sufficiently encouraging to lead to the hope and expectation that other, similar projects could be undertaken, in order to widen the basis of understanding and policy recommendations. Accordingly this document on participatory research for sustainable livelihoods, prepared for local project coordinators, has been revised and expanded for publication, with a view to assisting those who might wish to undertake similar projects, either in ASALs or other ecosystems, and not necessarily within Africa.

Although each organization will have its own style of operations, and each research situation is different, there are certain common features to projects of this type. The overall design is comparative: countries and sites are selected within an ecosystem family, in order to control one major variable; but within that they should be broadly representative of the range of variance within that family. The implementing agencies for the country projects are envisaged as being, by preference, competent national NGOs with a track record of implementing community-based projects and policy analysis. The concept is that NGOs will, on the basis of a project, document or prospectus (prepared by local communities.) These local communities have collectively devoted many days of their time to communication with outsiders, through “participatory” research. These outsiders have gained credit for their discoveries, such as Livingstone gained credit for “discovering” the Victoria Falls. Some are aware of their indebtedness. The authors of this guidebook share an indebtedness to the people with whom they have worked, and wish to acknowledge it publicly. We hope to contribute to the correction of the unequal exchange in the field of knowledge through this project.

The process of mutual learning which generated this guidebook, drew heavily on the work of the six institutions contributing to the IISD project. Collectively they have documented a wealth of practical experience, research, analysis and reflection. These are:

| | |
|-----------------|---|
| ENDA - Zimbabwe | Environment and Development Agency, Zimbabwe (Harare, Zimbabwe) |
| GREFCO | Groupe de Recherches de Formation et de Conseils (Ouagadougou, Burkina Faso) |
| IISD | The International Institute for Sustainable Development (Winnipeg, Canada) |
| KENGO | The Kenya Energy and Environment Organisation (Nairobi, Kenya) |
| LEM | Environment and Development Society of Ethiopia [“Lem” is the Amharic word for “green”] (Addis Ababa, Ethiopia) |
| WRF | The University of the Witwatersrand Rural Facility (Johannesburg, South Africa) |

Prior to the workshop the Project’s International Advisory Group (IAG) contributed valuable inputs, suggestions, and advice, reflected in the revised research protocol. The IAG membership is listed in Annex III. The participants at the two workshops are listed in Annex IV. Their substantive contributions, thoughtful observations and occasionally vigorous arguments, are reflected throughout. This guidebook was the result of a collective process of discussion and debate; some key sources: Daniel Thiéba’s co-authored manual on PRA methods based on two years of conducting PRA training and exercises in several francophone West African countries; The Eastern Transvaal PRA workshop report, and the many conceptual papers and project documents by Naresh Singh and Vangile Titi of IISD. Chapter V also draws extensively on Keith Rennie’s varied experiences over many years in several anglophone African countries. The IISD has played a catalytic role in formulating the project idea and providing the resources and management required to bring it to fruition.

List of abbreviations

| | |
|--------|---|
| ASALs | Arid and Semi-Arid Lands |
| CARE | Care and Relief Everywhere |
| CCIC | Canadian Council for International Cooperation |
| CIDA | Canadian International Development Agency |
| ENDA | Environment and Development Activities |
| GREFCO | Groupe de Recherches de Information et de Conseils |
| IAG | International Advisory Group |
| IDRC | International Development Research Centre |
| IISD | International Institute for Sustainable Development |
| KENGO | Kenya Energy and Environment Organization |
| LPC | Local Project Coordinator |
| NGO | Non-Governmental Organization |
| PAR | Participatory Action Research |
| PRA | Participatory Rural Appraisal |
| PVO | Private Voluntary Organization |
| RPC | Regional Project Coordinator |
| RRA | Rapid Rural Appraisal |
| UNDP | United Nations Development Programme |
| UNEP | United Nations Environment Programme |
| WRF | Witwatersrand Rural Facility |

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1

Introduction

Purpose of this guidebook

In the arid southern part of Zimbabwe, the people of the Mlambapehle community in Gwanda district have introduced a series of innovations in the way they manage their livestock. Over the last 10 years, they have adapted a traditional system of cattle movement to dry season grazing areas, into what is now a complex, sophisticated and flexible system of community managed enclosures, involving multiple species, group credit, private sales, and rules and practices adapted to changing seasonal weather conditions. On the other side of the continent, in the village of Nougou, just northeast of Ouagadougou in Burkina Faso, Mossi villagers for many centuries used to entrust their livestock to professional Fulani herders and cultivated crops using hand-hoes. Now they have begun to incorporate their livestock into a system of mixed farming and market gardening, using animal traction, small-scale irrigation and organic fertilizers.

These are just two examples of what we will term *adaptive strategies*—long-term adaptations in the organization of the livelihoods of ordinary people in Arid and Semi-Arid Lands (ASALs). These adaptive strategies are voluntary and more or less spontaneous changes to sets of traditional practices. They are not just coping strategies to deal with short term emergencies or external shocks. They are longer term modifications to traditional production systems that have evolved in response to historical change: pressures, stresses or new opportunities. The changes are seen as fairly durable. The policy and institutional context has been ambiguous—perhaps supportive in some respects, neutral or unsupportive in others. The adaptive strategies are based on local knowledge, combining traditional knowledge with appropriate elements from contemporary, or external knowledge, assimilated into the community over time.

It was the guiding hypothesis of the studies on which this guidebook is based, that changes in ASALs over the last few decades have led people to evolve new adaptive strategies. Such strategies—which are many and varied—can form the basis of sustainable livelihoods for people in ASALs. This is not to say that they already constitute sustainable livelihoods, nor that they are a universal solution. They may need to be further adapted, amplified or modified by linking them to more formal, generalized scientific knowledge. They may need to operate in a more supportive or enabling policy environment. But any search for sustainable livelihoods for the populations living in ASALs will be greatly enriched and made more relevant by our beginning from the basis of initiatives already taken by the people themselves. In order for any of this to happen, these initiatives must first be identified, understood, described and analyzed in their dynamic contexts.

Participatory field research projects to identify, describe and understand adaptive strategies, and to make policy recommendations to foster an enabling environment, were undertaken in 1994-95 in an IISD project located in five African countries (Table 1). The success of this pilot project has led to the preparation of this guidebook, to enable the project's wider replication in other countries, and in other ecological and climatic zones. Replication of this project can strengthen its objectives, and in particular:

- empower local communities by enabling them to articulate, document, legitimize, better understand and share their adaptive strategies;
- recommend policy formulations at local, national and international levels which strengthen successful adaptive strategies that have the potential to support sustainable livelihoods, to provide an enabling environment, and to articulate these strategies to contemporary knowledge;
- contribute to sustainable livelihoods and poverty reduction in ASALs and other environments;
- empower Non-Governmental Organizations (NGOs) in Africa and other developing regions by engaging them in a project that can meaningfully link their field experience with communities on the one hand, to the development policy environment on the other.

Table 1: IISD Project on Adaptive Strategies for Sustainable Livelihoods in Arid and Semi-Arid Lands in Africa

During 1994-5 IISD worked with five institutions in the following five African countries:

| Organization | Country | Location (Ethnic group) |
|---------------------|--------------|--|
| GREFCO | Burkina Faso | Noungou, Oubritenga (Mossi) Ménégon, Oudalan (Fulani-Rimaibe) |
| LEM | Ethiopia | Melka Worere (Afar) Areri and Dubluk Meddas (Borana) |
| KENGO | Kenya | Kitengela, Kajiado (Maasai) Tigania (Meru) |
| Wits Rural Facility | South Africa | Tshunelani, Gazankulu, E. Transvaal (ethnically diverse: Sotho, Tsonga etc., migrants, refugees) |
| ENDA | Zimbabwe | Mlambapehle, Gwanda (Ndebele) Makaha, Mudzi (Shona (Budga)) |

Field research documented adaptive strategies in context. Policy analysis and field research contributed to policy recommendations.

The project was undertaken in 1994-95 by IISD's Poverty and Empowerment Program with financial support from IISD and UNDP.

As the project developed, it became clear that this guidebook could have a wider readership for further replication, and it has therefore been revised and expanded, taking into account lessons learned and instructive examples from the pilot project. We believe that this version will be of value to prospective project implementors and to the development assistance community involved in the design and execution of similar field projects and policy analysis. We hope also that it will be of interest and value to the wider development assistance community in promoting the understanding that, in focusing on poverty reduction and sustainable livelihoods, it is important to start from an understanding of what ordinary people on the ground are already doing.

It is also worth stating what the guidebook is not intended to be, its assumptions, and limitations. It is not a detailed manual on how to undertake what is called Participatory Rural Appraisal (PRA), Participatory Action Research (PAR), policy research, or quantitative surveys. It assumes that the project team has or can access expertise in these techniques. The central concern is to ensure that teams select an appropriate mix of available research methods, particularly those based on participatory methods, so as to link meaningful field studies with policy research and thus achieve both practical results in the field, and policy reform for an enabling environment. The strengths and limitations of PRA are discussed, but PRA is only one of an armory of methods to consider. The guidebook concentrates on the principles to be borne in mind in executing this type of project, with sufficient examples and other information from actual experience to assist local project teams to make informed decisions. The scope and locations of the IISD projects have caused the examples and illustrations in this guidebook to be weighted towards ASALs in Africa. However, one hopes that projects which use the guidebook will be restricted neither to Arid Lands, nor to Africa.

The guidebook also does not dictate project design or detailed field methodologies, which would be futile. The “guide” in guidebook should be kept in mind. Each organization will have its own styles and strengths. More importantly, community-based research is highly context specific. The style and attitude of the researcher, the ability to enter a listening and learning mode are more influential in producing high quality results than the ability to apply specific techniques. What works in one situation may fail in another, and what frustrates one researcher may be plain sailing for another. Field methodology should therefore be driven by the dialog and dynamic in the field situation, and not by a prescriptive document. Common questions, more than common methods, will ensure meaningful comparisons between findings in different places.

Road Map of the guidebook

This guidebook takes the reader through six stages of project execution. Chapter II scopes out the project with a review of the research problematic and the underlying concepts, key terms and hypotheses; it then outlines what the sponsoring or international coordinating organization might wish to see in relation to the overall design, structure, organization, planning scope and time scale of the research.

Chapter III deals with the principles of the selection of countries and NGOs or consultants for field research, and initial preparations for the country projects. This includes preliminary work to identify the actual sites or communities where the field studies will be conducted; the preparation of country research proposals, and an international workshop where the proposals will be reviewed, and (if not already done) selected for funding. The remainder of the chapter deals with the elaboration of questions for field investigation, taking us up to the point where country teams are ready to return to their countries to begin work.

Chapter IV takes us through in-country preparation for the field research. It outlines a process to generate a common conception among the participating organizations of the problematic, methodology and outputs; the preparation of specific work plans; the constitution and briefing of the research team; the initial review of literature; the principles for selecting indicators of sustainable livelihoods; the preparation of the community and the selection of entry points.

Chapter V covers participatory field work methods and techniques, with examples from actual project experiences built into a generic field investigation. The focus initially is on generating spatial and temporal data as a foundation on which to build a preliminary identification of adaptive strategies. In the course of this, the question of how to link “local” to “contemporary” knowledge is discussed. This then leads to the identification of knowledge gaps, or special topics for investigation in order to describe the adaptive strategies, and finally to the articulation of adaptive strategies. The chapter concludes with a brief discussion of the selection of community-based indicators for sustainable livelihoods. Although this last topic is dealt with briefly, it is important, as it should not be taken for granted that communities want “sustainable livelihoods” and it is important to test the assumption in the field.

Chapter VI deals with the second key and closely related dimension of project execution—a policy analysis that covers matters of socio-economic conditions, the total external environment impinging on the community’s livelihood system. Policy is conceived here in very broad terms as the entire external institutional environment. We then return briefly to some of the process objectives of the project: knowledge sharing and local empowerment.

Chapter VII turns to the various outputs expected from the project and the use of these outputs at local, national and international level or products.

2

Project Concepts, Design and Organization

This chapter will cover the approach and basic concepts of the research, building on the experience of an IISD project in five African countries. The guidebook has been written in order that future research projects of this type may benefit from what has been learned, both through achievements and mistakes. The chapter also includes a description of a general format of a research organization. Its purpose is not to impose an intellectual or conceptual strait-jacket on projects, but to provide advice and suggestions aimed at ensuring:

- A common framework of discourse between different country projects and between country project implementors and overall project management, by addressing the same large questions in the same ways and by using the same major variables within the specifics of different local and national situations;
- A commonly-understood framework for project execution in countries and communities selected for study so as to promote the comparability of results.

Two principles of project design must first be dealt with, as they form the basis of the entire approach which follows. A research project not based on these principles would be essentially different from those that the guidebook is intended to assist. These principles are:

- Comparative, ecosystem-based approach.
- Participatory research methodology.

The ecosystem-based approach

The overall purpose of the project is to promote sustainable livelihoods for the poor. There are many possible routes to this end, but the method proposed here derives from the fact that predominantly the poor of the world depend directly on natural resources, through cultivation, herding, collecting or hunting for their livelihoods. Therefore, for the livelihoods to be sustainable, the natural resources must be sustained. The overall project approach is to conduct a number of separate country studies focusing on selected sites representing a single ecosystem type or family. From these studies we can proceed to derive commonalities and differences on which to base conclusions and policy recommendations. "Ecosystem type" here refers to a set of ecosystems which share certain key defining criteria. This guidebook concentrates on the example of arid and semi-arid lands in Africa (ASALs). Within the selected set of ecosystems or biome, and over millennia, people have traditionally evolved ways of life and stores of knowledge that enable them successfully and sustainably to provide for their livelihood needs. (We may note here that many traditional societies have located themselves so as to be able to exploit several neighboring ecosystems or ecotones.) More recently, but quite independently, global scientific knowledge and understanding of these same ecosystems has grown. Yet the two sets of knowledge, local and global, have been poorly integrated, and have not combined to inform a manageable set of policy alternatives.

We can gain much by studying adaptive strategies of people to a set of ecosystems, deducing comparative knowledge that will be of use at the local, national and international levels. Within a set of similar ecosystems, common problems and challenges can be identified to which the inhabitants or users have had to devise solutions. The art of selection of sites in which to study these strategies is important—we must ensure that the different sites have enough in common to be compared meaningfully with each other, and yet display enough differences of characteristics to ensure representation across a range, and for comparisons and differences to emerge. The definition of the ecosystem "envelope" of the project is therefore to hold constant a major variable. We do not yet know enough about adaptive strategies to enable us, for example, to make meaningful comparisons between strategies in tropical forests and those in arid lands.

ASALs provide an example of an ecosystem family. The term "Arid lands" refers to areas prone to frequent and prolonged droughts and receiving up to 350 mm mean annual precipitation. "Semi-Arid lands" are areas receiving from 350 mm to 700 mm precipitation, in which rain-fed agriculture combined with pastoralism is possible. The purpose of this distinction is not to create an agricultural-pastoral dichotomy, but to encourage, where possible, the selection within each country of two case studies representing points sufficiently distant on the agro-

pastoralist continuum. In some areas, typified by Burkina Faso, the distinctions are clearly observable. For example, the Fulani specialized pastoralists occupy the drier northern zone, often herding cattle on behalf of Mossi agriculturists in the more humid zone.

ASALs constitute an important set of ecosystems globally, accounting for over a third of the land area and a seventh of the world's population (Ahmad and Kassas, 1987: 4). In Africa, perhaps a tenth of the continent's population, and a much higher proportion of those considered poor, derives all or most of their livelihoods directly from these lands. The fragility of ecosystems in these lands and their declining pastoral and agricultural productivity have been well documented for decades. Livelihoods in these areas are also highly vulnerable to shocks and stresses, including those arising from increases in human and animal populations, from increased intensity of use or changes in patterns of use, and from ecosystem change and declining natural productivity.

However, over time the peoples themselves who live in ASALs have evolved practices and ways of life which, in past times, enabled them to live in an environment characterized by unpredictability and variation.

Compounding this underlying threat to the balance between the natural resources and the livelihoods of the peoples dependent on them, is a reduction in access caused by changes in designated land-use through competing uses (e.g. Berhanu 1995, p.5). These changes include establishment of national parks—many of which are in ASALs—irrigation and resettlement schemes, commercial cattle and game ranches, private farms and refugee settlements. As if this were not enough, ASALs have also often been areas heavily affected by physical insecurity, which itself has undermined productivity.

In Africa, ASALs frequently have been regarded as peripheral or marginal in national politics, policies and political geography, and have often been characterized as "problem areas". Centrally-planned development, although not without its successes, has often failed. ASALs have been characterized by a lack of clear and consistent central policy, or even by "hostile" policies based on perceptions of "traditional" ASAL farming and pastoral systems as inefficient, unproductive, unsustainable, and destined inevitably to be undermined by the "modern" economy. The rate of project implementation is often extremely low. In many cases ASALs have become net importers of food and of an increasing proportion of the means of livelihoods, through the export of labour—usually very poorly paid because of poor educational attainments and low skills—and through the importation of food and relief efforts. Under these circumstances it is not unusual to find that development objectives, which sometimes in the past embraced ambitions such as to turn ASALs into major sources of national meat supply or even the bread-basket of the country, have often become reduced to the modest objective of ensuring merely that people can survive there. Sometimes they are characterized by an absence of policy, and an implicit policy assumption that over the long term they cannot form the basis of sustainable livelihoods (cf. Mutiso, 1995:37-40).

In the case of the IISD project, selection of different country sites illustrating typical points along the range of variation, resulted in a broad typology with South Africa at one end and Afars at the other. The South African example illustrated relatively dense, top-down planned settlement, a relatively high level of government provision of services (roads, irrigation, electricity), high dependency on migrant wage labour for household incomes (about 50 per cent); and low dependency on livestock. The Afars example showed an area with minimal government involvement (but planned irrigation that would alienate traditional grazing areas) low population density, and low integration with the wider economy. It was possible to discern the outlines of a hypothesis that would indicate possible paths of future historical progression from one end of the scale to the other.

This approach could be applied to other sets of ecosystems within the same problematic of adaptive strategies for sustainable livelihoods. For sustainable livelihoods based on different ecosystems, but challenged by similar threats, and people's organizing responses to combat development threats, see the Thailand tropical forest example described by Janet Durno (1995).

Whatever ecosystem family is selected, it will be useful as a preliminary step to compile a brief, non-technical and insightful summary review of the "state of the art" of knowledge on that

ecosystem family, as found in contemporary literature. In this, it is most important to realize that human societies and economies are part of the ecosystem. Directly and indirectly, they not only depend on ecosystems, but through their activities and interactions they help to modify and change them.

Participatory approach to research

The development paradigms of the 1960s and 1970s derived from the legacy of colonial rule, especially the planning systems of the late 1930s and post-WW2 period. The conception was top down (development was something governments did for or to people), and the language military-bureaucratic—by WW2 out of US management literature: “objectives”, “targets”, “strategies”, “capability”. The formal social science methods of the late 1950s, combined with digital processing, produced much spurious (and some credible) quantification, usually at great cost. There was little stakeholder involvement of those undergoing “development”, a fact which must rank high among the causes of the failures of development to improve the lives of the majority poor of the “developing” world. Participatory development arose as a reaction to this realization of failure, popularized particularly by Gordon Conway and Robert Chambers (1992), and more recently by David Korten (1996).

The second guiding principle therefore is that research is participatory, a much abused word that encompasses several virtues and vices. As with all methods, its merits vary with the research situation and the practitioner. At its best, the process can be liberating, empowering and educative, a collegial relationship that brings local communities into the policy debate, validating their knowledge. At its worst, it can degenerate into a process of co-option of local communities into an external agenda, or an exploitative series of empty rituals imposing fresh burdens on the community’s time and energy and serving primarily to legitimize the credentials of the implementing agency as “grassroots oriented”. While participation must be integral to the research process, it must be understood and practiced as a genuine process.

Despite a wealth of alternative, and often confusing names, participatory research methods can be conveniently classified into four main types, each with a distinctive style and ethos:

- **The “participant observer”** field technique is well established in anthropology and has been adopted by other disciplines. The method derives from the insight that you derive from a community’s values, dynamics, internal relationships, structures and conflicts best from their observed actions, rather than from their (normative) statements of what “is”. The participant observer attempts immersion, to the extent permitted, in local life in order to understand and document how things work.
- **“Rapid Rural Appraisal” (RRA)**. A series of techniques for “quick and dirty” research that are claimed to generate results of less apparent precision, but greater evidential value, than classic quantitative survey techniques. The method does not need to be exclusively rural nor rapid, but it is economical of the researcher’s time. It is essentially extractive as a process: the agenda is still that of the outside researcher.
- **“Participatory Rural Appraisal” (PRA)**. More an eclectic situational style (the humble, learning outsider) than a method, it is distinguished at its best by the use of local graphic representations created by the community that legitimize local knowledge and promote empowerment.
- **“Participatory Action Research” (PAR)**. PAR is a more activist approach, working to empower the local community, or its representatives, to manipulate the higher level power structures. Claimed for a variety of interventions—World Bank-supported credit unions for the relatively privileged, Grameen-type banks for the very poor, community based paralegal training and litigation, voter education drives among the marginalized — PAR can empower a community, entrench a local elite, right a wrong or totally mess things up. It depends on the extent of awareness and political savoir faire of the supporting outside organization.

RRA (and analogs) emerged in the 1970s as a more efficient and cost-effective way of learning by outsiders, particularly about agricultural systems, than was possible by large-scale social

surveys or brief rural visits by urban professionals. It drew on many of the insights of field social anthropology of the 1930s-1950s, emphasized the importance and relevance of situational local knowledge, and the importance of getting the big things broadly right rather than achieving spurious statistical accuracy. It developed a style of listening research, and a creative combination of iterative methods and verification, including “triangulation” of data from different sources—using two different methods to view the same information. It was usually conducted by a multi-disciplinary team, and its chief techniques included:

- Review of secondary sources, including aerial photos, even brief aerial observation
- Direct observation, foot transects, familiarization, participation in activities
- Interviews with key informants, group interviews, workshops
- Mapping, diagramming
- Biographies, local histories, case studies
- Ranking and scoring
- time lines
- Short simple questionnaires, towards end of process
- Rapid report writing in the field.

PRA is probably the most self-conscious in promoting a new paradigm:

| | FROM | TO |
|-------------------------|-------------------------------------|-----------------------------|
| Problem definition | We | They/We |
| Agent | Researcher | They |
| Methods | Formal, academic | Participatory |
| | Surveys/observation | Creative |
| Mode | Extractive | Learning |
| Presentation of results | Formal | Local, in situ |
| Ownership of results | We | Joint |
| Object | Knowledge: reports/ publications | Empowerment/ Development |

Emerging in the 1980s, PRA “proper” builds on RRA but goes much further. To RRA it adds some more radical activist perspectives, deriving principally from South Asia. Its five central additional concepts are:

- **Empowerment.** Knowledge is power. Knowledge arises from the process and results of the research that, through participation, come to be shared with and owned by local people. Thus the professional monopoly of information, used for planning and management decisions, is broken. New local confidence is generated, or reinforced, regarding the validity of their knowledge. “External” knowledge can be locally assimilated.
- **Respect.** The PRA process transforms the researchers into learners and listeners, respecting local intellectual and analytical capabilities. Researchers have to learn a new “style”. Researchers must avoid at all costs an attitude of patronizing surprise that local people are so clever they can make their own bar charts etc. The “ooh-aah” school of PRA works against its own principles of empowerment and indicates shallow naiveté on the part of the researcher. A good rule of thumb is that when you can really understand the local jokes, poetry and songs, then you may feel you are starting to understand the people’s culture.

- **Localization.** The extensive and creative use of local materials and representations encourages visual sharing and avoids imposing external representational conventions.
- **Enjoyment.** PRA, well done, is, and should be, fun. The emphasis is no longer on “rapid” but on the process.
- **Inclusiveness.** Enhanced sensitivity, through attention to process; include marginal and vulnerable groups, women, children, aged, and destitute.

PAR, which owes more to a radical activist tradition from the work of Paulo Freire and others in Latin America, derives some of its rationale from an awareness that PRA, for all its emphasis on participation, capability building, ownership of knowledge and empowerment, is still fundamentally an extractive and intellectual exercise. The benefits PRA brings to local communities can be intangible and even disappointing. PAR, by contrast, works directly with local political/development capacities to bring real, visible organizational structures, effective local advocacy, and a durable change in power relations with the center. If it can avoid the danger of entrenching a self-interested local elite, and address honestly the long-term choices that must be made on resource utilization, it perhaps has the most potential of all the methods described to secure the resources for sustainable livelihoods. The IISD project demonstrated more than one example of country project teams moving beyond a PRA approach to see that a PAR-type approach was desirable, seeking to mobilize actual resources in a follow-up exercise to produce durable change.

National country implementing agencies and participants should have some, preferably extensive, experience of participatory research techniques and processes, so that they can make a creative contribution to the development of project methodology.

Dangers and dilemmas

Our description above has hinted that each of these methods has its drawbacks and examples of poor practice to set beside its advantages. Now we can point more formally to some of the dangers and dilemmas of the various participatory methods proposed.

Participant observation and individual interviews. In the IISD project all teams used a mix of methods, but one team—the South African one—was quite explicit that, for them, participant observation and individual interviews were far more productive of learning about adaptive strategies than PRA survey methods. But the participant observation and involvement with the community as a whole had been on-going for some years, an involvement that provided much of the fundamental data for the project report. Participant observation is an excellent method if there is the time, and it can be justified particularly where individual researchers already have prior exposure in the selected community. Four main dangers of this method that must be guarded against are:

- Subjectivism and even solipsism: it is the least objective of all methods, and relies most heavily on the integrity and intellectual honesty of the researcher, whose experiences cannot be replicated, by the very nature of the research;
- Documentation can be tricky: field notes often contain too much confidential information for wider circulation: much has to be taken on trust;
- The method is less suited to “project” situations where the team are outsiders, not so familiar with the area, and where there are time constraints.

RRA. The range of techniques can be effective, but it remains fundamentally an extractive, externally-driven process. Many researchers who use standard RRA methods claim that they are using PRA, when the “participation” is restricted to provision of information to the researcher by the community. The simple test is what is the value added and who owns the product. If the community draws a map because you ask them to, it’s RRA. If they realize that the map belongs to them, and want to keep it for their own use, then it’s PRA.

PAR. Participatory Action Research is fine if you understand the local power structure and the issues. It is best reserved for situations where the external agent is aware of the potential for damage, both to themselves and, more importantly, to the disempowered in the community. It also works best where the external agency has a clear status and relationship with the community and can command resources for a long-term commitment.

PRA. Because of the diversity of research questions which can possibly be posed in this project, there are few prescriptions other than that PRA, well done, is a promising way in. The term PRA itself can cause difficulties: PRA need not be rural, and sometimes is not even participatory, and is frequently used as a trendy label for standard RRA techniques. Despite its limitations, the concentrated power of formalization of community knowledge through participatory techniques can generate an impressive amount of information in a relatively short space of time, leaving time for more selective structured formal surveys where they are necessary and of value.

If PRA becomes part of the global development agenda, there are risks of:

- **“Hijacking”.** When this occurs, the PRA agenda is externally driven, and used to create legitimacy for projects, agencies and NGOs.
- **Formalism.** The “PRA hit team” arrives in a local community to “do a PRA”. This abrupt and exploitative approach is all too common in project-based PRAs where there is a deadline to meet, or in scheduled training courses.
- **Disappointment.** Local expectations can easily be raised. If nothing tangible emerges, local communities may come to see the process as a transient external development phenomenon.
- **Threats.** The empowerment implications of PRA, and the power of its social analysis, can create threats to local vested interests, although less so than with PAR.

Table 2: The PRA debate: for and against

J. Stadler (in press, [1995]) has three main concerns about PRA’s limitations:

- An overly rural focus
- Public fora are not the appropriate place to determine the concerns of the poor and the marginal; and
- The emphasis on consensus masks internal community conflict.

Stadler’s criticisms certainly hit the mark in relation to more superficial PRA efforts, and PRA as practised by its more naïve proponents, of which examples are not hard to find.

However, examples to the contrary can be found:

- Skilled and aware practitioners have demonstrated the effectiveness of PRA in urban settings (e.g. World Vision 1993),
- Commitment to a poverty-focused mission has enabled the poor and voiceless to find a voice through PRA techniques (e.g. ACTIONAID-Kenya and ACTIONAID-Uganda, World Vision in Nairobi)
- PRA techniques can quickly lay bare community conflicts which nobody wants to discuss, even privately. An example from the IISD project is GREFCO’s experience in the deeply divided Fulani-Rimaibe “community” of Ménégoú in Burkina Faso over natural resources management.

It is therefore up to each team to select the best mix of methods to suit their chosen research site. This guidebook cannot make that choice, but can offer some guiding observations. Not every single method or technique to be used must be participatory; but the overall ethos of the research must be so, and the question of the ultimate ownership of the knowledge is an important consideration. Most of the field projects undertaken so far have used a mix of methods. More on this topic is found in Chapter 4.

Terms and Concepts

It is particularly important to clarify concepts and terminology. The project requires the collaboration of several different organizations, and involves more than one major language, possibly different intermediary languages in each country, and a number of local languages. It is difficult enough to try to ensure consistency of terms in English and French. These difficulties increase in geometrical progression with each additional language used in the project. Comparative, participatory research requires that this problem be addressed head on. Therefore terms must be clear at the outset even if they are to be collectively changed and developed as the project unfolds.

There is a particular paradox involved in discussing terms and concepts in the context of participatory methods. The terms, and the theoretical underpinning, are “ours”, not “theirs”. If we initiate the research, set the agenda, and provide the concepts to be used, what has happened to participation and empowerment? This problem is addressed in the course of the guidebook. Here it is important simply to emphasize that clarity of concepts at the outset is a prerequisite for effective translation in the field context. Conceptual clarification is an ongoing process; the concepts and their relationships are reviewed and revised in the course of field-work and in the light of empirical findings.

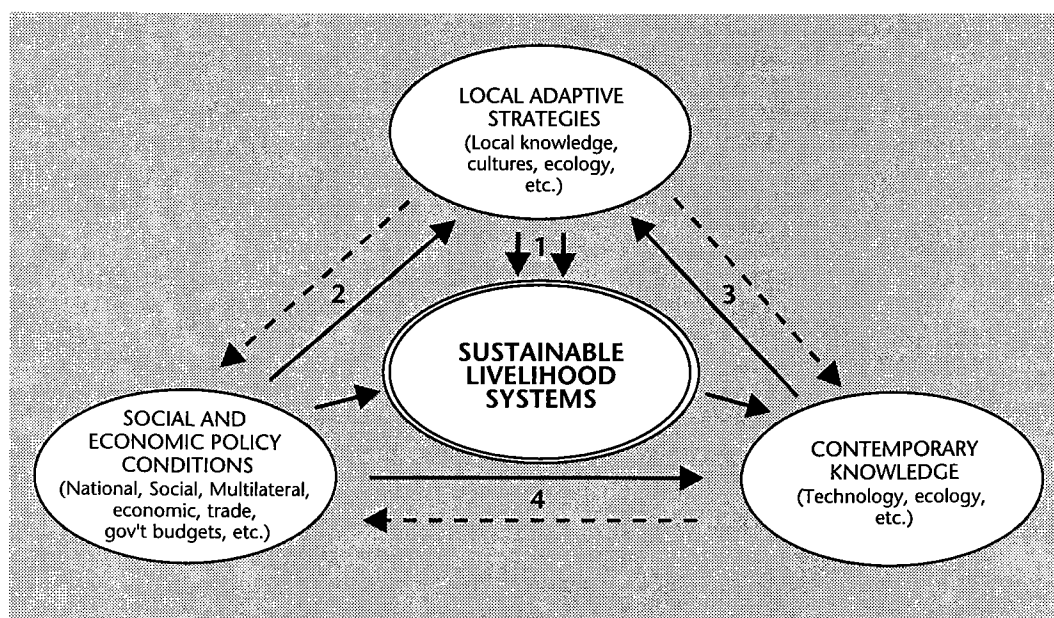
The following discussion looks at terms, as they were originally offered to the participants in the background literature for the IISD project (particularly Titi and Singh, 1994) and as their understanding evolved in the workshops before and after the field-work. Fig. 1 (from Titi and Singh 1995b: 10) provides us with a useful introductory general statement of the concepts that the research project is to investigate, and their inter-relationship. Figure 1 illustrates that the project aims to identify local adaptive strategies in ASALs, that lead to sustainable livelihoods. These adaptive strategies have evolved in the context of external influences on traditional systems coming from two sources: socio-economic and environmental policies and the contribution of science and technology.

Sustainable Livelihoods

Sustainable livelihoods (the “Center Circle”) are the long-term focus and goal of this project: to promote them, to create an enabling environment for them. Therefore this concept is examined first. A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living.

For a livelihood to be sustainable it has to address people’s capacities to generate and maintain their means of living. It must be able to cope with and recover from stresses and shocks. Nor should it exploit or prejudice either the environment or other livelihoods, present or future—indeed it should enhance their well-being and that of future generations (Chambers and Conway 1992; Titi and Singh 1994).

Figure 1: Towards sustainable livelihoods



The above figure represents the three main systems leading to sustainable livelihood systems in ASALs (Center Circle). Sustainable livelihoods draw most [arrow 1] from the adaptive strategies that people and nature have evolved together (First Circle), but they will also require an appropriate environment of social and policy conditions (Second Circle, [2]). They will also draw on contemporary knowledge systems (Third Circle). The dotted arrows [3, 4] show the influence of adaptive strategies on contemporary knowledge and hence on policy [4].

Clearly, therefore, equity, ownership of resources and participatory decision making require the existence of ecological, socio-cultural, economic and political options.

“Livelihoods” is a more tangible concept than “development”, easier to discuss, observe, describe and even quantify. While it might be difficult to agree on translation into local languages or to identify indicators of sustainable livelihoods (a difficulty discussed below), the concept of sustainable livelihoods in itself should not be difficult to comprehend. By extension, it is in principle easier to determine the sustainability of livelihoods than of “development”; and the concept relates far more directly than does “development” to issues of poverty and the satisfaction of basic needs.

Four main difficulties may arise in operationalizing this concept in a project.

- There is a danger that, in the course of the project, project executives may lose sight of the goal-posts. The chief objective of the research is to define policies and an enabling environment for sustainable livelihoods. Sustainable livelihoods are themselves the key way to address the problem of rural poverty. Adaptive strategies are a route into the solution of the problem, it being a guiding hypothesis of the project that sustainable livelihood systems must draw heavily on successful adaptive strategies. But the process of discovering, identifying and describing adaptive strategies may come to be seen as an end in itself. This is an issue of which project managers must remain aware.
- The concept of sustainable livelihoods is not likely to be high on the conscious priority agenda of local communities. However fundamental its significance in the longer term, their concerns are frequently immediate and short term: coping with drought, with harvests, with livestock survival and health. It will be important to give much thought to concrete applications of sustainable development that can be visualized by the communities concerned. It may well be most productive and convenient to listen first to the communities’ concerns about “poverty” or “problems”, and then try to synthesize or slot

them into a local conception of sustainable livelihoods. It would, however, be a mistake to assume that the issue of sustainable livelihoods is not of concern to local communities: the tenacity with which they cling to traditional ways of producing, and the adaptations they make to those ways, should be taken as evidence of their concern with sustainable livelihoods. Abandonment of traditional lifestyles—by resettlement in urban areas or becoming rural wage laborers—is evidence that faith in the potential sustainability of a lifestyle has been lost.

- A particular difficulty may arise over the concept of “sustainability” where—as in the case of the Bushbuckridge communities of the Eastern Transvaal in the IISD project—rural livelihoods are only “sustainable” by virtue of the fact that migrant wage labour earnings play an important part in maintaining them. In the case cited, it was estimated that something like 50 per cent of people’s livelihoods were derived from this source. Is it justifiable even to think of “sustainable livelihoods” in this situation? All livelihood systems are to a degree economically open systems, and the above case represents one end of a spectrum. Clearly a judgment call is required in such circumstances.
- “Sustainability” can prove a difficult criterion to agree on in practice, even among experts. More importantly, there may be significant differences of judgment between local practitioners and external experts over what practices or livelihoods are “sustainable”. Many pastoral and agricultural practices fall into this category, as the many conflicts between local people and government officials over stocking levels or bush clearing attest. If there is agreement on what is “sustainable”, well and good. If tensions and disagreements exist, that is a matter for the research project to identify and clarify. The policy recommendations and indicators in the project outputs may suggest constructive ways of handling the matter.

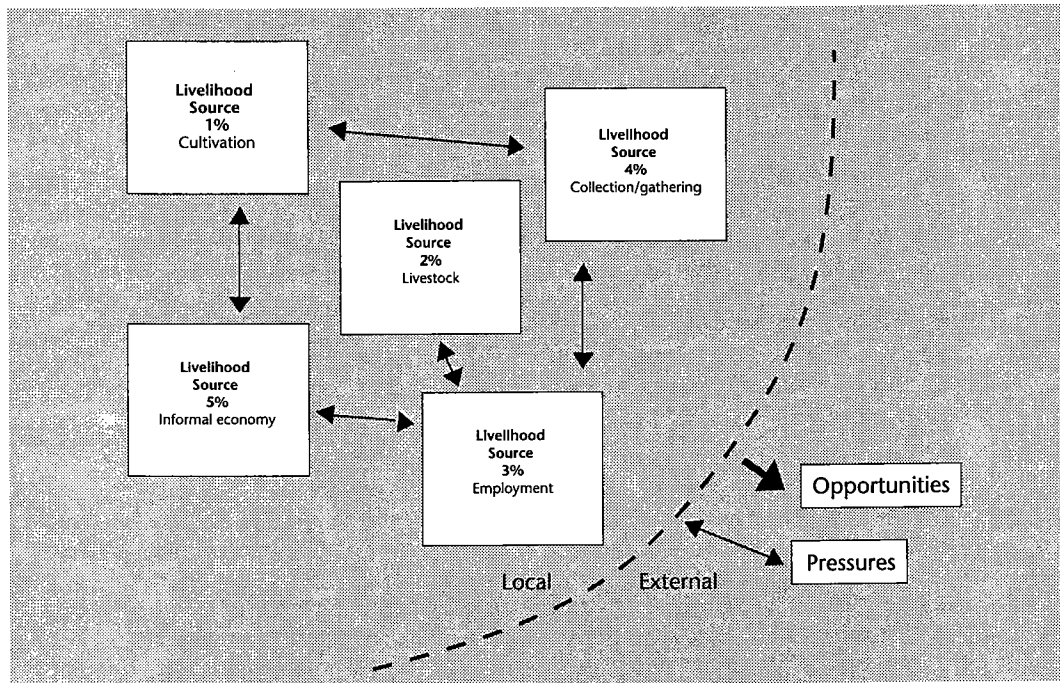
Figure 2 shows a more formal elaboration of the concept of sustainable livelihoods that might prove of use for analytical purposes, and particularly for deriving indicators (from Nigel Mott, IDRC, personal communication 1995). The local economy can be broken up, just as can the macro-economy, into a number of sectors or activities—livestock keeping, cultivation, employment, collecting (including hunting, gathering, fishing) and the informal sector. The relative importance of each sector (percent contribution to sustainable livelihood) will vary widely from one local economy to another.

Each of these micro-economic sectors has its own sets of rules, institutions, assets, stakeholders, and internal constraints. Each sector interacts with other micro-economic sectors: by the production or exchange of goods and services, by investment from one sector in assets in another sector. For example, a household might invest the proceeds of cattle sales in the education of their children in the expectation of increasing household income from the formal wage sector of the larger economy (opportunity). Or they might invest in transport, or a small retail store. Equally, people without land or livestock might earn income within the wage or informal sectors, in the expectation of investing in the future in land and livestock. These interrelationships are the micro-economic analog of the macro-economist’s matrix analysis.

The boundary with the external economy, shown by the dotted arc, is of course a heuristic one. It may be found useful for determining such important transactions as external pressures on the local economy, such as reduction in available land, or opportunities (e.g. opportunities for local people to command external economic or technical resources). One of the most important boundary influences, largely beyond the control of the local economy, is the urban-rural terms of trade. The changing relationships between these micro sectors, and their response to external pressures and opportunities leads to the concept of adaptive strategies.

The concept of sustainable livelihoods is not, therefore, a static concept. Because of both internal and external dynamics, to be sustainable a livelihood requires the capability to respond to change, and to continually renew and develop adaptive strategies.

Figure 2: Components of sustainable livelihoods



Livelihood Sources include activities, stakeholders, assets, access/claims, and internal constraints.

Adaptive and Coping Strategies

Adaptive strategies (Fig. 1, top or first circle) is a term used to describe a process of change, which may be more or less conscious and deliberate, in the way people durably reorganize their livelihood systems in response to long term changes and challenges. They are thus distinguished from Coping Strategies, which are short term and reversible. The term “Adaptive Strategies” describes the ways in which local individuals, households and communities have changed their mix of productive activities, and modified their community rules and institutions, in response to vulnerabilities, in order to meet their livelihood needs. Adaptive strategies are a mix of traditional livelihood systems, modified by locally or externally induced innovations, and by the incorporation of coping strategies that have become permanent. They arise from the “dynamic interaction and mutual interdependence between human agency and the ecosystem” (Titi and Singh, 1994b, p.11).

In Fig. 1, the double arrow leading from the second circle at the top conveys the presumption that adaptive strategies will be the primary contributor to the emergence or support of sustainable livelihoods.

Adaptive strategies are conceived not only in human socio-economic systems, but in nature. The ecosystems in which traditional livelihood systems evolved are also dynamic, and interactive. Not all adaptive strategies are sustainable in the long term. We are concentrating on those that lead to sustainable livelihood systems, or that have that potential. It is expected that concentration will be on adaptive and coping strategies over approximately the last three or four decades.

Table 3: Some examples of adaptive strategies from field projects

-
- Diversification of income earning (e.g. crafts, ancillary to tourism)
 - Commercialization of traditional collectibles
 - Selective modifications to cultivation practices: e.g. animal traction, introduction of new crops
 - Formation of new associations of producers and sellers
 - Formation of pressure groups to lobby government identified development request (e.g. water, road)
 - Formation of new institutions, or reinforcement of traditional ones, for conflict resolution and natural resource management.
-

Coping strategies are short-term responses to periodic stress, such as the use of famine foods in drought. Although they do not use the term adaptive strategies, Frankenberger and Goldstein (1990) have produced a useful typology of the sequence of coping strategies in arid lands, showing that as the severity of the challenge increases with time, so does the commitment of domestic resources and the degree of irreversibility. Thus, over time, coping strategies may evolve into adaptive strategies. More importantly, the continued availability of coping strategies and options is necessary for adaptive strategies to work. The list of verbs cited in the Adaptive Strategies Working Paper with respect to coping strategies (Titi and Singh, April 1994, citing Chambers and Conway) is a useful check list (stint, hoard, protect, deplete, diversify, claim and move.) To construct a similar list of agreed verbs to describe adaptive strategies would be a useful exercise for the project team.

Not all responses are adaptive or functional. Some may be maladaptive or dysfunctional.

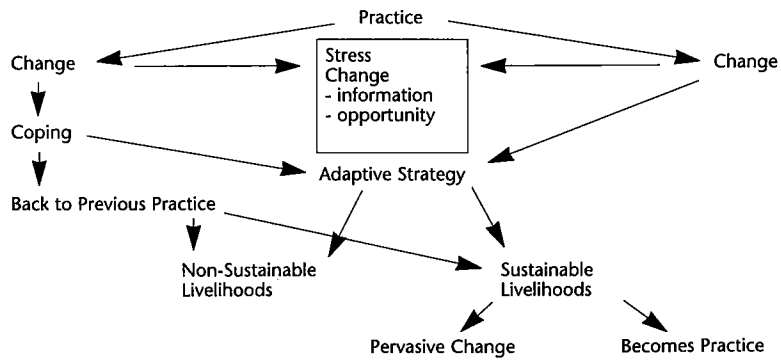
Avoid
Modify
Buffer
Resist
Conform
Change

Adaptive strategies have an historical or time dimension. A “traditional” livelihood system represents a set of adaptations to the environment, and responses to stimuli, that have taken place sufficiently far back in time—perhaps several centuries, and sometimes millennia—for remembrance of the innovation to have been lost to contemporary memory. The reconstruction of such changes may be the subject of specialized historical investigation. In this project it suffices to see them as “practices” inherited from the past.

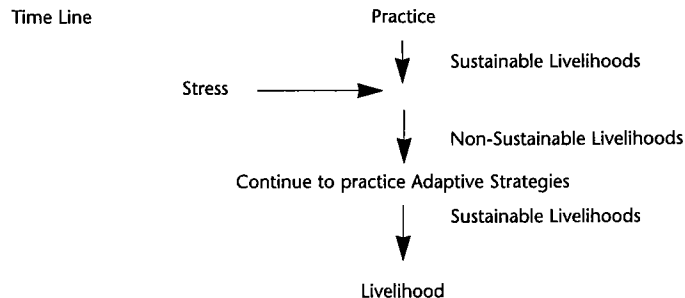
The relation of practices, coping and adaptive strategies to sustainable livelihoods is seen in Fig. 3, produced at a workshop in South Africa. A normal practice may change in the face of stress or shock to become a coping strategy; when the stress is removed, normal practices are resumed. Alternatively, stress (change, pressure, opportunity) may lead to a pervasive change in practice, which then becomes an “adaptive strategy”. Practices and adaptive strategies may be positive, functional, sustainable, and thus lead to sustainable livelihoods. Or they may be dysfunctional, leading to non-sustainable livelihoods—depletion of the environment or human resources, or continued external support, for example. In turn, sustainable livelihoods may be vulnerable or open to pervasive change, or may become stable and culturally assimilated and, in effect, become a new practice.

Figure 3: Adaptive strategies, coping strategies and sustainable livelihoods

- Practices
 - Allow researcher to use discretion in how and what is presented
 - May wish to point to specific examples
 - Do not include universal norms
- Adaptive Strategies
 - Sustained response to change/stress
- Coping Strategies
 - Short-term response to change/stress which is not sustained
- "No Choice"
 - Function of ability to identify alternative options
- Livelihood
 - Means of living
 - Plus betterment
 - Role of equity in sustainability, inequity may drive development



NB Focus on poor and ASALs not human evolution per se; foreclosure on options of practice.



Social and economic policy conditions

The second circle of Fig. 1 comprises social and economic policy conditions. The term “policies” here is a short-hand way of referring to political and economic externalities to the local livelihoods—policies, legislation, economies, institutions at the sub-national (district, provincial) national and international levels, that impinge on sustainable livelihoods and adaptive strategies. Past policies can have a durable effect even long after they have been formally abandoned. Some colonial period policies were designed to ensure cheap meat supplies for the national economy and exports, as for example British initiatives in several colonies. Some of these policies created enduring conditions and relationships in ASALs, the effects of which may still be seen. Other more recent policies and institutions have been deliberately designed to remedy the deleterious effects of these earlier policies.

Table 4: **Examples of past policy conditions impinging on adaptive strategies and sustainable livelihoods in ASALs**

- “Push” policies designed to generate labour supply
- “Push” policies designed to generate meat supply
- Policies designed to control armed conflict
- Policies designed to sedentarize pastoralists for development
- Policies aimed at resource conservation (e.g. prohibition of grass burning, hunting restrictions)
- Demographic policies (e.g. resettlement)
- Investment in alternative land use e.g. irrigation, commercial or state farming.

“Policy” conditions also comprise those institutional arrangements that have a major incidental impact on the local situation. The degree of decentralization of planning and development decision-making, the styles of conflict resolution, transport and pricing policies, even language, educational and cultural policies and institutions—all are examples of policies not specifically aimed at ASALs, but which nevertheless profoundly affect livelihoods there.

Policy with regard to adaptive strategies and sustainable development tends to be top down. Nevertheless there are many examples where local communities have influenced policy and decisions, and rather fewer examples where decentralized, local initiatives have been encouraged and incorporated into the process of policy formulation. One output of this project is to strengthen local inputs into policy formulation (the dotted arrow [4] in Fig. 1).

Local and contemporary knowledge

The third circle of Fig. 1 is labeled “Contemporary Knowledge”, which is contrasted with the “Local Knowledge” of the first circle. The labels used in respect of these concepts should not be allowed to cause confusion (several alternatives are possible) so long as the content that the label refers to is clarified.

“Knowledge” as used here is not just cerebral, but includes values, beliefs, skills, attitudes and practices. It comprises “knowledge how to” as well as “knowledge of”. It is used in a sense corresponding to the “KAP” (knowledge, attitudes, practices) of medical research. “Local knowledge” which informs adaptive strategies refers to knowledge owned and shared within the local community. The origins of that knowledge are irrelevant for the purposes of this project, provided that it is assimilated and seen as locally owned. Thus, animal traction may be historically exogenous, but it has been part of local practice for generations. It does not seem appropriate to call it “indigenous” or “traditional”. But, depending on the continuity of settlement, there may be a substantial component of indigenous or traditional knowledge that has been handed down from generations, and that has assimilated many elements from contemporary knowledge. There may also be local specialists and local esoteric knowledge particularly in areas such as the environment, soils, plants, land utilization practices, animal and human health. “Local” knowledge therefore seems a useful term to cover the whole, comprising the often extremely detailed and intricate knowledge of local specialists, sub-groups and the communities as a whole.

It is also clear that, in contrast to local knowledge, there is a huge body of formal, technical and scientific knowledge and technology relevant to the local situation. This includes climatic and meteorological information, historical records, demographic information, flora and fauna, biodiversity, genetics, ecology, information on commodity prices, transport costs, soil analysis,

epidemiology, and all the accoutrements of land use and development planning, including aerial photography and satellite imagery. In one sense, some outsiders may know far more about the local situation than the locals do about themselves. There exist also, outside the local community, the means and the technology to generate, compare, transmit and reproduce such formal knowledge, so that it is, in principle, widely available to anybody anywhere in the world, who knows how to access it, use it, and where necessary pay for it. Such information is not "local" in the sense that it is not owned by the local community. Nor is such knowledge accessible to local people in any meaningful way, and in many cases they may be completely unaware of its existence, content and power.

In this guidebook, following the IISD project, we use the term "contemporary knowledge" to refer to this body of knowledge and technology. It is accepted that local knowledge is also contemporary. We might have used another term such as "dominant knowledge", "external knowledge" or "formal" as against "informal" knowledge (as we do for education and the economy). The IISD project debated alternative terms for some time. But what is important is not so much what is written on the label, but what is in the bottle. If a project wants to choose a different term, it is simply important that they agree on it and on what that term is intended to denote.

Contemporary knowledge is important in several respects. Most importantly, it may contribute to policy formulation and development planning and decision making. Contemporary knowledge has had much to do with formulating the contexts within which adaptive strategies take place, and with defining the conditions of sustainable livelihoods. The solid arrow [3] in Fig. 1 shows the rather unilineal influence of contemporary knowledge at present, either by way of pressures on the local situation or by voluntary adoption and adaptation into it. Contemporary knowledge has not usually assimilated local knowledge effectively. To the extent that contemporary knowledge can legitimize local (indigenous and informal) knowledge, the greater will be the enabling environment for sustainable livelihoods. This process which the project will facilitate is shown by the dotted arrow [3] in Fig. 1. This incorporation and legitimation of successful local adaptive strategies, and the understanding of the enabling environment they require, also enables contemporary knowledge to exert influence on policy (dotted arrow [4]) so as to make it more responsive to the requirements of sustainable livelihoods.

It is also important that contemporary knowledge about ecosystem dynamics and management be accessible in some way to local communities, so that their adaptive strategies may be better informed and better resourced, and so that issues of sustainability can be dealt with. Such "value added" was an important conceptual component of the IISD project, so as to guard against its becoming a mere exercise of extracting information from communities. Referring again to Fig. 1, the solid arrow from contemporary knowledge to adaptive strategies remains in place, although its style and content might change from dominance and alienation to support.

Other terms

The above discussion concludes the exposition of terms related directly to the four circles in Fig. 1. Some other terms will occur in this guidebook and in the research process which require brief discussion.

The term "Community" is a grossly overused and abused word. Properly it refers to groups with meaningful regular social interactions, such as people under a traditional chief. A community is tied together by common occupancy, a dense network of social and often kinship relations, is to some extent autonomous, regulating its own affairs within bounds. In this project, a community is geographically based.

The field component of the project is "community-based". The field work is conducted in communities selected as sufficiently representative of a larger livelihood system and its variations. Each project should clarify the bounds of "community" for the purposes of the study, situating it in the larger social context. Two main dangers should be guarded against.

- The false impression that communities are homogeneous. Communities may be driven by division and dissension, by ethnic, cultural or wealth differences. Community power structures can be highly inequalitarian, especially in communities owning livestock. Nor are

such inequalities readily apparent to the outsider. The Gini coefficient (measure of social inequality) increases with the length of the fieldworker's exposure to the field. Every effort should therefore be made to distinguish significant differences by wealth, gender and other major variables, and to relate these to local options for coping and adaptive strategies. PRA methods are designed to bring out these internal distinctions, but used superficially or hastily they may foster a false impression of consensus and unanimity.

- Confusion may result from the loose use of the term "community" to mean political creations such as districts, or the larger livelihood style of which the selected community is an example, or to a larger parent group characterized only by common features such as language and sense of identity.

Ethnicity, Ethnic Group. Ethnicity is a sense of identity with a larger social, cultural or linguistic group. In many instances it is contextual, multiple and fluid. Many ethnic designations evolved from not very complimentary epithets by outsiders, and the members of a group may use quite different names to refer to themselves. Some traditional ethnic designations, however, reflect the objective facts of differential adaptation to different ecosystem types, or the dominance of different livelihood systems. Example: the Binga and the Bonga speak the same language, trade with each other, feud and intermarry, but the Binga keep cattle and the Bonga rely on fishing. In this case it is valid to use an ethnic group designation in the context of this type of ecosystem-focused research. The terms are likely to be a useful shorthand or surrogate to describe one or another particular identifiable mix of adaptations to an ecosystem or locality.

Empowerment is another word used frequently and loosely—it seems that to be legitimate and politically correct, social research must be participatory, community-based, gender-sensitive and empowering. Yet if it is an important project goal the concept should be used, defined and be taken seriously by its proponents. A possible useful definition is "power is the ability to negotiate and influence outcomes in a particular environment". Empowerment is the process of gaining or granting power and has political, socio-economic, gender and knowledge aspects, among others. Possible pitfalls to guard against are:

- It is a contradiction in terms to say that researchers "empower" people: people empower themselves. Researchers can facilitate this empowerment, not least by making available information and skills that people want.
- The concept of "empowerment" raises critical ethical issues with some researchers insofar as it might imply outsiders interfering with established local custom. This is a matter that each researcher and each team will have to grapple with individually, as it is highly contextual and involves a conflict of values.
- "Empowerment" in the context of the research proposed will almost certainly mean that issues will arise of how to make available resources for sustainable livelihood or to facilitate a process of change. The kind of engagement with communities that will be proposed will inevitably raise community expectations that the problems they have identified will be addressed in some measure. PRA—the collection and legitimation of community-owned knowledge relating to the struggle for sustainable livelihoods, by researchers who will never personally be threatened by drought or famine—still remains an essentially "extractive" process unless there is some movement towards PAR—participatory action research, where the community work with their new allies to solve these problems and press for policy changes and tangible resources that will enable the adaptive strategies to succeed (dotted arrow [2] in Fig. 1). If the research does not envisage a further process of advocacy or implementation, and envision how resources for these activities might be secured, then there is a serious ethical question to pose to the research team about the durability or effectiveness of their work. It will be important in that case to explore the limits of the project very frankly with community representatives at the very outset, in order that community members may make an informed decision on whether to invest their time and resources in this kind of research.

Vulnerability refers to the external challenges or internal dynamics which impinge on the local livelihood and natural systems and threaten to undermine them. It also refers to the likelihood that a threshold will be reached, beyond which the system will permanently change.

Indicators are necessary to identify sustainable livelihood systems and to measure change in these systems. They are difficult to establish and sometimes refer to proxy measures of a more complex state or change. These are dealt with in later sections.

None of the above concepts should be taken in a doctrinal sense. Should project implementors feel that a conceptual schema is imposed on them, they in turn may tend to impose these same concepts on the communities, negating the participatory element. The exposition of concepts serves to focus the initial scope, content and purpose of the project, which itself will develop the process to refine them in the light of actual experience.

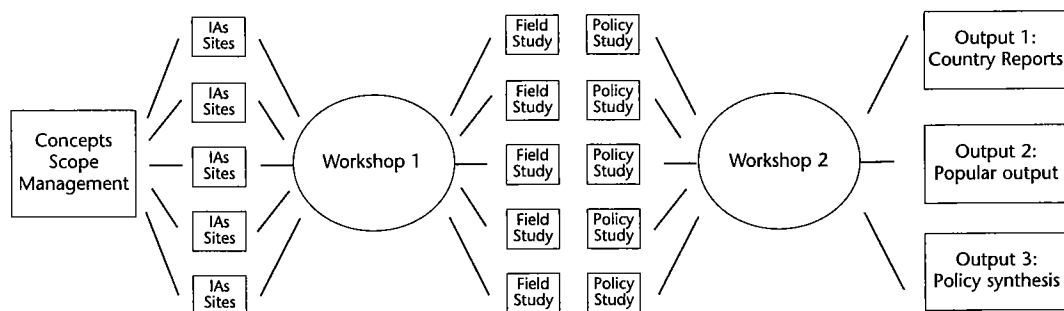
Project stages

This section turns to the overall design of the project and its management. Like the concepts, the design is suggestive, and any agency will want to mold it to its own specific concerns. Any project design and management structure has to ensure quality and timeliness of outputs, but the design discussed here focuses on certain key concerns arising from the specific nature of this project. These are:

- to ensure that the project proceeds with sufficient commonality of purpose and understanding of key concepts that meaningful dialogue between country teams can inform the final outputs;
- to ensure consistency and synergy between the country field studies and the policy recommendations;
- to ensure the genuinely participatory nature of the project;
- to balance the participatory nature of the project, implying a certain flexibility in the timing of fieldwork, with the need to coordinate activities to focus on certain key integrating workshops.

The general research schema can be seen as a six-stage progression from common problem definition, to local studies by implementing agencies (IAs), back to a linked set of outputs as shown in Fig. 4 below. For reasons indicated below, it is assumed that IAs will be predominantly NGOs (or PVOs: Private Voluntary Organizations).

Figure 4: Six stages of project implementation



| Stage 1: | Stage 2: | Stage 3: | Stage 4: | Stage 5: | Stage 6: |
|--|--|--|---|---|-------------------------------------|
| Scope project, preparation, concept papers, procedure document | Select countries, Implementing Agencies (IAs), sites | Workshop: Ensure common conceptual framework, approve work plans | Conduct site studies, country policy studies; program management visits | Workshop: Preliminary outputs: quality control, comparisons, syntheses. | Backcasting; produce direct outputs |

The sections which follow in this chapter take the reader through the first three stages of the above schema. Later chapters deal with stages 4-6 in more detail, as they speak to the core purpose of this guidebook, which is field implementation.

Project scope and initial preparation (Stage 1)

This stage is developed by the sponsoring or funding organization, which will have its own priorities in terms of region or ecosystem. Depending on its own in-house expertise, it may be helpful to bring into the planning stages as advisers one or more of the organizations or individuals that have already participated in this type of work, for example from the IISD project which developed this guidebook. Particularly in the case of Africa, several of the participating institutions developed creative insights and methodologies, which it would be productive to share more widely.

Table 5: IISD's project advisory structure

In the IISD Adaptive Strategies project, the International Advisory Group (IAG) brought together individuals with extensive relevant experience and connections to international agencies. IISD's role was that of convener and facilitator. Institutions such as the UNDP, the World Bank, IDRC, CIDA and UNEP, that have a track record in addressing issues similar to those addressed by the Project and have the capacity to support follow-up activities, were brought into the process in an advisory capacity. Representatives from these institutions, together with other individuals, collectively brought to bear expertise in the areas of policy, community engagement, ecology, socio-economic and political issues, communications and business development skills.

The IAG met periodically and provided guidance and advice to the Project Management Team and researchers, developing its functions as the project proceeded. The first meeting made substantial inputs to the Research Protocol (Annex III) particularly in terms of topics and themes for field investigation. The second meeting, held after the completion of field work and reception of the initial field reports, reviewed the workshop, acted as quality control, and added functions of monitoring project progress and impact, promotion of use of outputs, particularly in the policy field.

See Annex I for list of IAG members.

The sponsoring organization should also consider at this stage the creation of some kind of quality control advisory body to meet periodically to review project progress, particularly at the two planned major workshops and at the stage of final outputs and policy recommendations (Table 5). Such a body could well contain a combination of country experts, experts in the range of disciplines required, or in the ecosystem being addressed, or in the more general issue of sustainable livelihoods, poverty reduction and empowerment.

The second major design decision is a decision in principle on the geographical scope of the project: how many countries and which ones; how many sites per country; ecosystem parameters, and duration. Selection of too few countries or sites could lead to lightweight recommendations and the possibility that findings are unrepresentative. The impact on the overall project should any one country or institution fail to deliver is proportionately high. On the other hand, selection of too many sites would spread the risks, but incur the dangers of managerial complexity and unnecessary replication of findings. Much depends on the capability and financial resources of the sponsoring institution, but it is tentatively suggested that an upper limit of practicality for a single comparative project might be 15-20 countries and

three to five selected representative sites per country, and a lower limit might be five countries with two sites per country. It is better to do fewer studies well than many superficially. The question of duration is addressed in the next sub-section.

The third major design decision is a decision about the type of institutions that should actually be entrusted with carrying out the field and policy studies. The nature of this project strongly suggests that these should be reputable, well-qualified and established NGOs situated in the countries selected. (Actual selection is dealt with in the next chapter.)

- National NGOs are increasingly important as intermediaries between international development assistance agencies and local peoples. Many of them have experience of policy and advocacy work, research and implementation of development projects.
- Participation and empowerment are two key themes of the project's process and outputs. The project should be capable of leading not only to policy reforms but should initiate or strengthen a process leading to sustainable livelihoods, and should be capable of entering a second phase where tangible benefits accrue to local populations in terms of sustainable livelihoods. In this, well-established national NGOs as implementing agencies are capable of setting up projects and establishing a participatory management structure and durable relations with communities, in a way that may be more difficult, for example, for individual consultants, government or university departments, research institutions or international agencies.
- Such a process can also act as a capacity building exercise of the national NGOs themselves, enabling them to become more effective in-country institutional promoters of ideas and practices leading to sustainable development, and it is expected that such capacity building would be within the scope of operations of the sponsoring organization.

A short and useful guide to the selection of NGO partners is the World Bank's Working with NGOs (World Bank, 1995 37-42). This includes some useful general guidelines not specific to the Bank, such as gaining an overview of the NGO sector as a whole, establishing selection criteria, and the selection process. Experience in developing country NGO selection indicates much appropriate expertise is available, including some low-profile NGOs whose work is not well known to international development agencies. The natural tendency to concentrate on a few high-profile NGOs who have established reputations with international agencies can be corrected by the simple antidote of some preliminary research.

Table 6: Profiles of participating NGOs in the IISD project

- ENDA-Zimbabwe (Harare, Zimbabwe) is a not-for-profit NGO engaging in environment and development activities through projects, consultancies and human resource capacity building. Its main concerns and key activities have been in long-term food security and poverty alleviation through appropriate technology dissemination and empowerment, sustainable natural resources management and small enterprise development.
- GREFCO — Groupe de Recherches de Formation et de Conseils (Ouagadougou, Burkina Faso) conducts research about the key constraints to development assistance to NGOs, and multi- and bi-lateral co-operation through monitoring, evaluation, and training. The organization has published a useful training manual on PRA (in French) based on its extensive training experience.
- The Kenya Energy and Environment Organization (KENGO) is an indigenous NGO membership organization established in 1982 to promote grassroots organizational involvement in renewable energy, environmental management and community development. It responds to the needs of its members through advocacy for policies and programs in land use and natural resources management, business, energy, technology development, information networking and environmental quality.
- LEM, the Environment and Development Society of Ethiopia (“Lem” is Amharic for “green”) was set up in 1992. It is a membership organization, registered as an NGO with the Ethiopian Government. Its main objective is to influence policy decisions through advocacy in favor of sustainable livelihoods. It is involved in creating more habitable environments, e.g. clean-up activities, programs implemented by communities and publication of awareness creating information bulletins.
- Wits Rural Facility, established in 1989, is situated in the central lowveld of South Africa not far from the Kruger National Park. Originally seen primarily as a facility for the University of the Witwatersrand—a permanent rural base for students, staff and researchers—it has merged these with the NGO functions of community service, including training, legal support and organization. Its service, research and teaching activities are aimed at improving the lives of people in the Bushbuckridge area of the central lowveld and at putting the issues pertinent to the lives of rural people on research and teaching agendas of South African Universities. Its established programs include natural resources management, income generation support, water information, rural engineering, education, community resource centre, community liaison and architectural projects. In the next few years it sees a need to offset the predominant urban development imperative with rural advocacy.

Contact addresses are given in Annex II, for the individuals representing the institutions.

The fourth major decision is the kind of coordinating or overall management mechanism to establish. Highly capable and responsible NGOs may require little intervention or supervision in principle, but substantive managerial site visits will almost certainly be required before, during and after the research. The kind of on-site tasks an experienced international project coordinator or manager would be expected to perform would include:

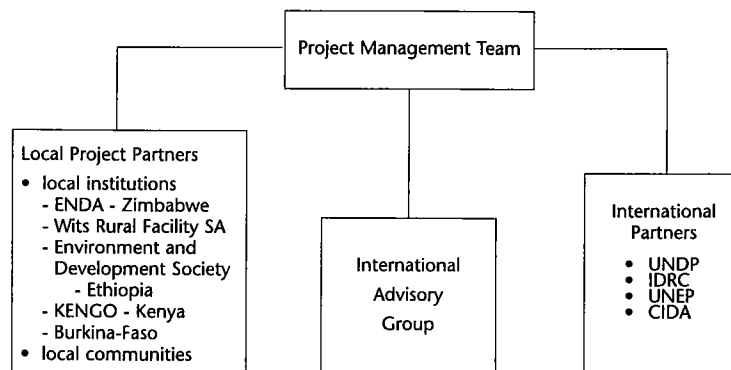
- Meeting with the research team, assisting them to solve conceptual problems at the outset, approving site selection, and attending initial community meetings;
- “Course correction” visits in mid-stream, to share experiences of other project sites, to assist the team address difficult issues (e.g. problems of operationalizing of concepts, techniques for gathering information, initial identification of policy issues); briefing of policy researchers;
- Reviewing preliminary syntheses prior to the synthesis workshop in order to ensure consistency of approach.

These on-site tasks might be undertaken by an institution which has regional capability, or vested in an international project coordinator based in the sponsoring institution. Again, much depends on the style and resources of the sponsoring institution, and its regional representation. If a strong, capable and committed regional institution can be identified to which can be delegated an effective coordinating role, this could be preferable for the same reasons as those cited in Stage 1 above.

The actual structure of management will again depend largely on the style of the sponsoring organization, but several points should be borne in mind:

- In a project promoting participatory development, it’s consistent to have a participatory management style;
- A considerable amount of discretion should be left to the Local Project Coordinator (LPC), a key figure, regarding how best to produce the required results, as there will be wide variations between and even within countries; the role of management should therefore be supportive and responsive rather than directive;
- Many developing country NGOs are severely under-resourced in personnel, finance and equipment; communications and logistics are likely to be a major problem in many sites and countries; therefore the costs and time frame of the project should be sufficiently realistic to take this adequately into account;
- The management and budget arrangements should be thoroughly and openly reviewed at the first workshop (Stage 3).

Figure 5: Management structure of IISD project



IMPLEMENTATION ARRANGEMENTS

The key managerial relationship in project execution is therefore the regional or international project coordinator (RPC) and the LPCs. The RPC should manage the implementation of the project at national levels, liaise with LPCs, monitor progress and synthesize policy reviews from

the five participating countries. Sufficient time and resources should be made available to allow for substantive coordinating site visits during research by the international/regional coordinator.

It would be excellent if provision could be made for LPCs during the field research period to visit one or more other sites in order to exchange experiences and gain ideas. Terms of reference for the LPCs in the IISD project are reproduced at Annex IV for reference purposes.

Within each country the Local Project Coordinator is responsible to the sponsoring agency for the design and conduct of the research, the management of the in-country research team or teams, the local budget, and the quality and timeliness of the outputs. The LPCs are the lead researchers who should work directly in the field with other researchers and the community; and must reside within the community together with team members for the duration of fieldwork. It is expected that this will be a formal contractual responsibility. Delegation at this level would be inconsistent with the thrust of the project.

Duration or time scale

Finally, we turn briefly to the time scale of the project. It is only possible to give an informed guess of the time each of the stages would take. Much will depend on the scope of the project, the countries selected, the level of project funding, logistics and infrastructure. The estimates below are for duration, not working time. The sections which follow give some foundation for these estimates, which are very general.

For duration, we mean the time span of the project from start to finish. It is unlikely that a single country project could be completed satisfactorily in less than a year, and 15 to 18 months time span could be more appropriate. An absolute minimum period of six months seems necessary for fieldwork (it does not have to be continuous or full time during that period). There is however a strong case for allowing fieldwork, even if its total duration is only eight weeks, to spread over the span of one complete annual agricultural/pastoral cycle, so as to capture the range of activities and challenges faced by people. As will be emphasized at several points below, there are many dangers in rushing or truncating the field study aspect, and in overburdening the communities concerned with an external time-table. Therefore, for the entire multi-country project an overall time-frame of two years from start to finish would not be unreasonably high, with the expectation of three to five years follow-up implementation activities as a second phase. It is not recommended that any project undertake more than one major ecosystem type at one time.

- | | |
|----------|--|
| Stage 1: | Scope project, preparation, concept papers, procedure document 2 months |
| Stage 2: | Select countries, Implementing Agencies (IAs), sites 3-6 months |
| Stage 3: | Workshop: Ensure common conceptual framework, approve work plans 1 week |
| Stage 4: | Conduct site studies, country policy studies; program management visits 6-12 months |
| Stage 5: | Workshop: Preliminary outputs: quality control, comparisons, syntheses 1 week (note need for lead time to circulate and review documents) |
| Stage 6: | Produce and deliver direct outputs; community and national workshops 1-3 months |

Impact Evaluation after 6 months.

Follow-up projects to support adaptive strategies 3-5 years.

This suggests that the overall time scale should be of the order of two years from project inception to delivery of outputs. Critical path analysis would allow this time to be reduced, but

unanticipated delays would tend to extend it, suggesting that the two influences would cancel each other out.

The initial project scope and design, together with profiles of NGOs interested in participating, should be encapsulated in a project document. It could be useful in the preparation of such a document to solicit inputs from the advisory body and also from those NGOs or others who participated in the IISD project, in order to benefit from their experience. Such a document should still have flexibility at this stage, allowing for substantial review and inputs from the implementing agencies through the first workshop (Fig. 4, Stage 3) by which time it would have to be frozen. The example of the IISD research protocol is reproduced as Annex III. Such a document should be accompanied by background literature.

3

Project Set up

This chapter covers the second and third stages of project implementation in Fig. 4, namely the actual selection and initial preparation of country implementing agencies, projects, research sites and work plans. The third stage ends when individual country work plans are approved and contracts or agreements made to begin the main stage of research.

Country, site and implementing agency selection (Stage 2)

A sponsoring or funding agency might well have definite prior ideas about the choice of countries in which it wishes research on adaptive strategies for sustainable livelihoods to be conducted, and of the agencies which it wishes to engage to undertake that work. Alternatively, agencies might wish to use their own networks and methods such as in-country surveys to select project implementors. But if flexibility is possible, there is much to be said for building into stages 2 and 3 a competitive tendering process for interested NGOs. Thus the sponsoring agency's project document and background materials would be circulated to potentially interested NGOs, agencies or organizations, together with guidelines or a pro-forma for a country project proposal and an invitation to prepare a country project proposal with budget and time-frame. Local project budget guidelines or budget forms should be supplied.

Such a procedure allows local design of country projects within the overall rubric, leading to greater relevance to the specific situation and to greater practicality of implementation. Organizations that prepare proposals of sufficient merit, explaining what sites they have selected, by what criteria, and how they would conduct their research, and how their outputs would be used, together with a satisfactory agency profile, could be invited to present their proposals for review at the first workshop. At this workshop a jury, perhaps the advisory group, selects projects for funding.

Such a procedure would also give the sponsoring organization the opportunity to select country projects on the basis of individual merit and also create a "best mix" of different countries and sites that would contribute to the overall project objectives.

Scoping out a country study, and selecting a proposed research site are not trivial exercises, and it is possible that two or three different sites in a country, perhaps quite remote, will need to be subjected to a brief reconnaissance survey in order to determine their suitability. Serious consideration should be given to providing some resources up front to enable NGOs to undertake site selection and hold a preliminary local workshop. Modest financial resources for the purposes of local project preparation could be awarded possibly on the basis of a first submission of a country issues paper that also addresses the criteria of area and site selection, based on literature and existing field knowledge.

Within the broad area selected because of its specific characteristics, the choice of sites for actual field work is a matter for local judgment in the light of such considerations as access, available documentation, previous experience, and the time expected to ensure community involvement. The size of the site is also determined by local characteristics, but most important is the certainty that it is broadly representative of the larger area.

Five key characteristics are critical for area and site selection; these are:

- **Presumption of adaptive strategies.** There must be some basis for a presumption that adaptive strategies exist that can be identified and described, and that will prove useful for an analysis of routes to sustainable development.
- **Coverage of problem.** This is the most important consideration. The project aims to cover as wide a range as possible of ecosystem conditions, vulnerabilities (pressures, change, challenges etc.) and adaptive strategies. Typologies and key variables may emerge during the initial scoping stage that can be presumed to be significant for understanding adaptive strategies. For example, in ASALs one of the most significant variables is the agricultural-pastoral continuum, and so it is important to select sites representing various points along that continuum, sufficiently far apart to show major distinctions. For the IISD project in the Borana area in Ethiopia a total of six villages or hamlets were selected, three from a more agricultural neighborhood, and three from a more pastoral one.

- **Representation.** The communities selected for field work must be sufficiently typical of a wider situation that they can serve as a meaningful case study. Although every community has its specificities, there are some broad things in common which should be sought: (a) internal features, including values, beliefs, practices and local institutions (i.e. the cultural equipment a community brings to bear in managing its ecosystems and livelihoods); demographic variables; local economies; degree of privatization or appropriation of resources; and (b) external pressures which we will have to bundle broadly. They might include, for example, extent of market integration, alienation of resources, government regional policy (isolation/ repression/ integration/ investment). These are just examples. It will be difficult in any one country to draw solid conclusions from two different cases where several possibly independent variables are involved. This is where the literature review and policy issues paper come in—to capture the larger picture.
- **Logistics.** Rural research areas are often by nature difficult of access, and people may be widely dispersed. Some logistical challenge is a good thing and helps to offset the danger of “tarmac research”. But too ambitious a logistical challenge involving many remote sites in one country, would reduce cost-effectiveness.
- **Social access.** The ease with which the research team can gain the trust and confidence of the people is a consideration which affects the selection of the NGO as well as the site. The more generous the time allowed for site selection and overcoming suspicion or hostility, the less restrictive this criterion will become.

An additional advantage can be gained by allocating generous time and adequate resources to enable NGOs to undertake preliminary studies in stage 2. The project documents, and the ideas, hypotheses, concepts and terms they contain, may appear perfectly clear to the writers in metropolitan countries. They may appear on first reading to make perfect sense to prospective researchers in a given country. But when those same readers sit down (or better still, travel out) to test the concepts in a particular field situation, that which had appeared simple at first reading can become quite problematic in real life, particularly where the need for local translation forces precise thinking. Collective discussion of problems at an early stage, first within country teams (stage 2), and later at a combined workshop (stage 3), can help to refine and point out concepts, expose ambiguities, and serve to make productive the crucial fourth stage of the project (the substantive field work and policy research).

In-country preparatory work should include the identification and mobilization of key national-level stakeholders and identify preliminary policy issues. For example, the Ethiopian study prior to field-work revealed a significant policy opportunity, namely a recent active process of decentralization and responsiveness to local initiatives on key livelihood issues such as land tenure and management, particularly in relation to pastoral peoples. Similarly, the recent dramatic changes in South Africa at the national political level opened a window indicating the appropriateness and timeliness of the kind of research proposed.

Equally importantly, allowing sufficient time and resources to the second stage of the project provides the opportunity for the lessons of any negative learning experiences to be assimilated at an early stage, when corrective action can be taken, rather than later in the project when the consequences would be more serious. Actual examples of negative learning experiences in an otherwise successful project are given in Table 7, showing that even highly experienced and intelligent researchers can be taken unawares by the local situation.

Table 7: Examples of problems encountered

- **Ethiopia:** extremely tense local politics and military situation: research team threatened with death if they returned to one of the sites originally visited.
 - **Ethiopia:** more time for negotiation over site and interpretation of ecosystem criteria could have allowed greatly improved logistics and minimized language problems.
 - **Burkina Faso:** original sites selected were too similar; proposed second site would have added little to knowledge gained from first site, leading to selection of a new second site.
 - **Burkina Faso:** prior visit to one site could have identified conflict resolution as a key entry point to adaptive strategies.
 - **Zimbabwe:** Local boundary dispute and illegal gold mining impeded identification of suitable adaptive strategies: this was realized too late to change site selection.
-

First workshop (Stage 3)

The third stage of the project is a workshop, the overall purpose of which is to ensure that, by its conclusion, LPCs are contracted and fully prepared to implement the research project in their countries on the basis of an approved project proposal, work plan and budget. The workshop should demonstrate the very considerable value of “cross fertilization” between participants of different countries, quite independently of the formal facilitation and organization.

Prior to the workshop, therefore, the advisory group or jury should have agreed the criteria for approval of country submissions, reviewed and short listed the proposals they wish to have presented at the workshop. Alternatively they could make a definitive selection prior to the workshop, with a view to inviting to the workshop only the successful applicants.

It will also prove useful to determine in advance as far as possible participants’ needs and expectations in relation to project execution, and to the amount of time in the workshop that they think will be required in order to address those needs. After all, it is the participants who will be responsible for implementing their country projects once the workshop is over.

This workshop could therefore consist of the following components:

- **Introduction:** key personnel (sponsoring agency representatives, international or regional project coordinator, advisory group members, LPCs or prospective LPCs) and overview of project; workshop agenda and objectives;
- **Country project proposals:** presentation, peer review and advisory group or jury review of outline work plans and budgets; (if not done earlier, jury selection of successful proposals which, when approved in their final, revised form, become part of the contract concluded at the end of the workshop). Unsuccessful short-listed applicants can now go home. If the selection process was done well, it should have been an educative experience for them. The workshop continues with the successful applicants;
- **Concepts and research questions:** review and clarification of ensuring sufficient consistency of approach and outputs across countries to allow subsequent policy synthesis and meaningful comparison;
- **Outputs:** agreed definition of outputs and timing;

- Methodology and implementation: detailed treatment of operationalizing of research questions at country level, including country team selection and in-country management, work plans and budgets;
- Problems: review of problems and concerns raised by LPCs;
- Management: agreement on overall coordination and management structure, TORs, scheduling of regional or international project coordinator visits to projects;
- Contracting of successful projects and workshop evaluation.

In addition, there is the “hidden agenda” of ensuring collective morale, confidence and an esprit de corps among the participants, and ensuring cross-fertilization and sharing of ideas between country projects.

This is a fairly full agenda, and it is unlikely that even with thorough advance preparation this workshop could be concluded in less than a working week. The remainder of this section will deal with issues arising from the above points in order.

Selection of participants

The key participants in this workshop are the LPCs and the RPC, who together must ensure the successful implementation of the project. It is extremely important that LPCs, who will direct and coordinate the project in their own countries, attend the workshop in person. To fail to ensure this essential continuity between hands-on guidance of the country study and inter-country expert consultation risks loss of focus at country level, and loss of coherence in the project as a whole, particularly through the danger of “slippage” in key concepts as they are applied in the field. Elaboration, refining of terms and concepts and their relationship is an activity which will take place during field work, analysis, writing up and sharing of results. But it must start from a basis of common understanding.

It is for the sponsoring organization to decide whether the workshop should include only successful applicants following jury decision, or whether it should include final selection round for all short-listed applicants.

In view of the importance of the linked policy analysis, it would also be very helpful to secure the attendance of the lead policy analyst for each country project. This helps to promote integration between the policy analysis and the field study, and helps avoid the danger of “slippage” of key concepts as the project evolves. Additional useful inputs could be made by inviting selected project coordinators or other personnel from countries that participated in the IISD project to share their experiences, and perhaps build them into a role so as to advise and assist other countries in the conduct of their projects.

Country research proposals and work plans

The country research proposals to be discussed, revised and finalized at the workshop could contain the following main components, preferably in about 10-15 concise pages.

- **Statement of the problematic** as applied to that particular country: e.g. in the case of ASALs, the extent of ASALs in the country, the main ecosystem problems, the main problems relating to sustainable livelihoods in those areas; an indication of the size of the problem nationally (area and numbers of people affected; severity of problem). Brief statement of the relevant stakeholder and policy matters. Brief statement of the state of “contemporary knowledge” and how it will add value to local knowledge.
- **Statement of the research area(s) and site(s)** selected and their representativeness; results of preliminary reconnaissance; background and thumbnail of the area’s ecosystem, social and micro-economic characteristics; indications that adaptive strategies may be identified that may lead to or promote sustainable livelihoods; proposed sites, including sketch map(s); risks and alternative sites.
- **Major questions** about adaptive strategies and sustainable livelihoods that the research will answer. There must be a sense of structured investigation and realism here. The

proposal should (a) clarify the key variables to be investigated; (b) identify knowledge gaps; and (c) prioritize these gaps that are most important to fill. Note that it is very likely that participatory research in communities will throw up additional variables for investigation that had not been thought of at the outset.

- **A preliminary rapid literature review** to identify policy issues, extent to which major questions can be answered from literature, areas for particular field investigation.
- **Field methodology**, including preparation of the community for the field work. This includes not only formal permissions and clearances, but some thought given on how to translate the central project concepts of “adaptive strategies” and “sustainable livelihoods” into terms and concepts readily understood by local people. Formal protocols and informal requirements (e.g. support from locally influential people) required for field research clearances and the extent to which these have already been satisfied. Rationale for mix of research methods selected that are most appropriate to generating information in a cost-effective way. Team training in participatory methods where required (some team members, particularly those with technical or natural sciences backgrounds, may need systematic exposure to the logic, methods and styles of participatory research methods, and adequate time to become proficient in their use). Entry points into communities. Indication of how field methodology is likely to lead to answers to major questions. How the community will participate in the research and why they should wish to do so.
- **Brief statement about how policy issues** arising from the fieldwork will be researched, and how close links will be maintained with the findings of the field study. Identification of authors, process of identifying issues for research, forum for dealing with conflicting stakeholder issues (e.g. national or regional seminar to finalize and present policy response; advocacy issues).
- **Identification of the interdisciplinary team** to undertake the research (an annex could encapsulate the organizational and individual credentials and relevant experience) and a brief statement of in-country project management. How different disciplinary investigations will be combined.
- **Work plan**, including a statement of the overall strategy for sequencing or linking research, particularly where more than one site or area is involved. For example, sites could be studied in parallel or in sequence. Careful thought must be given to maintaining the policy study-field investigation link. Timetable and key benchmarks linking with project at international level, e.g. visits from international coordinator, workshops or meetings to share and compare results. Work plan for use/dissemination of policy outputs in-country.
- **Outputs** (local and national) and use of outputs. How local communities will benefit from the project and own the results. Prospects for resourcing follow-up (targeted community development initiatives to strengthen adaptive strategies). Use of policy outputs.
- **Indicators** of sustainable livelihoods, particularly those that can be measured at community level.
- **Budget** (include agency guidelines for format).

Even after selection of the country project, the work plan will not be a final document. During the workshop there will be a need to approve the specific research sites selected, to review the timetables and activities in the light of the overall project budget, the logistical requirements of the international coordinator, and the second workshop. More importantly, flexibility has to be a built-in requirement of any project that will draw on community time, as it has to fit in with their calendar of expected and unanticipated events. Also, generous time must be allowed for community preparation, unless this has adequately been taken care of in the course of country proposal preparation. At the same time, flexibility cannot be used as an excuse for an organization’s under-performance or poor use of time, and the work plans and timetables need to be kept constantly under review in respect of ensuring critical paths for the project as a whole and the need to generate timely outputs for the communities. In maintaining this balance, error should be on the side of generosity of time: more is to be lost by rushing a project than taking it at a measured pace. The person-days of work time in the budget may be constrained by

budget realities; but the span of time over which these days are expended should be generous enough to allow for unanticipated events. There is little logic in forcing a “participatory” project into the artificial mold of organizational financial years.

Topics for research

The central portion of the first workshop should deal with what should be investigated, what major questions are to be asked, and how these will be actualized in the field investigations and the policy study. Although this topic will have been addressed already in the project document circulated to all participants, and in the country project proposals, the workshop provides an opportunity to think through these questions collectively in light of the countries and sites selected, and the LPCs will have a major opportunity to comment critically on their own first formulations and those of their colleagues.

In order to guide thinking on this topic a general research schema for field investigation follows, based on experience in the IISD project. The schema is presented as the outline of a general initial output report document. (See Annex III for the actual IISD Research Protocol document for ASALs in Africa.) This research schema should be seen as a check-list to assist other projects to prepare their own, according to their needs and circumstances, and is not intended to be adopted without change. Later chapters deal with the policy aspects of the country study and the integration of policy issues and field findings, and with the nature and structure of the actual outputs.

The context of adaptive strategies

An introductory section will describe the problem, with a brief reference to the ecosystem or set of ecosystems; the societies and set of communities selected for study; and an indication of the importance of the problem nationally. The first main section will describe and analyze the historical background and macro-policy context in which communities exist and function. This section will largely be based on existing literature, but may be supplemented by interviews with appropriate individuals as key informants.

The historical context is necessary because the concept of adaptive strategies requires a sense of change over time, both in pressures and in responses. The depth of time to be covered will vary with each country and situation, but the more recent past—the last few decades—are of critical importance. History for the sake of narrative is not useful: it will be important to instead analyze and explain change over time in relation to the ecosystem types selected. The key question to address is what kinds of ecosystem, socio-economic and political changes have taken place in the country as a whole, affecting the study area? What are the signals and indicators of such change?

- **Ecosystem indicators** might cover such matters as agro-ecological zones; climatic variables including rainfall patterns and major droughts; soils status; extent of desertification; siltation rates; vegetation types and cover.
- **Socio-economic indicators** might cover such matters as the nature of enterprises; income sources and their distribution; migration and other demographic factors; employment; human health indicators (e.g. mortality rates); animal health indicators; rights, including grazing, land-tenure, tree tenure and land-use.
- **Political indicators** might cover topics such as the nature of government; the extent of centralization and decentralization of political authority (i.e. local self-government); system of procurement of goods and services including trade, financial flows to communities.

The macro-policy context should address the key question: What national and international policies, i.e. agricultural, economic, environmental, social, currently impede or facilitate the achievement of sustainable livelihoods? It will be important to show how the effects of these policies are transmitted to local communities. These matters are dealt with in Chapter 6.

Community profile

An initial introductory section will describe the wider society represented by communities or sites selected for field work. This section, for example, could specify its size (density, size of territory), nature (ethnicity, agro-pastoralist vs. pastoralist), migration patterns and relationships with other communities. It should also indicate the process and reasoning for site selection.

It would be useful at the outset to attempt to develop a model of dominant livelihood sources—agriculture, livestock, hunting, gathering, collecting—and estimate their current importance, and their contribution to community and household wealth (cf. Fig. 2). The dominance is likely to vary with individual household socio-economic status.

The key question here is what local changes have taken place that by way of pressures, stresses, opportunities or other changes could have stimulated adaptive strategies? This question is to be answered by empirical research, making extensive reference to community knowledge and perceptions. The historical time depth will be as far as community members can recall. A brief explanation of the mix of research methods employed would be useful at this point. Where local perceptions are significantly at variance with “contemporary knowledge”, some discussion may be required to explain the ambiguity, and if possible to resolve it. For example a government destocking scheme might be justified by livestock or rangeland specialists as being necessary for good land management, and deeply resented by the local community as unnecessary and exploitative. The study might lend support to one position or the other, or define a third position.

Ecosystem, socio-economic and political indicators may as appropriately follow those used in the context section above. But in addition, specifically local indicators of change could be useful. These could include:

- **Ecosystem indicators for livelihoods:** biomass, range of plant and animal species, and water available for humans and domestic animals. How do people recognize stress and shortage, and adequacy? What indicator species are used? What indicators do people use of ecosystem health? What are the seasonal and inter-annual variations on vegetative cover? What changes have taken place over time? what are the coping strategies?

Table 8: Local ecosystem indicators

This set of questions should seek to capture a range of variance—there is probably no such thing as a “normal” year. Care also needs to be taken to set the recent past against longer term historical change: for example, rainfall patterns in the 1920s and 1930s were significantly lower throughout much of southern Africa than in the 1950s and early 1960s—yet seeing the latter high rainfall period as “normal” has strongly influenced people’s perceptions of drought and irregular rainfall in the 1980s and 1990s.

- **Socio-economic indicators** of stress, change and opportunity, could include infrastructure, credit, labour; incidence of animal disease; commodity markets—links to foreign markets, procurement, zoning and other restrictions.
- Common property management institutions. These are often of great importance in adaptive strategies. How have people managed and allocated rights to land, water, forest and forest products? Issues to consider include boundary rules, resource allocation rules, and mechanisms for conflict resolution and enforcement (sanctions). An example could be traditional institutions of managing quarantine as opposed to modern quarantine rules which restrict the free movement of livestock.

Table 9: Local technical knowledge

It has been suggested that weather prediction is one of the most important technological needs of communities. Are meteorological forecasts available to them? What are the traditional methods of weather prediction?

The Burkina Faso team discovered and for the first time documented a network of traditional astronomers possessing a detailed, esoteric, and completely indigenous knowledge of sidereal cycles. This knowledge was passed down from father to chosen son. The specialists were consulted by people over a wide area for advice on when to plant.

- **Values, beliefs and practices.** What are the values, beliefs and practices of communities which support or impede adaptive strategies? What relevant cultural changes have occurred over time and how have these impacted on values and livelihood systems? It should be recognized that values, beliefs and practices are dynamic. In some instances beliefs may not be translated into practice and in others merely used for convenience or as excuses.
- **Technological innovations.** Identify and describe local technological innovations such as water conservation or soil stabilization.
- **Possible indicators of sustainability.** These will vary greatly by location and situation. We can only suggest some general examples of trends over the medium or long term (say 5-30 years) that show whether livelihoods are sustainable, and what is happening to the quality of life. Examples are trends in infant mortality in relation to national trends; trends in chronic malnutrition in relation to national trends; trends in water quality; degradation/maintenance of productivity of common lands; composition of household income and trends in household/hired labour; shift in composition of household expenditure on standard categories—food, fuel, water, shelter or education. Local indicators are useful here: problems associated with their collection and measurement are dealt with in a later section.

Table 10: Some indicators of sustainability among pastoral peoples

- Network resilience: i.e. How well do household herds recover after crisis such as disease and drought? (depletion and replenishment cycle in response to perturbation). Note that this may not be necessarily sustainable.
 - Time and energy spent on meeting basic needs.
 - Change in age and sex composition of community. Note the implications for those who tend the cattle and the distance covered in cattle herding.
 - Herd size to family size ratio, e.g. six head per household of a six threshold level.
 - Shift in size and composition of herd. (Major increases, for example, in sheep may be unsustainable.)
 - Trends suggestive of reduction in carrying capacity, e.g. depletion of groundwater table (note that long-term hydrological cycles have not yet been determined.)
-

- **Community responses to stress, pressure, opportunity.** The following questions are examples of more general questions which frame the context within which adaptive strategies have emerged.

What has been the impact of ecosystem, socio-economic and political changes on livelihoods in the study area?

What are the demographic, socio-economic, cultural and political responses (adaptive strategies) of communities to these changes? Are there differential responses between men and women, old and young, etc.?

What informs these responses—“traditional” or “contemporary” knowledge and practices or the integration of the two; internal and external technological innovations?

Have these responses led to sustainable livelihoods? Do they have the potential to lead to sustainable livelihoods?

What kinds of interventions (communication and outreach strategies, technological innovation etc.) are needed to enhance communities responses so that they lead to sustainable outcomes?

What is the process by which communities and external change agents integrate contemporary and indigenous knowledge in pursuit of adaptive strategies that lead to sustainable livelihoods?

Adaptive strategies that lead to sustainable livelihoods

This section will describe the adaptive strategies that have been identified and assess their importance for sustainable livelihoods and policy matters. The following questions may help to identify some key points:

What economic, ecological, social, cultural, political environment contributes to the evolution of successful adaptive strategies (best practice)?

To what extent does this environment impact positively or negatively on poverty alleviation, employment generation and social cohesion?

What indicators can be used to measure progress towards sustainable livelihoods?

What role can external agents play in developing indicators and reinforcing adaptive strategies?

What kinds of policy changes are needed to support the evolution or enhancement of adaptive strategies that lead to sustainable livelihoods?

What inputs from “contemporary knowledge” would be of value to strengthen adaptive strategies and how would they be used?

How can knowledge of adaptive strategies be assimilated into contemporary knowledge, thus legitimizing local knowledge?

What practical steps would be of most value to the communities studied to reinforce adaptive strategies that can lead to sustainable livelihoods?

Follow-up and interventions

It would be useful and responsible for the country teams to identify some modest practical and cost-effective interventions which they can see will make a difference to the success of adaptive strategies in the communities where they have worked, in addition to the policy reforms. Although participatory research should be conducted in such a way as not to raise unwarranted expectations of immediate practical benefit, most responsible local organizations with a development commitment will wish to follow up the research with some practical implementation. If it is outside the mission or guidelines of the sponsoring organization to support practical follow-up to policy recommendations with local initiatives, this should be

made clear at the outset, and the local organization can then explore with the community how and where resources might be sought for follow-up.

Research methods

A statement of field methods, and also lessons learned from successes and failures, should be included. The methods are discussed in a later section of this chapter and in the next chapter.

Conclusion of workshop 1

Does this lesson from the South African team (Gear et al. 1995) deserve to be engraved on the walls of every field research institution? "Never go into the field until definitions are clear and until the instruments for measurement are well understood and developed." It is certainly a useful caution, and one based on experience. But it is important not to take it too far. To go into the field with too rigid a set of conceptions of what one expects to find is to put blinkers on the investigator. A contrary aphorism might be derived from the insightful autobiography of Jan Vansina, one of the grandfathers of African fieldwork to the effect that "Go ye into the field with a persistently enquiring mind (and some linguistic skills), and the picture will be revealed" (Vansina, *Living with Africa*, 1994). There is clearly a need to have everybody on board with regard to the central concepts. Confusion over what the research is really about will have a damaging impact on fieldwork, especially team work. But central concepts are not holy doctrine, and given sufficient initial understanding, the realities of the field will take precedence over previous intellectual constructs, and help to define and shape these concepts.

It is important, therefore, that sufficient lead time be given to absorb the concepts so that workshop participants feel ready to engage in the fieldwork. These are: Adaptive Strategies, Sustainable Livelihoods, Policy, and Contemporary Knowledge or similar label.

Once the research questions and procedures are determined and encapsulated in an agreed document or protocol, contracts should be signed. Presumably the funding organization will have come to the workshop armed with pro-forma contracts and bank drafts so that the eager and ready participants can get back to the substantive field work and policy analysis to which we now turn our attention.

4

Preparing for Participatory Research

*"If you can't explain to the cleaning lady what you are doing,
then you don't know what you are doing".*

*[Lord Rutherford, to his atomic fission
research team at Cambridge, ca 1943]*

Lord Rutherford was an eminent nuclear scientist, but also a plain-spoken man who, from his New Zealand farming background, knew how to count a cow's teeth. His quote illustrates the responsibility of the country research team to find ways of effectively bridging the gap between rather abstract environment and development concepts on the one hand, and the realities of the lives of the poor of the developing world's rural areas on the other.

By this stage, the country project proposal is approved and funded. This chapter is the first of three dealing with the fourth stage of the project, the conduct of the research. It takes us through the practical steps of project start-up prior to the actual beginning of field research, and covers the preparation of teams; the literature review; the selection of field methods and tools appropriate to the investigation, the preparation of the community and entry points, and the development of indicators.

Preparing the research team

Table 11: Interdisciplinary country teams

The IISD project South Africa team consisted of an anthropologist and two research assistants residing in the village—the “core team”—supported by visits from the remainder: a medical doctor, an ecologist, an engineer and a water ecologist. Local people were employed as fieldworkers and contributed much more than just an interpreting function. The Ethiopia team among the Borana was led by an anthropologist/sociologist, a livestock expert, two extension agents and a translator; the Afars team was similar, with the addition of a video camera operator.

The constitution of the country research team under the LPC should reflect the multi-disciplinary nature of the research, and should include expertise in sciences related to ecosystems as well as the social sciences. The constitution of the policy team is discussed below in Chapter 6.

The inclusion of appropriately skilled local community members on the team is a considerable advantage. It is also highly desirable that a sufficient number of the team be fluent in the local languages. It is absolutely essential that there is the ability to translate concepts such as “adaptive strategies” into common, everyday terms readily comprehensible to local people. If it is impossible to find a sufficient number of researchers who can bridge the academic/intellectual/scientific side and the popular communication/listening side, the LPC should consider instituting a “buddy system” which pairs a local community member (e.g. school-teacher or adult literacy educator, progressive farmer, nurse) with an outside researcher. Such community co-operants should be adequately rewarded for their time and effort, which can be considerable.

It is important that the country team function in the field as a team. The following steps for a first meeting would appear useful:

- A debriefing for the country team by those who attended Workshop 1, particularly on issues that would affect the research design and method;
- The preparation of a more detailed field strategy;
- field protocol: agreement on a process of regular (even daily) interaction so that daily knowledge objectives are prioritized, check lists made, possible methods agreed, and evening reviews held to assess progress and lessons learned.

Table 12: The first meeting on field strategy

The preliminary meeting on strategy should discuss how to integrate the policy study with the field work: whether they run in parallel, or the policy study follows the field-work, or there is partial overlap. This matter is discussed in Chapter 6.

- In order to maintain team coherence, an agreed discipline for the orderly documentation and co-ordination of materials produced in the field; with particular attention to local intellectual property rights and community ownership of knowledge and product;
- On-site training in participatory research to systematically re-orient those team members accustomed to a more top down investigative approach. The institution of an observer/“shoulder tapper” role is useful—a rotating position whose incumbent is charged with watching the field behavior of the team and correcting inappropriate and especially overbearing or overly-directive behavior;
- Regular team meetings should review overall progress against the research protocol and principles, and engage in honest self-criticism.

This is a good time for an initial brainstorming on what adaptive strategies may be expected to be documented in the field, and to create awareness of the range of strategies that may be found in a single community differentiated by wealth, gender, age and possibly other significant discriminators. It is also a good time to review the key variables and what may be significant indicators to look for.

Table 13: Some process tips for the field . . .

It is difficult to keep the balance between process and product. Ensuring an appropriate participatory process, and at the same time ensuring enough direction to keep the research focused on the task at hand, is a skill best learned in the field with an “old hand”. Some of the process tips are:

- Constant awareness of process, mutual reflection and learning.
 - Minimum team of three: animator/facilitator; recorder of product and process, “shoulder-tapper”. The latter observes and does process course correction. Swap these roles as time goes on.
 - Mind your body language.
 - Fieldwork is an open ended process, evolves naturally.
 - Make daily knowledge objective check lists for the team members, and cross off things as they are achieved. Review regularly.
 - Don’t rush people, but do facilitate and help when they ask you.
 - Give the self-appointed local leader an identifier.
 - Hand over the stick: let them take charge of the process.
-

This is a good time to destroy a fundamental misconception that is unfortunately all too common. Participatory research does not consist of persuading people to undertake a series of predetermined exercises. The point of the exercises is to demonstrate that community members can communicate their own wisdom and understanding in metaphors that are meaningful both to them and to the researcher, to bridge a communication barrier, and to promote techniques that can generate a lot of information quickly, efficiently, and enjoyably. Once in the field, the team can operate in quite a fluid and responsive way, and roles can change. Some participatory research activities can be done quite successfully with one or two community participants. Other exercises are better done with larger groups. At least several members of the team should be sufficiently familiar with PRA techniques to use them creatively. Others can learn on the job.

There should be a frank exchange of views among team members about the most cost- and time-effective way of filling the knowledge gaps; of the difference between validity and numerical accuracy, of the points at which quantitative information is required and of the best way to get it; and of the “knowledge sharing” and empowering aspects of the research as contrasted to procedures designed purely to extract information. The team should also be prepared for frank and open discussions about ethical questions of research which are bound to arise—they certainly have done so in several of the projects so far.

Literature review

“Literature” is used in its broadest sense and really means survey of sources available in the contemporary knowledge system. It is supplemented by selected key informant interviews.

It is strongly recommended that literature be handled in three phases, but this depends to some extent on what is already known:

- **Phase I: A rapid overview**, to determine broadly what we know and what we don’t about the issues in this particular country. This involves an inventory of the major categories of materials (books, articles, air photos, maps, “gray area” development project documentation; statistics; government reports, central and local, central and local archives). Note that statistics can be held in a number of different places and that best place to get disaggregated statistics is often the local site (e.g. clinic, school, church) where sometimes records are surprisingly well maintained. Check for large-scale maps: these are particularly useful (especially census enumeration maps), and unique gems are sometimes found in the offices of district government officials. Beware in community level research of arguing from the general to the particular when using small-scale published maps, especially thematic maps like soils, precipitation, vegetation which often interpolate scattered and uncertain data.
- Use this stage to establish key questions for policy research and for the field team.
- **Phase II: A substantive review** while the fieldwork is going on. There should be two way communication if possible between the field team and the literature team. The key aim here is to analyze, synthesize and demystify formal knowledge on the topic for sharing with community and to feed issues into the policy paper.
- **Phase III: Backcasting** is to be done at the end as gaps are identified during report writing. It is also done in the field if logistics and time permit.

A hypothetical example of how the rapid literature review brings out issues for policy and field research is shown by Tables 14a-d.

Table 14a: First definition of livestock policy issues (proposal stage)

- Livestock and veterinary policies (movement of animals, vaccination, dipping, destocking, marketing policies and institutions, extension services, tsetse control);
 - Land use (including reserves), zoning, and regional economic policies (importance of meso-level);
 - Agricultural marketing and pricing;
 - Economic policies affecting demand for agricultural/pastoral products and changing urban-rural terms of trade;
 - National language and cultural policies, transport (roads); Response to emergencies, drought relief, etc.
-

b: Preliminary findings from literature summarized

(Note unpopular destocking policy from the 1930s and failed policy on hybridization 1953-1959.)

Controlled livestock marketing through government institutions from 1936 increasingly ineffective, abattoir 1942 - 1951, subsequently marketing decontrolled. Private buyers dominate, but highly irregular. Key informant X indicates much illegal selling through commercial farmers, prior to this. Tsetse control strategy ranged from bush clearance (1930s) spraying (1950s and 1960s) but collapsed by 1975. Literature does not indicate how people responded to these changes, but we know that livestock marketing has been a key source of income. Get local histories of animal disease outbreaks and response, also local remedies for livestock diseases.

c: Questions for policy research arising from literature review:

- What livestock policies and interventions are most appropriate as government policies have largely failed?
 - What livestock/pasture management and off-take rates and methods are required to ensure ecosystem sustainability?
-

d: Questions for the field arising from literature review

- What is the minimum sustainable family herd size and composition?
 - What implications does this have in relation to the area's total carrying capacity?
 - What implications does the total carrying capacity have on size of family holdings?
 - Explore gender aspects of livestock, as literature is silent on this.
-

Key informants interview

Key informant interviews of people not necessarily living in the community should accompany the initial rapid literature review of major issues and questions for field investigation. This is a level of analysis closer to the “contemporary knowledge” paradigm than information obtained in fieldwork from local key informants.

Here is a hypothetical example: Out of a list of 25 prospective informants we choose five: a priest who lived in the area for 35 years; a university lecturer who did a year’s field research in social anthropology; a woman who did a nutrition survey; a government district officer who was posted to the area, and a hydro-geologist who did a groundwater survey. These five interviews will save us an enormous amount of time.

Following the literature review and key informants interviews, the team should meet to identify key knowledge gaps and prioritize those on the basis of relevance to the project as a whole.

Selection of field research methods: an overview

Selection of the mix of methods to use in the field is entirely contextual, a matter of informed judgment for the research team. It depends particularly on the nature of the information one wants to acquire. To be avoided at all costs is the approach, all too often encountered, that participatory field methods involve a set menu of standard activities: “we must do a resource map, then a wealth ranking, then a problem analysis.” Therefore the research team must first determine what they want to know, and select methods most appropriate to filling that knowledge gap.

The four key principles on which research techniques should be selected are:

- Cost effectiveness (with time as a major cost)
- Validity
- Appropriate precision
- Ownership, participation and empowerment (not necessary in many projects but important for this one.)

Table 15: Mix ‘n Match methods in the IISD project

Most teams used a mix of methods. Thus, the Zimbabwe team used a mix of PRA techniques with a questionnaire survey. The South Africa team conducted a household survey of most of the residential stands, in-depth interviews with some 14 selected individuals, and a battery of PRA exercises primarily for “ground-breaking”. One Ethiopia team video’ed some of their information, a useful adjunct in an area where people were not willing to talk and where there was a major language barrier.

Cost effectiveness is central. Much of this derives from common sense and practical experience, and being aware of appropriate levels. For example, one researcher in a couple of hours, using a focus group interview and appropriate PRA ranking techniques, can establish that women know 15 varieties of cassava, that they distinguish varieties by key qualities of taste, storage, resistance to disease, and drought tolerance; that they normally grow three or four varieties per household; that women value cassava more than men and know much more about it. To collect the same information using a questionnaire survey would add little to the validity or precision of this knowledge, and would add greatly to the cost.

Validity is really a question of understanding the significance of what you are describing. There is the classic “policeman’s dilemma”: does an increase in crime statistics indicate increased activity of criminals, of policemen or of statisticians? Without further understanding, each possibility is equally probable. Some information is frequently of doubtful validity, simply because informants don’t know or don’t want to tell the truth, or because the researcher in ignorance poses wrong questions. Classic areas of invalidity of data include: herd ownership; household incomes (expenditures are usually better guides but even those can go sadly wrong, and at staggering expense—the recent Uganda Household Budget survey is a case in point); infant mortality (especially in societies where infant mortality is rapidly socially forgotten, or never to be mentioned).

Appropriate precision is about being sure why you want to collect quantified information, and what level of precision is necessary to establish the point you want to make. It is seldom appropriate, for example, to cite population figures of a district without rounding; or to calculate percentages of a sample of 10 to two decimal places, yet these elementary errors are encountered even in postgraduate level research. Much participatory research teaches us to be humble about numbers, and to use them sparingly and only to good effect. Planning and policy data generally require much less precise numerical information than evaluation and impact studies. Where precise quantification is needed, then survey techniques may be important, but these are best done late in the research program when the specific questions and the need for precision have been clearly established. Much quantitative information is in fact only generated in order to draw conclusions of comparison—spatial, between social groups, or over time, and these comparative conclusions can often be arrived at by more direct methods. In the IISD research project, the Zimbabwe and South African teams both collected questionnaire survey information; both designed the survey at the inception of the research. In retrospect, one team found that its questionnaire had been appropriate, economical and efficient in establishing a research framework. The other was over-ambitious, insufficiently focused, and contributed little to the eventual findings.

Ownership, participation and empowerment are particularly important considerations in this project. The community should own, and be seen to own, the knowledge generated on adaptive strategies. Participatory research techniques should result in representations that are owned by the community. Indeed, they may be unwilling to part with their intellectual property, an attitude that must be respected. But the project should aim to go beyond merely rendering back to the community what they have given the researchers: there should be value added: demystified contemporary or formal knowledge in useful form (PAR is useful here); indications of policy reform, pointers to advocacy issues and methods, to suggest only a few. And this value should be evident to the community.

Indicators: “expert” derived

Indicators are specific, explicit measures of a situation brought about by changes in the environment, social actions or activities, etc. They enable measurement of variance over time, space or social category. Usually they measure one thing, which stands as a proxy for a more complex whole. Indicators may be quantitative or qualitative, direct or indirect, simple or composite.

Indicators may be expert-derived or community-derived. If the indicator is to be measured in a participatory way, it should be community derived and expert validated. Community indicators are dealt with later: here we concentrate on expert indicators, those derived by the research team which they think would aid their research.

Formal criteria for indicator selection are validity, relevance, sensitivity, cost-effectiveness, timeliness, specificity, periodicity, simplicity, measurability, and consistency. Not all indicators can fulfill all criteria simultaneously:

The team, in defining the research questions for the community site, will want to make a list of possible indicators that might be of use to them, which can be derived from the literature, and then list which ones they wish to use from the literature and other sources, and which ones they would like to transform into community-derived indicators.

Preparing the community

If the team is not already well known, considerable thought should be given to the best way of securing entry. As one researcher put it, "you must have a passport". It is particularly important first to obtain all necessary official clearances, including informing local opinion leaders and others who may only think that they have a right to prior information, such as MPs. The Zimbabwe team in the IISD project, for example, was particularly thorough, an important consideration as they were both quite young and risked not being taken seriously by local opinion leaders. Thus they not only obtained government and district clearance, but spoke first to a wide range of politicians, traditional leaders, headmasters, chiefs, combining the process of site selection with spreading the word. In general, the more highly politicized a local situation, the more thorough should be the preparatory work.

Already by this time the team should be clear on how they are going to present the issues of adaptive strategies, which is not necessarily an easy concept to translate. Different solutions will work in different situations. In Zimbabwe, the team decided to translate adaptive strategies directly, using a term which conveyed "how things have changed in the ways you make your living". This worked extremely well in Gwanda, and very valuable insights were obtained on institutional patterns of herding and marketing cattle. In Mudzi, a similar approach met with little interest and enthusiasm, because people were too busy looking for gold to discuss livelihoods. In South Africa the team felt that it would be extremely difficult to broach the topic directly, as views of the past were of a state (golden for the older people, negative for the younger) and thus they felt people would find it difficult to discuss change.

Having obtained official clearances, community preparation includes sharing an understanding of the broad purpose of the project (translation will be required here) and its outputs (a small book written together that they can keep and that describes their way of life and how it has changed). The team should reach agreement with the community on the research schedule, and identify community members willing to work with the team members on participatory research.

This is probably a good time to reach agreement on team procedures at the site: assignment of key major questions to different sub-groups, work schedule; roles, style and behavior. The key roles of the team leader apart from co-ordination and liaison, are to ensure that the investigation retains its focus, required scope and momentum. It is usually helpful for the team to carry a detailed topographical map of the area at the appropriate scale (1:50,000 or larger), plus a map of the wider area. However, community response to mapping will be generally better if these maps are not shown until after the community maps have been drawn. The team should inventory materials to take (include paper or newsprint, felt pens) although mostly local materials will be used.

The team should consider the use of a tape recorder or video according to whether it will facilitate or hinder the process. (See also knowledge sharing in Chapter 5.)

Entry points

Despite differences in research strategy and design, the question of the entry point and the need for a strategy is common. This starting point can not be predicted without first hand or good derived knowledge of the particular society. If a community is concerned about producer prices for agricultural produce, or livestock disease, the research team will be well advised to tune their entry point to the community's concerns.

Table 16: Lessons learned from a missed entry point

A good example of a missed entry point came from Ménégoú village in Burkina Faso. The village was characterized by bitter internecine conflict over cattle routes, and the villagers wanted to discuss these conflicts with the outsider, thinking perhaps that being neither a government official nor a party to the conflict, he could take an objective view and perhaps assist them in reconciliation. The LPC is an experienced, sensitive and thoughtful man. But he was still struggling a bit to come to terms with the concepts of adaptive strategies and sustainable livelihoods. He did not know the village well and insisted, because of time pressure to get the field work completed, that what he wanted to discuss was adaptive strategies. It was only after he had left the field and returned to write his report that he realized in shock and dismay that he had missed the perfect entry point. Through the door of conflict resolution he would have entered directly into the field of environmental management, common property institutions, and sustainable use of natural resources.

Worse than missing an entry point is getting it wrong: the Zimbabwe team was unfortunate enough to miss a chieftaincy and boundary dispute, and to invite the wrong chief in Makaha, leading to a boycott of their introductory community meeting where they were to explain their research. And the “gold fever” left people quite uninterested in discussing adaptive strategies. They said, quite literally, it wasn’t worth their time. But unfortunately, illegal gold mining could not be tried as an entry point, because the researchers would have been seen as agents of officialdom.

Another near miss was the Ethiopian Borana team, who arrived under the aegis of CARE for good practical and logistical reasons. They were immediately identified with the famine relief industry, and compounded their difficulties by trying to do wealth ranking. The community assumed that the wealth ranking was in order to determine relief eligibility.

We may truly learn more from our mistakes than from easy success.

Table 17: . . . a few more tips . . .

- Assume your own complete ignorance.
 - Avoid leading questions. Just ask “What else?”
 - Don’t impose. Let them work it out.
 - Share and demystify “professional” knowledge.
 - Remember the empowerment objective.
 - Interrogate the representation, not its makers—ask “why is this here?” not “why did you put this here?”
 - Record the process.
 - Reflect, self-criticize, embrace error.
 - Ask, ask, ask ...and listen.
 - Analyze, compare, critique.
 - Have fun!
-

5

Conducting Field Research

By this stage the preliminaries for actual field investigation are in place. The study area has been defined, and specific communities and sites selected. The concepts and questions for investigation are as clear as can reasonably be expected. We are prepared to have our concepts and hypotheses challenged in the field. We now turn to the question of how to undertake the field work. What activities will we undertake, how will we spend our time and effort, so as to identify adaptive strategies leading to sustainable livelihoods?

The purpose of this generic research model is to illustrate the application of participatory and empowering research techniques in a hypothetical agro-pastoral community, in order to determine adaptive strategies. The “model” is not intended as an example to copy. It is a vehicle for presenting and illustrating a menu of research techniques. It combines the field experience of four country teams in the IISD Adaptive Strategies project, using their reports (referenced in the bibliography), and interviews and discussions with team members, supplemented by personal field experience elsewhere of the principal author and colleagues.

This chapter looks first at the overall generic field strategy, with examples from field projects. It discusses research tools and techniques to generate information on spatial, time and socio-economic aspects. It looks at how we fill some of the topical information gaps necessary to define adaptive strategies; and at the first synthesis of ideas in the field where we bring together and examine with community representatives all that might form adaptive strategies leading to sustainable livelihoods. We will also use this occasion to identify policy issues for research. Finally we turn to indicators that could be used in the communities to measure adaptive strategies and sustainable livelihoods.

It would have been good to be able to give more references and actual examples of other techniques, such as short questionnaire surveys. It had been hoped that the survey instruments, process and results from the IISD project in Zimbabwe and South Africa could be incorporated. The Zimbabwe questionnaire, for example, enabled the relative contribution of different activities to household income to be plotted against sex and social status. Unfortunately the instruments themselves were not available to the writer. Equally, it would have been good to be able to reference actual experiences of PAR and empowerment in this chapter. However the IISD project was not designed with provision for field follow-up, so this must be accepted as a shortcoming of this chapter.

Fieldwork is best undertaken by immersion and staying in the field for reasonable periods of time: at least a week or two at a time. Field immersion is an important part of the transformation researchers should be prepared to undergo. In the case of a longer duration project, several such field visits could be scheduled over the space of a calendar year.

A generic field strategy: the approach

An early draft of this guidebook, prepared during and after the IISD project orientation workshop in Nairobi (September 1995) suggested a possible three-phase strategy, in the form of a hypothetical case study (since none had been undertaken at that time.) This was written as a narrative, and deliberately presented as only partially successful, the point being to emphasize the limitations of such guidance, and the need to be humble, flexible and imaginative in the field, and to remain conscious of progress towards a goal. It was suggested that the adaptive strategies must be derived by the researcher and discussed with communities, and that a direct approach would probably be of limited value. Since the concept “adaptive strategy” is ours, not theirs, it is suggested that the study would be conceptualized as an analytical geographical history of the last two to three decades in which specific knowledge objectives would be attained. Thus the generic or hypothetical study has three stages, and only in the third stage is there a public attempt to analyze and deduce adaptive strategies.

The example of Zimbabwe (Table 18c) which follows this introduction, however, shows that one can do things quite differently. Provided that there is sufficient familiarity with local culture and idiom, as there certainly was in this case, one can start directly by investigating a subject that would translate in familiar local idiom as adaptive strategies for sustainable livelihood. Having identified these strategies, maximum effort would be devoted to understanding how they worked, and their potential for sustainable development.

The generic example which follows has three main stages or components:

- a) **Spatial, time and socio-economic information.** The initial investigation may be rapid and relatively superficial, using a range of PRA techniques which are capable of generating a lot of information quickly. This will provide initial baseline data at community level, on topics such as the distribution of people and resources, community organizations, and trends over time. At the end of this stage there should be a small internal workshop or consultation for researchers and key community informants, so as to make a preliminary identification and analysis of coping strategies, adaptive strategies and issues related to sustainable livelihood.

In the case of a site not already well known to the researchers, this stage would be preceded by spending a couple of days in the village, living there and moving on foot or bicycle, participating in activities and learning in the process: for example, the many different varieties of cassava and their different qualities; that women know many more varieties than men.

- b) **Special topics for investigation:** At the internal workshop or consultation we would consolidate, extend and prioritize our running list of specific topics for more intensive investigation. A consolidation (or brainstorming) of ideas on the impact of macro- and meso-policy issues would also be useful to undertake at this time. The action list of topics for investigation that results would perhaps best be communicated or delegated to a special researcher, so as not to interrupt the stay in the field. We would make a prioritized list of problem topics for verification or further research in the field, from the literature or from specialized professional knowledge. A project of several months duration would benefit from several such internal consultations, at which all researchers should attend.

Issues for more focused investigation might concentrate on filling in three main themes: How the adaptive strategy components actually work in detail, filling out description of local knowledge, institutions and practice; issues of sustainability; and local (indigenous knowledge) indicators.

A wider range of techniques than PRA may be needed at this stage, with more detailed investigations at household and individual level: e.g. participant observation, visits to other sites in the community's resource catchment; focused questionnaire surveys; counting; soil or water samples. Some seasonal-specific topics may be identified for a later visit. There should be more frequent team reviews and briefings to share information and insights, to ensure focus and that important topics or groups are not being neglected. A well-disciplined team would make this practice part of the daily calendar, until it is felt no longer necessary.

- c) **Analysis, articulation and review** of the adaptive strategies in terms comprehensible to the local community. We need now to explore in depth major effects, cause and effect webs; review with community members macro-meso policy issues and vulnerability, advocacy and empowerment issues; evaluation and the reporting contract we have with them.

In the interests of good field self-discipline we should keep a daily log or diary, and continually make and review check lists of points for investigation, referring back to the protocol and previous check lists. Topics on which we think we have enough information are checked off.

As a little cautionary sting in the tail, the hypothetical field study ended with the discovery that too much time has been spent collecting basic data, and not enough on analyzing adaptive strategies and finding indicators that might point to sustainable livelihoods. Actual experience indicates that this can indeed prove to be a problem that arises in practice, and underlines once more the earlier advice on provision of adequate time for field visits.

The generic model having been presented only an illustration of how things might be done, each team in the IISD developed its own specific approach in practice. Accounts of these are presented below for the interested reader (Tables 18a-d).

Table 18a: The South African study

- Most of the team commuted from the research base to the village site: two team members stayed there.
 - A short questionnaire administered to most households by trained local fieldworkers provided survey data on household size, composition and social organization; thus adding some quantitative data to more qualitative PRA data. Thirteen key informants, of varying age and socio-economic position, were interviewed for one to two hours each. Many actively influenced the process. In-depth information covered topics such as history, change, social structure, local organizations, key issues, problems and needs of the community, income sources and household food security.
 - Many different PRA exercises were conducted in public fora or in the fields. Topics included economic activities: farming, collection of natural products, water, livestock, households. Mapping was found useful and generated some local enthusiasm, but generally PRA was found best for descriptive information and as an entry point to further interviews. The abstract research concepts, not fully assimilated until the post-fieldwork workshop, were found difficult to apply to PRA exercises; youth was under-represented, and the information generated was only finally held together by the “glue” of previous research work.
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b: Burkina Faso

- The team lived and worked first in one village, then another (replacing some team members). They first discussed the work with men’s and women’s representatives.
 - PRA mapping was very useful for collecting basic information on village geography, social composition, and internal tensions and relations. With a local assistant, the team identified adaptive strategies, analyzing each in turn for impact and contribution to sustainable development. They visually presented a synthesis of findings for comment by local representatives, enabling a very concrete, applied approach.
 - In Ménégo the team did not have a Fulani speaker. So PRA was done in a foreign language and translated, losing spontaneity. The team found it difficult to fit into village life, and were closely monitored.
 - The team felt frustrated, not being able to respond more concretely to local needs: Nougou people wanted help with a local strategy for market gardening and commercial agriculture; Ménégo needed to solve local conflicts on resource management that were paralyzing development initiatives. Both peoples knew where they wanted to go but needed help on how to get there. This “PAR manqué” underlines the importance of a follow-up phase.
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c: Zimbabwe

- The Zimbabwe team worked in sites at opposite ends of the country, one after the other. After an initial introductory workshop, two researchers used PRA group methods to gather basic geographical, historical and social information, interviews with key individual informants. The topic of adaptive strategies and change was broached directly. Information was verified by direct observation (e.g. in transect walks) and discussions with village based researchers.
- Meanwhile a formal questionnaire survey (about 60 households) was administered by trained local assistants. Having avoided wealth ranking as potentially contentious, a simple random sample was used. The survey produced interesting analysis of different sources of household income by age and sex, among other topics; in retrospect the questionnaire design was seen as too ambitious and insufficiently focused.
- Second visits were used to fill information gaps, discuss drafts and hold community workshops.
- Difficulties included unrealistic community expectations about immediate tangible benefits, undue influence of outsiders in community workshops; difficulty in capturing views and information from women and youths; and having to work in one site during one of the busiest parts of the agricultural season.

d: Ethiopia

- Researchers in Ethiopia faced very difficult field conditions. When the team had to leave their first site, work proceeded in two places far apart. Both sites were unstable, with tense local politics, suspicious of outsiders, and with languages and cultures poorly known to the team, and hardly any educated intermediaries. Later regretting their heroic choice, the LPC saw that they would have done better to select one site that was culturally and geographically closer, slightly stretching the "semi-arid" criterion. A brief identification visit was followed shortly after by residential data collection.
 - Among the proud, independent and deeply suspicious Afars, standard fare PRA exercises would have invited immediate disaster. Exercises such as mapping would have been treated with derision as children's games. As the LPC put it "You can never tell an Afar what to do." The team quickly found the right entry point, using their video camera to record a traditional wedding at the request of a local notable, and engaging in participant observation. The Afars study relied on secondary data, supplemented by informal field collection through conversations, unstructured and informal group meetings, and discussions with key informants.
 - The Borana, dependent on famine relief via an international NGO, took the team to be researchers into relief eligibility, thus greatly complicating discussion of adaptive strategies. They obligingly participated in producing maps or problem diagrams which the team could not verify. Some representations are in this book. The analysis rested mostly on literature, prior research and discussion with locally-based outsiders.
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Spatial, time and socio-economic elements

We now look at specific field techniques for gathering basic information about communities and their sites.

Resource map or model

Table 19: Some lessons from maps

In Burkina Faso, the Rimaibe and the Fulani live in a single community, but have different conceptions of the past leading to disputes over natural resources rights. Intense local conflicts exist, mainly about cattle routes, caused by the decline of common property resource management institutions. Nobody was ready to discuss the problem with the researchers from outside. The researchers remained completely ignorant of the problem until map making began, when the Fulani made one map and the Rimaibe a very different one. This led to lively and frank discussion of the problem, and to suggestions for conflict resolution.

In Zimbabwe, the research team originally just gave up on the attempt to get Mudzi people to draw a proper map because there was so much argument about boundaries. Only later, having left the field, did they see that disagreement was an important research finding in itself, and that they had missed an opportunity to get each faction to draw its own map and explain it.

In Ethiopia, the map given to the Borana represented the views of the Borana local elite. The team realized this, but was unable to develop the matter.

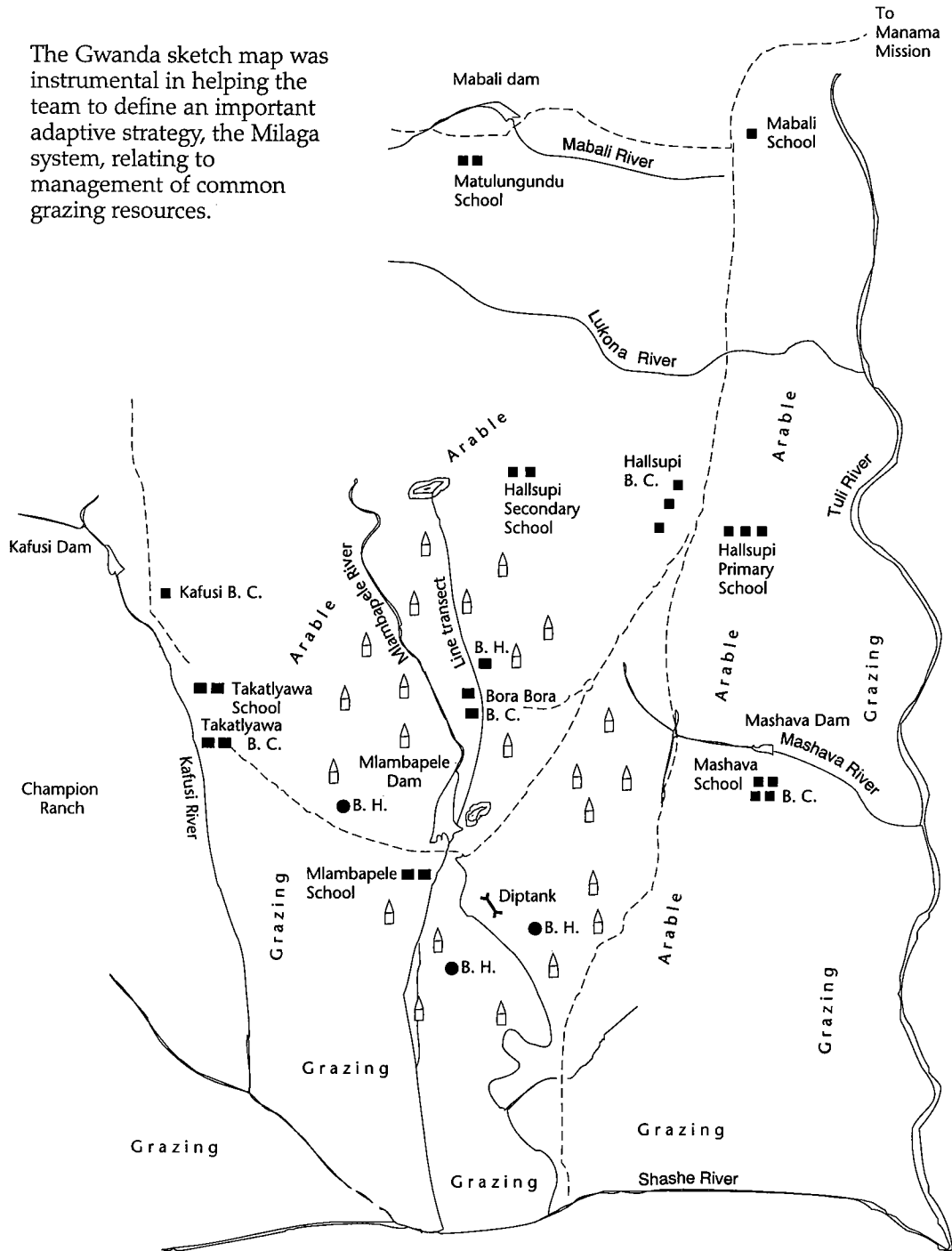
The South African team found that mapping was the most successful PRA exercise, generating interest and information. Maps drew the attention of researchers to the previously unmentioned phenomenon of secret gardens, i.e. gardens cultivated in a more or less traditional way, without the knowledge and approval of the Department of Agriculture.

A resource map prepared by the community, if they accept and see the point of the exercise, is a good starting point. This is for the following reasons:

- They can be a lot of fun. People enjoy making representations of their locality. It is good to get maps drawn by separate groups of people, e.g. men, women, children because they will represent different things. In ethnically diverse communities, different groups may have quite different perceptions of resource use.
- A map can generate an enormous amount of discussion, both while it is being made and afterwards (Table 19).

Figure 6: Community sketch map from Zimbabwe

The Gwanda sketch map was instrumental in helping the team to define an important adaptive strategy, the Milaga system, relating to management of common grazing resources.



The map could be improved by the addition of a rough scale, a small inset relating it to Zimbabwe, a textual commentary and an indication of where the transect walk took place, and most importantly where the Milaga are situated.

Some mapping advice

- Keep the map reasonably simple. If it starts to become too crowded with different things, consider the benefits of separate thematic maps. We need at least two types of resource maps: the area within the community's boundary and external resources accessed. A large map is made on the ground which displays the key internal sites and natural resources: water, soil types and terrain, different types of pastures, woodland, seasonal swamps, road, school, church, dispensary, and stores.
- Maps done by the community are their intellectual property and should be treated as such. Record who drew the map, where and when. There are documented cases where community maps have become prized possessions, used for example for negotiations with outsiders over such things as the siting of irrigation channels or urban development planning. If the map is to be transferred to paper it is perhaps best, if possible, to have it done by the local schoolteacher, make a copy, and leave the original on site.
- Maps can also be used to generate a vision of a "sustainable future"—a very direct route into sustainable livelihoods and adaptive strategies.

Table 20: Gender differences in maps

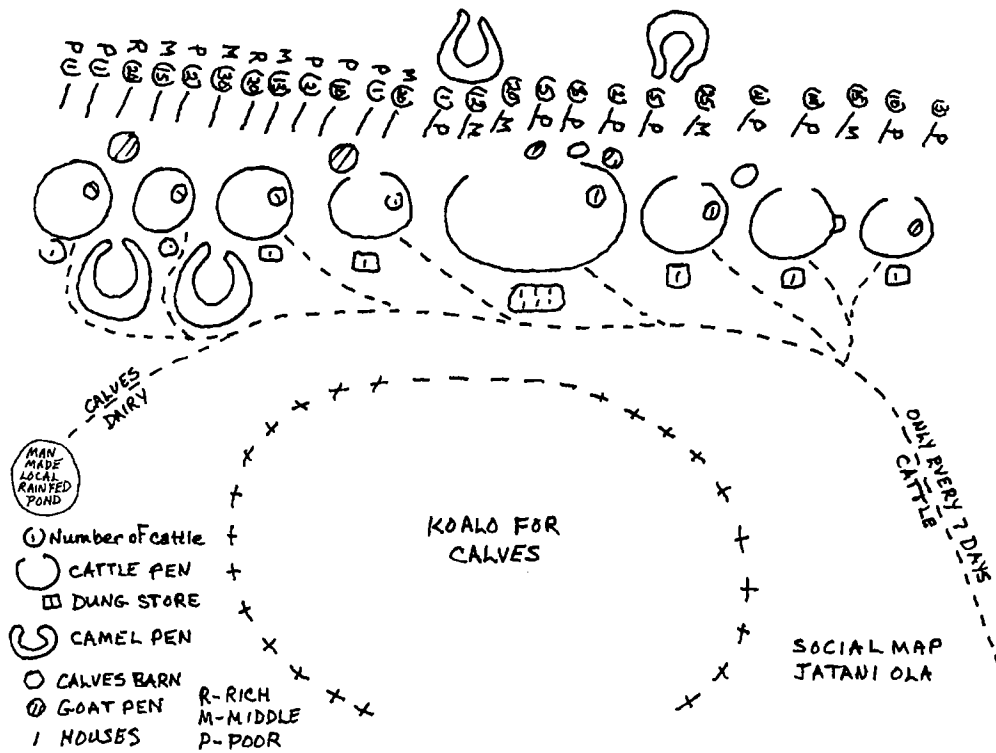
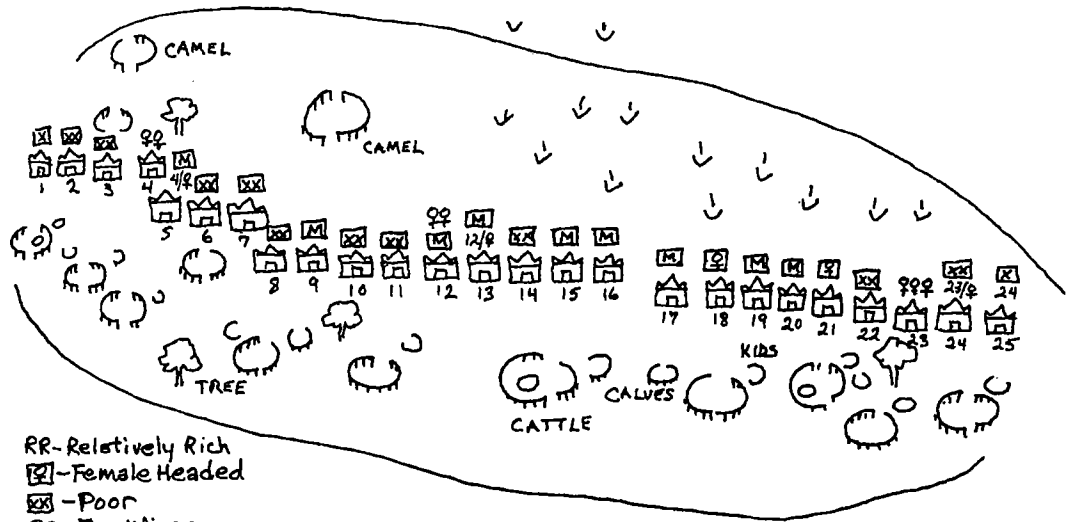
Figure 8 shows a contrast between a map done by men and one done by women. The women's map showed female headed households, and co-wives, not shown on the men's map; the men's map had more information on livestock. The Borana were unwilling to allow a wealth ranking exercise, but here, apparently is a map which could generate relevant information. We would expect that coping and adaptive strategies differ by wealth. Interrogation of the maps would start with men's and women's differing conceptions of wealth and poverty.

Information of this sort derived from a map may be as good or better than that derived from a household questionnaire survey, and to do both would be ideal, allowing triangulation or cross-checking of information. Such a map takes just an hour or two to make.

Spatial diagrams

Spatial diagrams can be done quickly, using a method documented by the GREFCO. For example to get a picture of the distance and importance of different grazing resources, or alternative sources of employment through migrant labour, stones and pebbles can be placed on the ground in relation to a point designated as the homestead. How far away the stone is can represent actual distance (or travel time), and the size of the stone represents importance. This technique can be used for many pairs of variables.

Figure 7: Social maps by Boran men and women



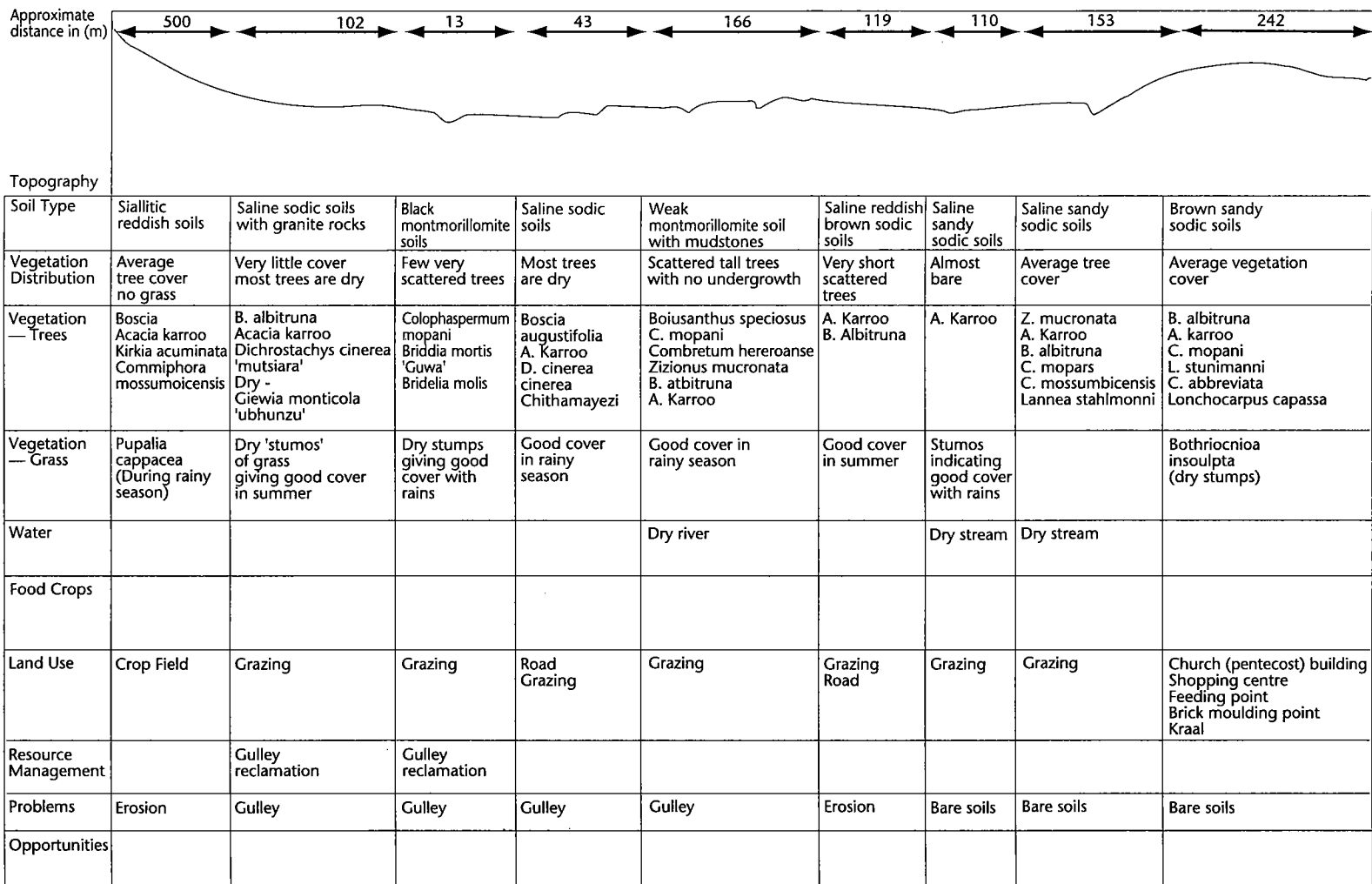


Figure 8: Part of transect from Mlanbapahle, Zimbabwe



Transects

A transect is normally done on foot early on in the research, to give the researcher a quick cross section of the area. An example of part of a transect is given at Fig. 8 (Mlambapehle, Zimbabwe). The contour cross section is given along the top, while the matrix below gives the characteristics in that band of items of interest to the researcher: often, as here, soils, water, vegetation, and human activities.

When presenting a transect some additional information is useful to append notes or free comments. We want to know who walked it and when, during what season (and perhaps at what time of day or day of the week). A vertical elevation scale is also useful. A transect can provide the researcher with a quick entry into local terminology and classification for different types of soils and vegetation, indicator species for soil types or ecosystem health, and indicators or observations of land degradation. Most often part of an initial familiarization tour, a more focused transect can also be used later in the research to identify topics specifically relevant to adaptive strategies and sustainable livelihoods.

Farm plans and grazing plans

Farm plans can provide much information about crop patterns, crop preferences and can lead into extensive discussions on strategies. Grazing maps are also important representations for discussions on range management, CPR management institutions, herd size and composition, herding arrangements, social aspects of cattle. It is most unrealistic, for example, to try a wealth ranking or to determine cattle ownership unless you are experienced and familiar with the area. But a discussion on water, pasture and browse resources, and herd management will produce ready responses. Annotations on a farm plan (e.g. that by the South African team, 1995, not reproduced here) are an excellent way of contextualizing information.

Historical resource map

To understand changes in spatial patterns of resource use, management and availability over time, one possible tool is an historical resource map. We modify the modern resource map by removing those things that were not there 30 years ago (for example), and adding in things which used to be there but no longer exist. This could for example be done for vegetation or water resources—any important natural resource where change would have to be measured in decades rather than years. This exercise is probably best done well after the beginning of the research, after construction of a time-line and historical benchmarks (see below). The historical resource map is prepared for an agreed benchmark or period, by a small focus group of elders, men or women. Interrogation of this representation could reveal useful information about changes and challenges. The possibility of an historical resource map is theoretical, however—it was not attempted in the IISD study.

Aerial photography

The Burkina Faso team was able to get aerial photography sheets for both areas for 1951 and 1988. Two sets spaced almost four decades apart—an unparalleled opportunity for comparing settlement patterns, tree cover, cultivated area and so on. Quantitative information can be extracted, although specialist technical advice can be useful. Air photos can also be shared and discussed with local people: they find them intrinsically interesting. Apart from generating project information, sharing such information with those who are interested can also be a powerful tool for demystifying our contemporary formal knowledge. The maps can be made the focus of a group discussion, a geography lesson for the children, or an adult literacy class.

Census map and social mapping

A useful alternative to a questionnaire survey to determine population characteristics is to do a participatory census and social map. This is a more elaborate version of Fig. 7 above. All the households are mapped by a group, preferably by placing stones or other small objects on a large map drawn on the ground. Each household is then enumerated, with different symbols for men, women, and children. Such an exercise has been done with a high degree of accuracy,

covering a community of two or three thousand people, in an hour or two, and was the subject of much enjoyment. It can empower women in a community, whose knowledge of household demography is generally far superior to that of men—which they may enjoy proving. The same technique could be used to map health or child mortality.

If, as is often the case, wealth ranking proves contentious, it may be possible to get some broad classification or proxy of wealth using such a map. Much depends on the skill of the facilitator in choosing a suitable proxy variable. If there is no expectation of food aid, then food insecurity is often a good initial measure. For example, a symbol could be placed next to those households who frequently have to skip meals, if that is the agreed indicator.

Quantification and thematic mapping: linking to formal knowledge

Tools for gathering and representing spatial information so far have been presented in a broadly ascending order of complexity. We now make a quantum jump into an area where the quality of information greatly improves, to describe a method that will enable a major contribution to the development and representation of indicators of sustainable livelihoods.

PRA/RRA methods as currently practised are mainly used for gaining entry to a community, although with best practice they can produce powerful and empowering knowledge. Yet there is still something homespun and amateurish about them. The challenge to the researcher, therefore, is to link these methods and techniques to the formal knowledge system in such a way that the community can actually access, use and even help to generate knowledge which is normally in the domain of government planning departments. This linking of local, informal knowledge to external knowledge systems is one of the key themes of the project, and yet one which can cause great difficulty and misunderstanding among project participants. The development and creation of indicators, a major theme of the project, is likely to prove rather difficult and demanding. One of the expectations of this version of the guidebook is therefore that it will contribute more directly to the evolution of ways in which adaptive strategies and sustainable livelihoods can be described and measured.

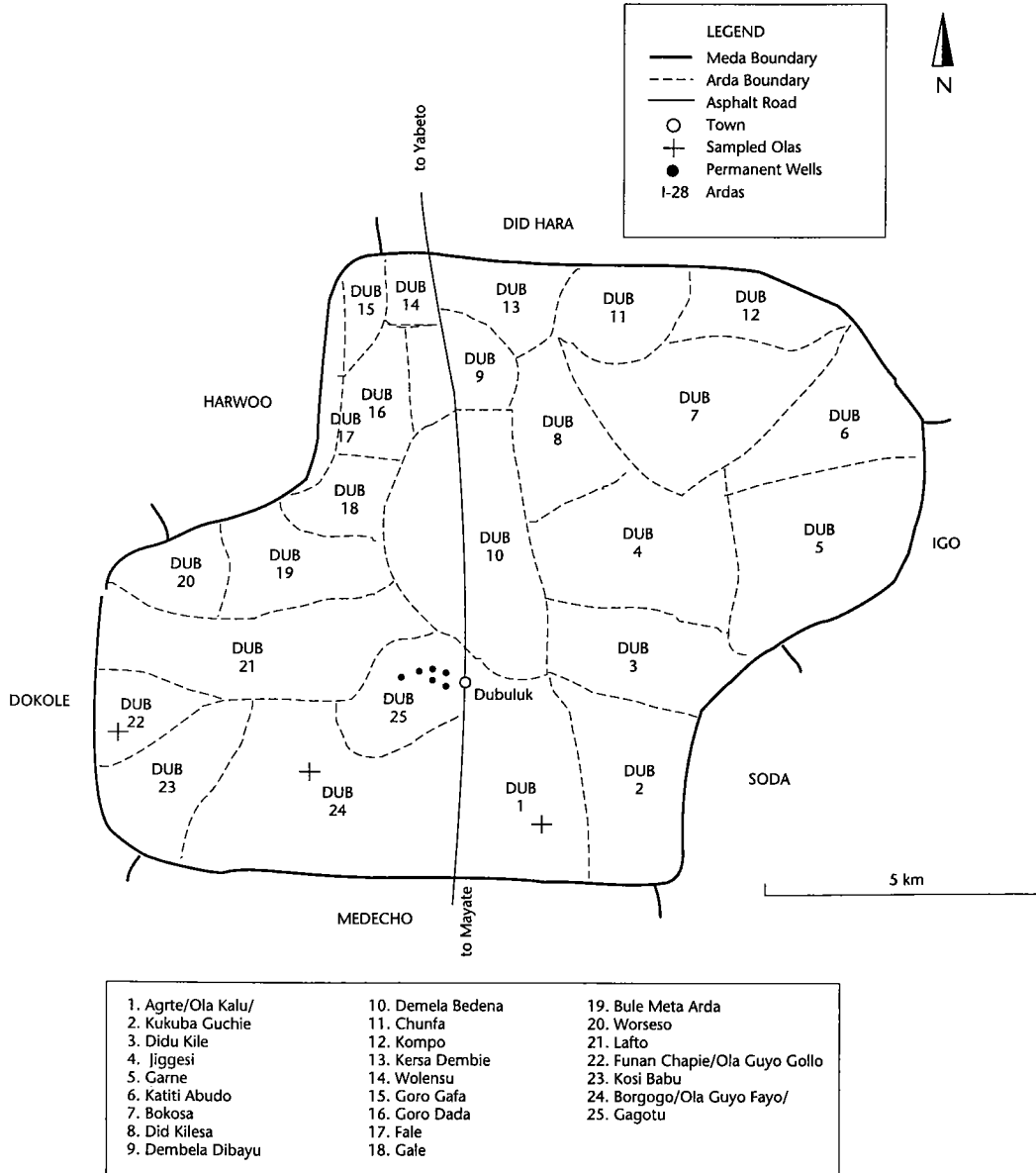
Linking local information to formal knowledge enables local communities to enter into a demystified world of external knowledge of which they may until then only have had the vaguest impressions. In just the same way that best practice adult literacy can release innate forces of confidence and creativity, so sharing scientific mapping information, if done properly and as a public exercise, can be liberating, empowering and exciting for a community, and acts as an antidote to the extractive nature of field research. People can understand for the first time, for example, how planners make their decisions. One comment is engraved in this author's memory—and it was meant as the highest compliment: "This is just like having a university in our own village."

This section describes a method to create a simple local geographical information system that can be used to represent indicators in space and time. None of the IISD project sites has yet used this method, but it is well within the capabilities of most organizations that can work on a more continuing basis with their selected communities. The tool was developed and applied in NGO-community situations in two countries, evolving over a period of several years and drawing on practical experience in several other countries, as an instrument of community-based planning, monitoring and evaluation. In the Uganda example, the statisticians from the government district office and an NGO collaborated with enthusiasm, enabling input into government planning decisions and policy.

We can illustrate the process and product by starting from a community boundary sketch map—in this case the Ethiopia team's map (Fig. 9a) of Dubluk medda, which is divided into 25 subdivisions termed ardas, within which are a number of olas or villages. The ola is the lowest basic unit of communal settlement (the team selected six olas in two meddas), and many affairs are discussed at medda level. The intermediate level of land division, the arda, has been mapped. The map also displays at the Dubluk medda boundary, with the names of six adjacent meddas. As drawn by community members, this map was only a sketch map, with no standard scale, so it has to be modified to link it to the formal knowledge system. We therefore redraw the community map to an absolute scale on a standard projection. We assign a unique alphanumeric code for each arda unit (DUB1—DUB25) and reproduce the code key and the

scale on the map itself. As such it will still be recognizable to its local creators, but it is now in the domain of a different order of knowledge. Because the scale is absolute, the map can be joined together in a jigsaw with similar maps of the six neighboring meddas. Known scale allows us to integrate and aggregate the information and create higher levels of generalization. Known location allows us to integrate information from the community into a database, and permits area-based data (e.g. densities) to be calculated and shared with the community via the map. Thus we link local and contemporary knowledge.

Figure 9a: Dubluk Medda, Borana Region, Ethiopia
Modified community map showing scale and Arda codes



Now suppose we reduce the map to a standard paper size: say 8 1/2" x 11", allowing us to make multiple copies, and then use each to represent a different indicator or indicators. We can now use these maps to represent multiple selected indicators that show spatial variation. (Those indicators that vary temporally or socially will require a different method of representation; and indicators that vary only on a national scale, between different regions of the country, require mapping larger units on a larger area). What would such an end-product look like, and how could we use it? Let's look at the end product first, and then turn to how it is created. We shall make two hypothetical maps, using the Dubluk template, that show population density and food insecurity (Figs. 9b and 9c) and assume the data.

The first map shows population density: We have determined suitable intervals from the data, and assigned color codes: red for the high density band, orange for fairly high, yellow for moderate, green for low and blue for very low. These represent not just approximations, but calculated data of number of people per square kilometre. A second map shows an indicator of food insecurity at a certain point in time: red for acute and severe, down through various grades to little and none. These scales are based on the indicator we have agreed with the community—for example, number of households regularly skipping meals, from which we have calculated percentages of households. Note that these are illustrative maps only, and that the data are invented for the purpose.

In addition to the two indicators selected for the maps shown, we could think of many others. The indicators can be selected from a larger list on the basis of suitability for community-level monitoring, relevance to sustainable livelihoods, and representation on this spatial scale. We might show human fertility levels, coloring the ardas according to the average number of children per women. We could show the percentage of areas under cultivation, school enrollment, livestock density, land degradation, morbidity, mortality, child mortality, and access to markets. The data can be derived from sources outside the area (remote sensing, for example), surveys conducted by researchers, or participatory methods. The use of a common scale can allow overlays (or side by side display) to identify problem areas and co-variance of indicators. For example, three maps might clearly demonstrate even at the arda level a clear correlation between population density, livestock density and land degradation.

Such a set of maps form the basis of a powerful tool for local-level monitoring of indicators, and the process and results can serve as an empowerment tool—since the information was prepared with the people and not just for them, they can make their own analysis and recommendations and conclusions. It forms the basis of a local-level geographical information system. Moreover, everybody, literate or not, can understand what the maps mean: they know that the red areas are the ones with a food problem, and the blue areas are all right.

Figure 9b: Dubluk Medda, Borana Region, Ethiopia
Population distribution (hypothetical data)

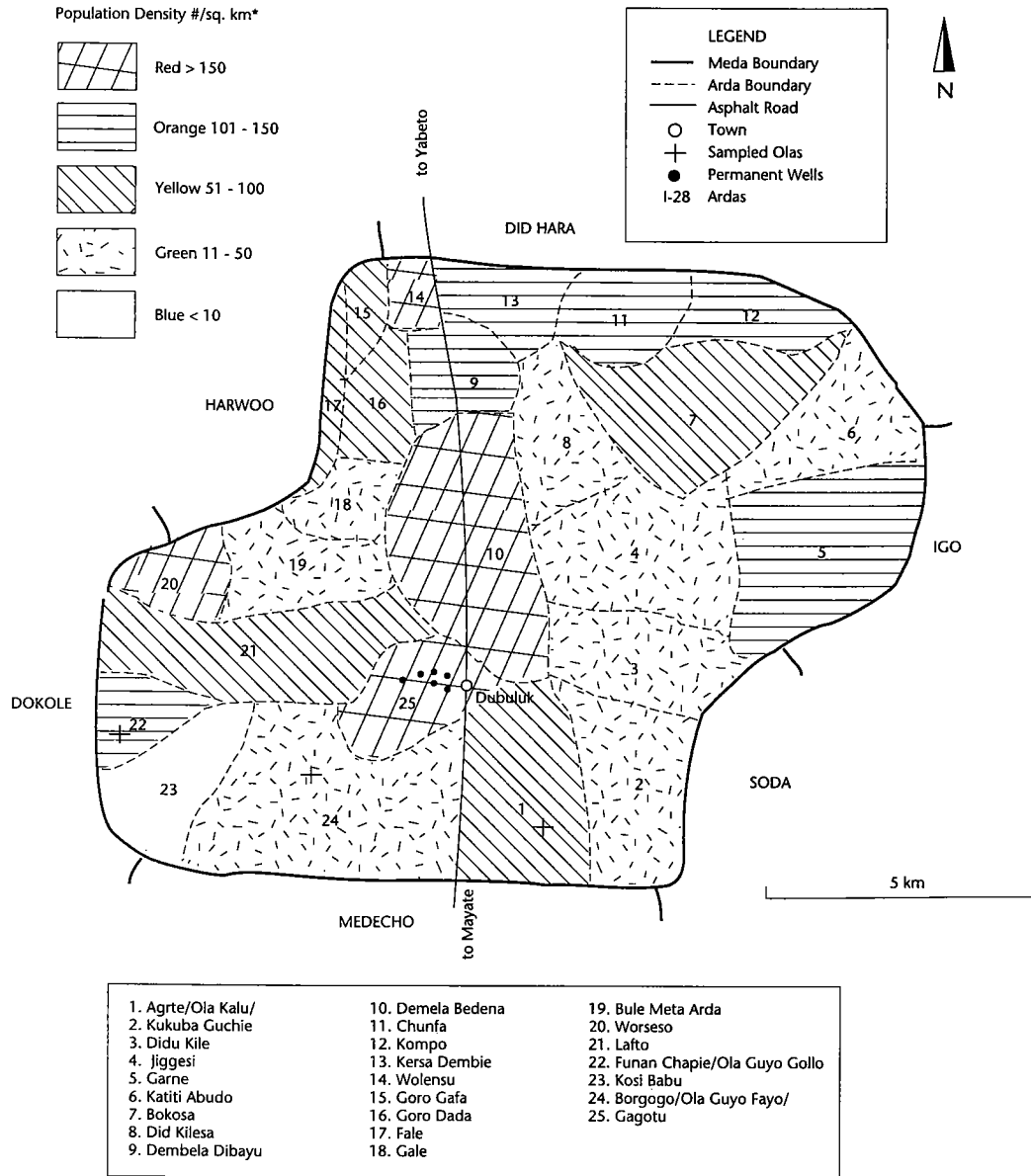
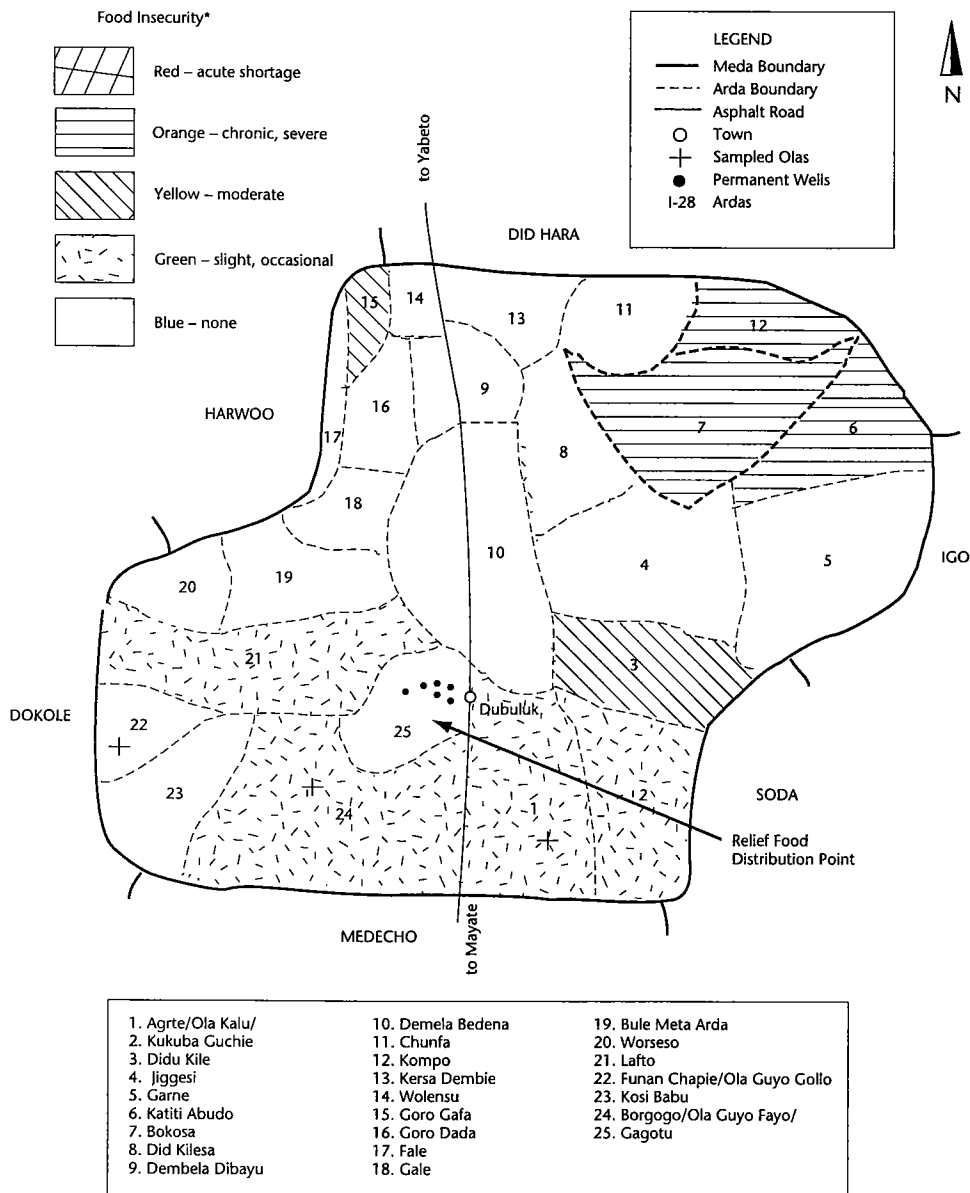


Figure 9c: Dubluk Medda, Borana Region, Ethiopia
Food security (hypothetical data)



* Colours are referred to in the text of this chapter

Such a system is not technically difficult to set up and maintain. A simple computer spreadsheet is very useful but not essential, and can be used to represent a selection of indicators which show spatial variation (number of children per woman might, for example, show great variance within olas but similar averages in each ola, but this is the kind of conclusion that should be determined empirically. Moreover—and this is a crucial point—it can generate information at community level far beyond that currently available to government officials. And, it can accommodate future change—subdivision or amalgamation of villages.

Let us assume for the moment that the data can be collected either by household survey or a mapping technique such as Fig.7. How do we get from there to the thematic maps? The following steps summarize those taken in an actual implemented project situation in Kenya (in two ASAL locations) and Uganda:

- Verify the sketch map names and relative positions of the named units with a variety of informants. Resolve how to handle disputed village identities or boundaries (e.g. by including only those recognized by the next administrative level up).
- Obtain standard large-scale maps of the area—1:25,000 or 1:50,000 is good. The most recent census enumeration maps are ideal if they can be accessed, as is often the case. Trace the boundaries on the large scale map, and number the villages. Make a reference table of numbers and names.
- Read off the area of each village with a planometer—you can usually find a professional who will lend one for an afternoon. For those unfamiliar with this useful little instrument used by architects, engineers, geographers and planners, it is about the size of a pocket calculator. You enter the scale, run the wheel around the boundary of an area on a standard scale map, press a button and the calculated area in square miles or kilometers appears on a screen. Most models will allow averaging from several attempts, thus minimizing error. It is an excellent exercise for a small community group, especially the young. They have great fun doing it.
- Make a table of areas by village. It is helpful to do this on a computer spreadsheet or database program, because any indicators which are area-based ratios (like people per square kilometre) can be entered and calculated very rapidly, and the results can be sorted by value or area. The unique village code allows sorting, finding, and aggregation into larger geographical units.
- Transfer the boundary map to standard size paper, with the numbers in each area referenced by a table of names at the margin. It is useful to have two lists: one by number and one alphabetically by name. Make multiple copies of the maps.
- Create data sets by village on the selected indicators. (This step is not discussed here.) It is useful to have it on a laptop spreadsheet, but for an area such as Dubluk, with only 25 villages, it could easily be done manually. Sort the data numerically, and select data intervals (see following paragraph). Select a suitable color to represent each range.
- Enter the data on the map. This is best done one range at a time. One person calls out the numbers of all the “red” villages, and a second person colors that numbered area on appropriate area of the map with a felt marker. The colors are done one at a time. This step can be done with local people such as older schoolchildren or somewhat literate adults. Doing it publicly, and sharing it, gives a sense of owning the information, in the collection of which local community members may have assisted. The actual coloring of maps from the database is quite quickly done. The number work is the province of the researcher. The emergence of a pattern through “painting by numbers” can in itself be interesting.

Sometimes such thematic maps can show great sensitivity to the choice of data intervals. Changing the intervals by only a small amount may produce a quite different pattern. The important art of selecting appropriate intervals is not dealt with here, but may be learned by anyone with a knowledge of basic statistics and some trial and error.) All that can be said here is that researchers should be aware of the difficulty of dividing continuous data into discrete categories and then reifying the categories. Mapping by the smallest locally defined geographical unit, which is usually a village area or something like an ola or arda unit, helps to

overcome this problem. Experience has shown that some experimentation, within the bounds of intellectual honesty, can help define the most meaningful representation.

Once finalized, such standard maps can be labeled and displayed e.g. on the wall of a school or the village head's house. They become part of a community information system.

If the same indicators are collected in a wider area, upward aggregation is possible.

The simple local GIS described here has evolved and been tested in the field in real situations, involving community members, government officers and NGOs. It derives much from early work in the 1980s in developing natural resources databases in southern Africa (IUCN), an FAO-sponsored database in Botswana for national park rangers, pioneering aerial survey work by Ecosystems Ltd of Nairobi, especially the Machakos survey for SIDA, and long-range planning initiatives of ACTIONAID Kenya and ACTIONAID Uganda.

A tool such as that described above could have several advantages for adaptive strategies for sustainable livelihoods projects:

- It is a useful opportunity to link expert and community-based indicators in a common framework. It can actually generate meaningful dialog between government statisticians and community representatives, and has done so.
- It generates a powerful visual impression of spatial variation, enabling discussion to focus on problem areas, or enabling rapid visual recognition of association or co-variance between different indicators. The method often reveals hitherto unsuspected patterns that transcend local administrative boundaries, and that would be masked by aggregating the data by a larger unit (in this case, the medda).
- The method is sufficiently rigorous to make a powerful impression on planners and policy makers. A planner or policy maker is much more likely to be influenced by this type of presentation, than the typical rather amateurish PRA sketch maps or Venn diagrams.

Seasonal calendar

We now turn to temporal analysis. Once again, we start with the simplest tools or exercises and move up in complexity. Seasonal calendars are probably the easiest tool to start with. Cyclical time is a well understood concept among local communities. It is a useful entry into timeliness of events how labour is organized, and what natural resources are used at what time. Another very valuable application of seasonal calendars is at the site reconnaissance stage of project preparation, where the information can be useful for scheduling research visits to coincide with particular activities, or periods where participation will be easier because people are less busy on essential tasks.

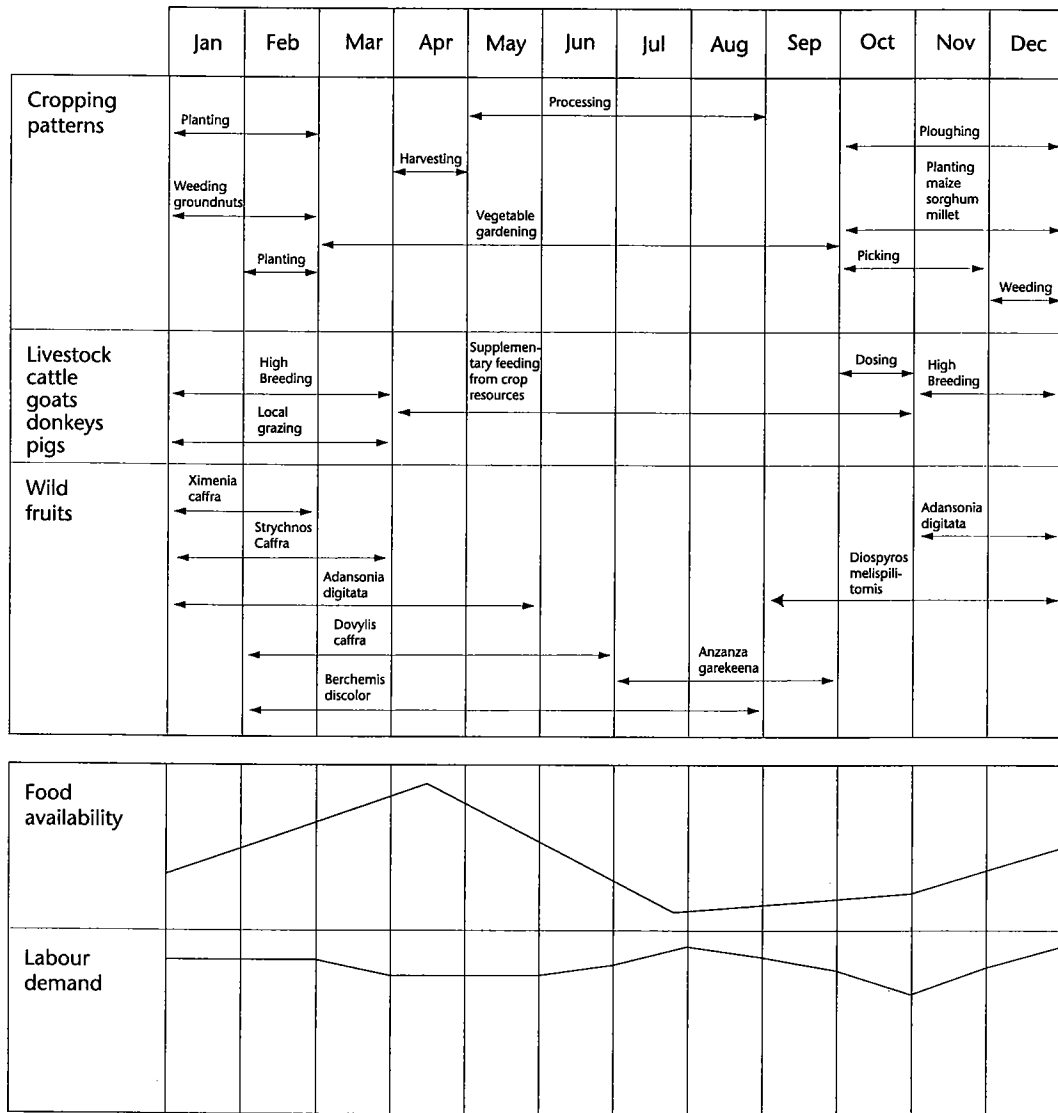
Figure 10 shows the design of a typical seasonal calendar for Mudzi. It deals with five main areas: crops, livestock, wild fruits, overall food availability, and overall labour demand.

Figure 10 has many merits: it is simple, neat and clear. Its style is formal RRA. But what field process can be used to create one? While this is quite appropriate in a report, it does not convey the possibilities of PRA process in the field. The process can start quite naturally, e.g. among a group of women waiting outside a clinic. (Any occasion where groups of people are just sitting waiting is a PRA opportunity). The discussion of agriculture can lead quite naturally into seasonality, to what happens when, and then to giving someone a stick to mark out the seasons on an open bit of ground (outside is almost always better than inside for this kind of activity). People will want to start by putting the seasons on the map. When does the agricultural year begin? The local Shona names for the seasons could be superimposed (not replacing) on the Western months. Even better, for local purposes the calendar might start in October, say. A discussion of the names of the seasons and what the indicators are of their arrival can be instructive because of their associations, as well as getting used to the discussion of indicators. What are the local names for the fruits?

The exercise should be repeated a couple of times. Different categories of people—men and women, for example—may put different things on their calendars. In any case it is worth doing more than once. All sorts of hidden or unexpected associations can emerge: seasonality of

disease, collection of materials for fencing and house construction, seasonality of incomes and expenditures, and seasonality of prices.

Figure 10: Seasonal calendar, Mudzi District, Zimbabwe



The exercise does not stop with the preparation of the calendar. It (not its makers) should be interrogated especially on variations. What happens here, if the rains are late or early, more or less than usual, stop too early or go on too long?

The preparation of a seasonal calendar can be of great interest to local farmers. One farmer in another project commented most enthusiastically that although he had been farming all his life, he had never thought of making either a seasonal calendar or a farm plan. He maintained, without prompting, that he would find them useful and would now make his own and refer to them regularly in order to plan ahead.

Biographies

Individual biographies are an excellent way of penetrating the past, and particularly at getting into adaptive strategies where decisions are probably most often made at household level. The South African team seems to have been alone so far in making use of this source. To pinpoint the major events of a biography where years may be absent, and to look for commonalities, a more general area-specific time line is useful.

Time line

Historical (linear) time is central to a proper understanding of adaptive strategies. These strategies have evolved over the last few decades, and perhaps earlier, in response to changing pressures on the environment, or the emergence of new opportunities. It will be very difficult to establish local trends and events, to tell when this pressure began to be felt or when that reaction took place, unless we are able to link these events to an absolute chronological reference. Note that absolute is not the same as precise. "Sometime in the 1950s" may be imprecise, but it is certainly absolute. "Long ago" or "in the past" is not. The absolute temporal reference point lets us fix a floating event or process in time, and therefore to relate it to external events and chronologies. It is the analog of the map, where an absolute geographical scale applied to a community sketch map gives us a reference point so that we can relate that map to external data such as air photos or a soils map. This is a rather important aspect of linking formal or contemporary knowledge to local knowledge.

The question of indicators is dealt with in a subsequent chapter. Here we can just note that indicators must be referenced in space and time, or else comparison, correlation and pattern recognition become impossible.

It should not be a complete surprise to find that researchers may have difficulty grappling with temporal analysis. To put it bluntly, history is more difficult than geography. Our brains seem to recognize spatial patterns more easily than temporal ones. Some may argue that local cultural perceptions of change and time may be at fault. Others may attempt to deal with the problem by ignoring it, by not providing a real analysis of trends and change over time. The South African team found the problem compounded by the fact that they were working in an area of fairly recent resettlement, where conceptions seemed to be of a dichotomous past and present. Strenuous efforts are needed to overcome these challenges. Oral cultures usually have deep historical memories that should put literate westerners to shame, and if people do not have a conception of linear change, such change can yet be deduced provided we have a chronology or time line to start with. Accepting that different people have different conceptions of the past, it should be possible to construct a local chronology, if necessary with advice from an historian. African historians with fieldwork experience often have to establish chronologies and time lines where none have been thought to exist. A chronology with benchmarks for the last three to five decades should be an easy and rapid exercise.

There are millions of people in North America who can still tell you what they were doing the day President Kennedy was shot. That is a benchmark event—and it can be dated. All communities have benchmark events. For people in dry lands, major droughts punctuate their lives and are often given vivid and revealing names. In Zimbabwe, two famous recent droughts are known to people in even very remote areas as "Kenya" and "Argentine". Why? It has to do with the source of the much-publicized drought relief supplies. "Kenya" (1983-84) is remembered because during that time people had to eat unpalatable yellow maize imported via Kenya. During "Argentine" (1992-93) the vessel bringing the much publicized relief food came from that country. It became stranded on the high seas, and its progress (or lack thereof) was reported daily on the front page of the national paper and on the radio news. These drought memories can go back a long way. Many older people throughout eastern Kenya know of the year of the stars (1933-34)—almost no rain fell in either of the seasons, and so stars were visible every night. Another drought was called the year of the animal skins, because people were reduced to boiling and eating leather. Chronologies based on droughts have been used to go back several centuries. There are also major events other than droughts. Many very old people across southern and eastern Africa will know of "furuwenza", the devastating killer influenza epidemic of 1919, brought by soldiers returning from the 1914-18 war, which affected rural areas very widely (King, 1995).

It may be best not to engage prematurely in the exercise of making a time line. Researchers in an unfamiliar area should first collect a running list of benchmark events. Some of these will have absolute dates—which should be checked. There will be many occasions to add to this list: on transects or while traveling to meet someone. The casual questions about the community “landmarks” can provide an opening: When was that school started? When was this road tarmacked? When did such and such a chief die? Benchmarks are likely to come up in the collection of biographies. Local historians may be proud to demonstrate their historical knowledge, and provide a list. The technique therefore partly comprises of the team’s making a list of nice “hard” unambiguous events, which most people will remember even if they don’t know the date.

With such information or questions to hand, the construction of a time line as a participatory group exercise may emerge naturally out of a small group discussion with a few older men and women. One advantage of this is that the discussions and debates themselves are instructive, when people try to relate things in sequence. Different things are important to different people. As in the case of maps, here also it is of interest to see whether the events chosen for the time line are the same for rich and poor, men and women, old and young, or other social categories. Then we can ask why the time lines are different, just as we can with maps. Just as with maps, serious disagreement can indicate social conflict. History in small communities is often highly politically charged.

Participatory time lines are best made on the ground, marking on the soil or placing movable objects on a line. This technique, common to most PRA representational exercises, allows the group members to move and change items as the discussion proceeds. This reduces the opportunity of dominance of the illiterate by the literate, or committing to paper statements which then become prematurely solidified as the truth. A time line should only be reduced to paper at the end of the exercise.

Once we have the benchmark events in relative order, we need to insert, where possible, absolute dates. The Zimbabwe group was able to base its time line on fairly large-scale official resettlements that could be dated, allowing a nice fit with a claimed population trend. The adding of absolute dates may require some reference work or research outside the community.

This is one exercise worth persevering. The understanding of local conceptions of time is necessary as a frame of reference to relate to discussion of trends, and to provide a tool to link local knowledge to a wider frame of reference. As a last resort, an historian should be added to the team, to help with time and trends.

Try to steer people gently away from putting fuzzy events on a time line. This is an opportunity to suggest a trend line. The statement “People stopped using herbs and roots as soap” appeared on one project group’s time line. But it is actually a trend—and possibly a very interesting one, leading into all sorts of avenues for exploration of sustainable livelihoods. In that way, a problem—how on earth can you date this event?—becomes an opportunity to turn people’s minds to the concept of change. The example is instructive, because this trend was contributed by the very people who, the research team complained, had a flat and dichotomous sense of history, making it difficult to get them to talk about process and change. We therefore turn to trends.

Trend lines

To combine trend and time lines in a single presentation, as in Fig. 11, can be instructive, both in process and product. Trends are linear patterns of change in a value or indicator over a defined period of time: for example, population growth, soil erosion, or literacy. Trends in one indicator may be examined for their intrinsic shape or pattern, and for possible relations to trends in other indicators. The most important are :

- Co-variance: the two trends rise and fall together (do not assume causality!)
- Contrast: a rise in one trend is accompanied by a fall in another
- Leading and trailing: one indicator rises or falls some period of time after the other
- No relation: this can be an important finding in itself, particularly if conventional wisdom suggests that there is or should be a relationship.

Trend lines as a PRA tool, in contrast to time lines, appear to be genuinely difficult to do well, judging by the results of many exercises over several years. They should not be made to bear an evidential weight greater than common sense suggests. We are asking people to illustrate graphically a change in an indicator which they can probably only estimate or hazard a guess at, over a period of time which they may not be able to measure accurately either. Therefore the line can be distorted or misleading on both the time axis and on the quantity axis. The problem may be reduced if we have already made a good time line with widely recognized benchmarks.

A trend line can be used to illustrate or promote a discussion on change over time, and to represent perceptions of change. But the object of the exercise, as with all PRA, should not be trivialized. It is not just a matter of getting people to draw and interpret a wavy horizontal line on the ground so as to have a product for inclusion in a research report that will demonstrate that participatory research techniques were used. Researchers should never lose sight of the underlying object of any exercise, which in this case is to understand community perceptions of change over time, in relation to adaptive strategies and sustainable livelihoods. Such understanding can be aided by visual representation. Therefore the questions arise from the livelihoods themselves. Take house building: people started building houses of different materials, say switching from wattle and daub to mud brick, to burnt brick and then to cement bricks. Such a change is possibly best dealt with by taking various points of time on a time line, and placing stones to represent number of brick houses at each point. These stones can then be arranged in vertical or horizontal rows to form a bar chart. With adjacent bars representing the number of houses of other materials, trend lines can be interpolated. Then a discussion of the implications of the different materials might follow—burning bricks for example, can be a major cause of deforestation. The same stones could be then be rearranged to form a stacked bar chart, thus illustrating the change in the total number of houses built, and the composition of the total. Another possibility is a positive and negative bar chart, showing departures from the norm—harvests, or rainfall for example. The trend line can then be superimposed at the end. It is a somewhat neater and more deliberate process than drawing wavy lines.

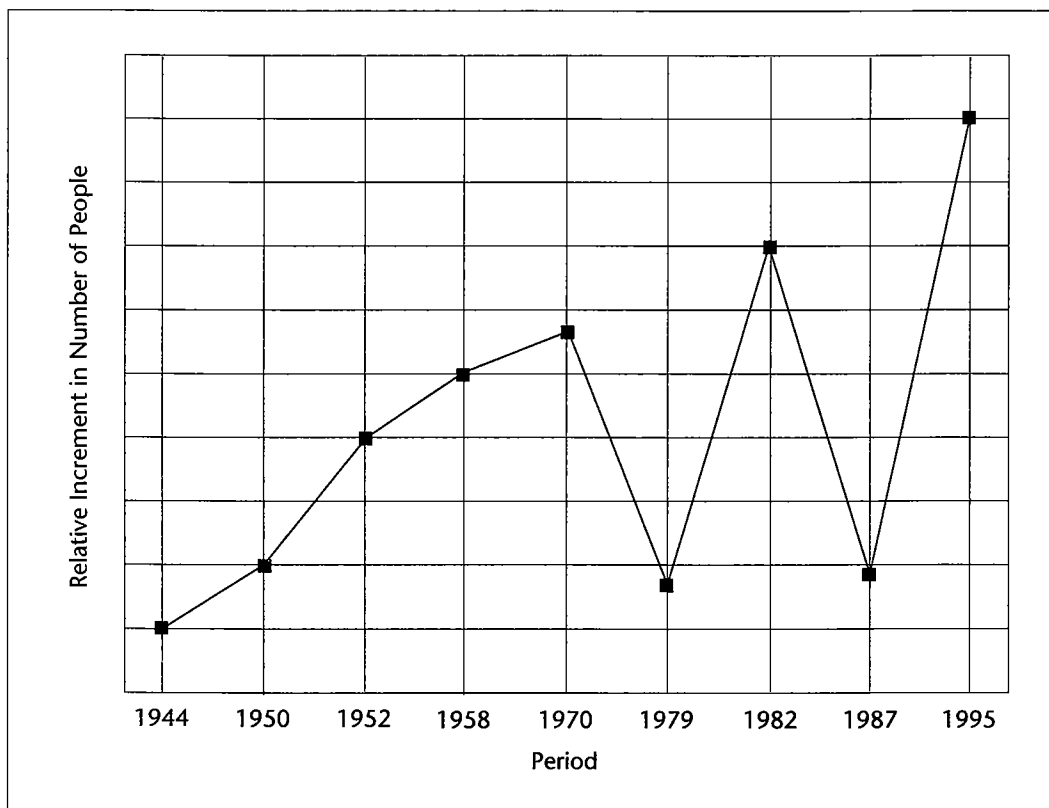
The discussion of the trend line—the interrogation of the representation—can help provide linkages, or perceived linkages, between cause and effect. For example, a rise in school attendance following the construction of a new school, could have related effects in the household's access to that child's labour. What we really want to end up with is an analysis arising from trend lines that can demonstrate pressure and response. This can be illustrated with a brief example from Rennie's experience concerning trends in consumption of animal protein in a Zambian pastoral community. The main sources of animal protein were: wildlife (mainly lechwe and buffalo), fish, fermented milk, and beef (almost exclusively at funerals and weddings). One can trace from hard evidence over a century the main external factors impinging on this supply: the introduction and then the banning of guns, the ending of communal buffalo hunting; the fluctuations in lechwe hunting; changes in the flood regime affecting fish productivity; changes in animal productivity; and the rise of organized commercial poaching. This information can be used to amplify and make more precise local accounts of changes in protein supply over time, from superabundance to malnutrition in 100 years.

The preparation of trend lines sometimes leads one into the difficult area of the concept of normal, with trends showing departures from it. But departure from the normal depends on your being able to determine in the first place what that normal is. Here there arises possibly a temptation to abandon the participatory method, and just to tell people what normal is. Or we could accept what they tell us and bracket it as their perception as that of contemporary knowledge. But let us be wary of imposing our concepts. So local people have no conception of rainfall norms? Are we ourselves really in a better position, in respect of ASALs? What is the norm for precipitation in ASAL area x? It all depends on your time scale. The inter-annual fluctuations may reflect perturbation (chaos theory) or a complex pattern of cycles within longer cycles within even longer cycles, resting on secular and millennial trends (or cycles?) Does the word normal refer to the total amount of annual precipitation, if so over what period of time? Or does it include the concept of distribution, e.g. the number of rainy days? If it includes the concept of probability, do we mean 60 or 90% probability? Or do we mean a combination of probability and distribution? In ASALs rainfall reliability curves and total precipitation curves often intersect each other almost at right angles, creating a very complex

pattern. Or do we take normal to mean following a predictable pattern—that the rains will grow crops, start on time, continue without a serious break, and stop on time?

Figure 11: Time line and population trends, Mlambapehle, Zimbabwe

Population Trends for Mlambapehle

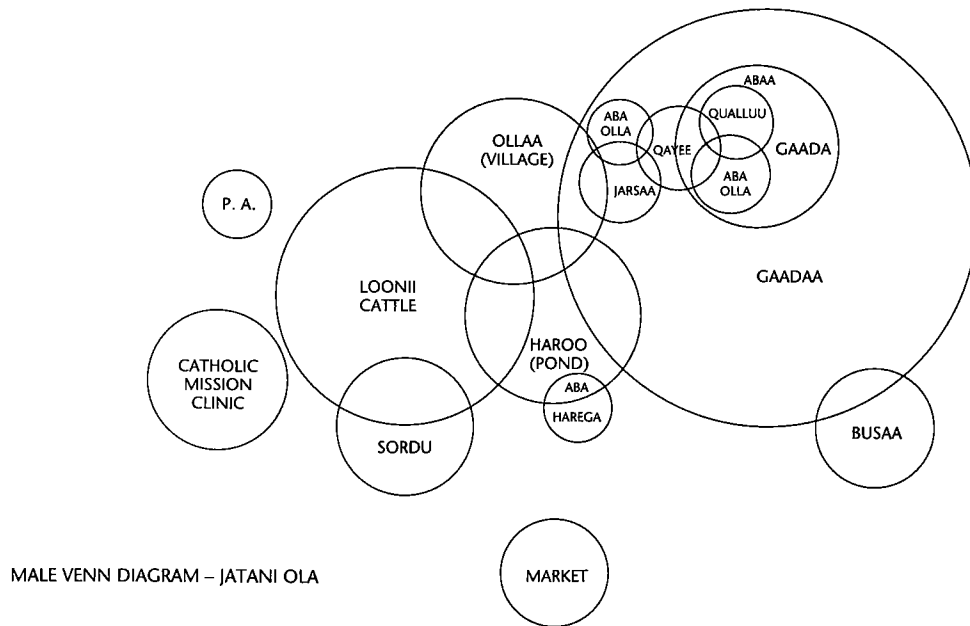


- Moved from Marshetshe Mzingwane, West Necholson by Land Appor Act 1929
- 1944 - Masole settlement
- 1950 - Mahlanya settlement
- 1952 - Rantasi settlement
- 1953 - Linear settlement
- 1958 - Macala settlement
- 1970-79 - Liberation struggle
people deserted homes to Botswana
- 1977 - Construction of Bhinya road
- 1980 - Independence people return to their home -
population boom
- 1982-87 - Internal instability
people deserted homes to Botswana
and urban centres
- 1987 - people returned to their homes

Once we admit our own ignorance—that beneath the stone of an apparently simple concept, there lurk the scorpions of uncertainty—then we can feel free to debate and discuss the concept of norms and change with local informants. We can attempt to share with them the rewards and problems of relating our knowledge to theirs.

Alternatively, trend lines may be developed by the research team using exclusively their own quantitative data. But unless some attempt is made to relate these findings to those obtained from people, this decision would have the effect of removing the very important topic of key indicators and trends away from the participatory and empowerment themes and into the exclusive realm of contemporary knowledge.

Figure 12: Institutional importance and relationships, Jatani Ola, Dubluk Medda, Borana region, Ethiopia



In conclusion, trend lines are probably best seen as representing local perceptions of major and relative quantitative change in a particular indicator. These perceptions may be well or poorly founded. However, taken together with other data they can indicate and possibly associate together major developments resulting from a major change. This might indicate a significant causal change. It is certainly justifiable to expend some effort trying to get them right.

Institutional analysis: Venn diagrams

An initial exploration of socio-economic variables often starts with the well known Institutional Venn diagrams. These represent an institution’s relative importance by the size of the circle and intensity of interaction/social distance by degree of overlap/separation. It is not a difficult exercise to undertake, although a bit of trial and error at the outset must be expected in order for local people to become familiar with this type of representation. An example from Borana region, Ethiopia, is presented as Fig. 12. Men and women, wealthy and poor, young and old, may well produce different diagrams, and the differences are often instructive. This exercise can lead into more intensive interviews with key informants, focus group discussions, and participant observations. Institutional analysis turned out to be a key component of some studies, but the variability is so great that it is difficult to give useful guidance as to how to conduct the analysis. Some imagination could help here. People seem to inevitably associate certain PRA/RRA investigational tools with certain topics: thus a Venn diagram is used for institutional analysis, a preference matrix tends to be applied to evaluation of crops or trees according to multiple criteria, and pair ranking tends to be applied to wealth ranking of

individuals or households, or to establishing development priorities. But these tools are in effect content neutral: any of the three could be applied to institutional analysis.

Pair ranking

Pair ranking is simply a round robin tournament technique by which every item in a list is compared to every other item according to a single criterion, the final ranking emerging from a simple tally of the number of wins. A training example, applied to 12 problems, is shown at Fig. 13. This method could equally be applied to the perception of the importance or effectiveness of institutions; and thus act as a cross check on an institution's importance represented by circle size in the Venn diagram. The exercise can be done with cards, but its preparation in public is a good idea, as the results are visible throughout the exercise. The idea of including on the diagram process notes and other commentary, and of translating local names, is a good one.

Preference matrix

A preference matrix (Fig. 14) is a tool that allows the qualitative comparison of apples and oranges. Several quite different items are scored on multiple criteria, in this case by placing between one to six beans in the appropriate square. The group which produced this training exercise wisely remembered to provide a key in their commentary: otherwise we might find it hard to remember whether one bean means good or bad. In constructing such a matrix, care should be taken to ensure that the criteria are all measured positively, or all negatively—it is easy to get confused, and mistakenly combine criteria running in the opposite direction, e.g. for a crop, labour requirement (low is good, high is bad) and resistance to drought (low is bad, high is good). With this caveat in mind, this matrix could be applied to institutional analysis, after a careful discussion of the criteria on which the institutions are being evaluated.

It is a matter of judgment in the field as to whether any of these tools would assist in the understanding of local institutions. In many cases, there will be little alternative to group discussions and key informant interviews.

Groups: Makrspan Village
02/12/93

Pair Ranking of Problems/Needs














| Process | | water mati | bridge bulowo | streets switerata | electricity gasi | schools xicolo | creche kirechi | plough kurima | jobs mitirho | disabled batsoniwa | shops switolo | markets makete | church kereke | clinics kliniki | Learnings | |
|---|--------------------|------------------|---|-------------------|---|----------------|-------------------|-------------------|-------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--|--------------------|
| <p>12 participants, more women than men. Listed needs in both languages with drawings. Community members did the writing. Needs and problems were mixed together — had to redefine/reword before entering into the matrix. Pairwise comparisons explained with examples, i.e. people must choose between two options w. r. t. which is the greatest need. Exercise taken over by participants. Added up totals — people were happy with the priorities.</p> | water mati | | water mati | water mati | water mati | water mati | water mati | water mati | water mati | water mati | water mati | water mati | water mati | water mati | <p>Once the idea of pairwise comparisons was grasped the process worked very well and efficiently. We were most impressed — it went much better than we anticipated. Generally there was little argument but most people offered their view by shouting out their preference. Participation was excellent. People provided very rational reasons for their choices especially when it was slightly more difficult to make a decision: e.g. they argued that you need streets before you can put in electricity, therefore streets must be a priority; people come first so care for the disabled is more important than streets. The list of needs, in this case, was almost too long. The exercise took quite a long time to complete. Certainly a longer list is not recommended as it would make the process too tedious as the number of comparisons would be vast. People would lose interest. We recommend this method for prioritizing needs within a common interest group. Problems may arise with this technique if the participants have conflicting interests.</p> | |
| | bridge bulowo | | | streets switerata | bridge bulowo | schools xicolo | creche kirechi | bridge bulowo | bridge bulowo | disabled batsoniwa | shops switolo | markets makete | church kereke | clinics kliniki | | |
| | streets switerata | | | | streets switerata | schools xicolo | streets switerata | streets switerata | streets switerata | disabled batsoniwa | streets switerata | streets switerata | streets switerata | streets switerata | | |
| | electricity gasi | | | | | schools xicolo | creche kirechi | plough kurima | jobs mitirho | disabled batsoniwa | shops switolo | clinics kliniki | church kereke | clinics kliniki | | |
| | schools xicolo | | | | | | schools xicolo | schools xicolo | schools xicolo | disabled batsoniwa | schools xicolo | schools xicolo | schools xicolo | clinics kliniki | | |
| | creche kirechi | | | | | | | creche kirechi | jobs mitirho | disabled batsoniwa | creche kirechi | creche kirechi | creche kirechi | creche kirechi | | |
| | plough kurima | | | | | | | | jobs mitirho | disabled batsoniwa | shops switolo | markets makete | church kereke | clinics kliniki | | |
| | jobs mitirho | Water/mati |  | 13 (1) | Poor people/  | | | | | | disabled batsoniwa | shops switolo | jobs mitirho | jobs mitirho | | jobs mitirho |
| | disabled batsoniwa | Bridge/Bulowo |  | 4 (8) | Jobs/Mitirho | | | 6 (6) | | | | shops switolo | disabled batsoniwa | disabled batsoniwa | | disabled batsoniwa |
| | shops switolo | Street/Switerata |  | 8 (4) | Disabled/Batsoniwa | | | 11 (2) | | | | | | | | |
| | markets makete | Electricity/Gasi |  | 0 | Shops/Switolo  | | | 5 (7) | | | | | shops switolo | church kereke | | clinics kliniki |
| | church kereke | School/xicolo |  | 9 (3) | Market/Makete  | | | 3 (9) | | | | | | | | |
| | clinics kliniki | Creche/Kirechi |  | 7 (5) | Church/Kereke  | | | 7 (5) | | | | | | church kereke | | clinics kliniki |
| | | Tanks/Tanke |  | | Clinic/Kliniki  | | | 7 (5) | | | | | | | | clinics kliniki |
| | | Plough/Kurima |  | 1 (10) | | | | | | | | | | | | |

Figure 13: Pair ranking (South African training workshop)

| Process | Group 1: Islington Women's Group Community Garden Resource Matrix | | | | | | Learnings | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--------------|-------------|-----------------|-------------------------|--|-----------|-------|--------------|-------------|-----------------|-------------------------|-------|---|---|----------|------------|----|-------|--|---|---|---|------------|-------------|-----|---|------------|----------|------------|--------|--|------------|------------|----------|------------|-----------|----------|---|------------|----------|------------|-------|---|---|---|---|------------|-----|---|---------|------------|----------|------------|--|
| <p>Group split up. Participants included 6 women of which one tended to dominate. When she went away for a short period, the others participated much more actively.</p> <p>The older women always deferred to the younger women to do the talking and she was always given the difficult tasks to do.</p> <p>The criteria and list of inputs into the garden was generated jointly. Sometimes the PRA team would make a suggestion, e.g. chemicals, and thereafter the women would propose the next few inputs.</p> <p>One bean means problematic or difficult, 6 means not a problem.</p> <p>People did not seem to have problems building the matrix. There were also very logical reasons behind people's choice of bean number and the PRA team learned much in the process.</p> | <table border="1"> <thead> <tr> <th></th> <th>Price</th> <th>Availability</th> <th>Ease of Use</th> <th>Help/Advice Now</th> <th>Help/Advice Future Need</th> </tr> </thead> <tbody> <tr> <td>Seeds</td> <td>○</td> <td>○</td> <td>○○ ○○</td> <td>○○○ ○○○</td> <td>○○</td> </tr> <tr> <td>Water</td> <td></td> <td>○</td> <td>○</td> <td>○</td> <td>○○○ ○○○</td> </tr> <tr> <td>Fertilizers</td> <td>○○○</td> <td>○</td> <td>○○○ ○○○</td> <td>○○ ○○</td> <td>○○○ ○○○</td> </tr> <tr> <td>Manure</td> <td></td> <td>○○○ ○○○</td> <td>○○○ ○○○</td> <td>○○ ○○</td> <td>○○○ ○○○</td> </tr> <tr> <td>Chemicals</td> <td>○○ ○○</td> <td>○</td> <td>○○○ ○○○</td> <td>○○ ○○</td> <td>○○○ ○○○</td> </tr> <tr> <td>Spray</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>○○○ ○○○</td> </tr> <tr> <td>Hoe</td> <td>○</td> <td>○○ ○</td> <td>○○○ ○○○</td> <td>○○ ○○</td> <td>○○○ ○○○</td> </tr> </tbody> </table> | | | | | | | Price | Availability | Ease of Use | Help/Advice Now | Help/Advice Future Need | Seeds | ○ | ○ | ○○ ○○ | ○○○ ○○○ | ○○ | Water | | ○ | ○ | ○ | ○○○ ○○○ | Fertilizers | ○○○ | ○ | ○○○ ○○○ | ○○ ○○ | ○○○ ○○○ | Manure | | ○○○ ○○○ | ○○○ ○○○ | ○○ ○○ | ○○○ ○○○ | Chemicals | ○○ ○○ | ○ | ○○○ ○○○ | ○○ ○○ | ○○○ ○○○ | Spray | ○ | ○ | ○ | ○ | ○○○ ○○○ | Hoe | ○ | ○○ ○ | ○○○ ○○○ | ○○ ○○ | ○○○ ○○○ | <p>Older people expect the younger people to do most of the work.</p> <p>Dominant people can underplay the very valuable contributions that others have to make.</p> <p>Dependence on one person in a project can become a major problem. For example, the availability of seed, fertilizer, and chemicals was perceived as a problem (1 bean) because the garden members were totally reliant on the extension officer for these. They did not know where to buy them for themselves or what to get. They also felt that the price of garden implements was a problem as they relied on getting these through others who had transport to town — they felt that they were overcharged. The whole issue of spraying presented difficulties as the sprayer was very heavy and only one young member could use it. She sprayed everyone's crops. They were also reliant on the extension officer to help mix the chemicals and sometimes he was not available when the crops needed attention.</p> <p>As is the case in the whole region, water was the major problem. The gardeners needed a pump to pump water from the little dam supplying the garden to the garden. At the moment it is hand watered.</p> <p>The (WRF) Nursery/Agricultural project should be able to help in areas where the extension officer was letting the group down.</p> |
| | Price | Availability | Ease of Use | Help/Advice Now | Help/Advice Future Need | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Seeds | ○ | ○ | ○○ ○○ | ○○○ ○○○ | ○○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Water | | ○ | ○ | ○ | ○○○ ○○○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fertilizers | ○○○ | ○ | ○○○ ○○○ | ○○ ○○ | ○○○ ○○○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Manure | | ○○○ ○○○ | ○○○ ○○○ | ○○ ○○ | ○○○ ○○○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chemicals | ○○ ○○ | ○ | ○○○ ○○○ | ○○ ○○ | ○○○ ○○○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spray | ○ | ○ | ○ | ○ | ○○○ ○○○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hoe | ○ | ○○ ○ | ○○○ ○○○ | ○○ ○○ | ○○○ ○○○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Figure 14: Preference ranking matrix (South African training workshop)

Wealth ranking and poverty analysis

The question of wealth ranking is a vexed one. It seems to be assumed that if we are doing participatory research into sustainable development for the poor, we have to have a wealth ranking exercise. It has become part of the standard PRA menu, and yet one often encounters complaints that it is difficult to do because people are resistant, or apologies for not being able to do wealth ranking.

Local differences in wealth and poverty are certainly very much within the concern of this project. Why then is wealth ranking seen as difficult to implement? One reason must be that, as generally practiced, it is seen as intrusive. And no wonder. Imagine a team from a university in Iraq trying to survey the assets of the families of a small rural community in the USA. How would they be received? What sort of motives would people impute? To try to identify and rank every household in a community according to its assets or wealth by whatever method—whether by public pair ranking, or by key informants in semi-public or secret (as recommended by some), or by questionnaire survey—is surely most obviously something that could easily lead to suspicion or resentment. It is only natural for people to fear to reveal their wealth, or their poverty, for fear that such information may be used to their disadvantage.

Wealth ranking is usually very difficult in pastoral communities (less so in agricultural ones) and if done may simply yield spurious results. In any case, there is no good reason for trying to make it a public exercise. It is not clear why so many participatory researchers seem to feel that it is necessary to try to undertake wealth ranking by household, especially at an early stage in field work; and then to have to apologize for the difficulties they encountered in trying to do so.

We should ask, therefore, what it is we are trying to find out. Wealth and poverty analysis, which is broader than ranking, may be carried out for many possible reasons, and with a variety of tools, the most important of which include:

- Poverty programming and targeting: a poverty alleviation program wishes to ensure that its relief or development benefits are not hijacked by the local elite;
- Establishing the level and trend of socio-economic equity: to find out the distribution of wealth in the society, for example as in a Lorenz curve, from which we can derive statements like “10 percent of the population own 90 percent of the cattle, and 90 percent of the population own 10 percent of the cattle , and (by comparison) the trend is getting worse”.
- To understand the dynamics of wealth and poverty in a given society: what characteristics and social relations enable or hinder prosperity, and what characteristics intensify poverty. For example, one might discover that both the wealthiest and the poorest in a given society are more recently settled.

Of these three main purposes above, only one (the second) requires some kind of household ranking, and even in that case a sample survey would be sufficient. For the others, an analysis by category would be enough. And it is very non-contentious in the local situation.

Instead of ranking, categorizing a population by wealth or poverty might be sufficient, particularly for the purposes of this study. We recognize that wealth is a continuum, that the boundaries of the categories are fuzzy, that there are marginal individuals and households, and that there is mobility between categories over time. Wealth categories are nevertheless a useful heuristic device. We expect that those people in certain categories have sustainable livelihoods, other people are at risk, while yet others have no prospect of sustainable livelihoods. We expect that people in one category would have certain options or adaptive strategies open to them under stress, while those in other categories would have different options, or no choice. We expect that certain policy changes might benefit people in one category while ignoring or even prejudicing those in another category. We may need the categories for the purpose of constructing a stratified sample.

The first step therefore is to obtain through discussion with community members some of the key local criteria or characteristics of poverty and wealth, and then, by applying these characteristics in abstract, to determine a set of useful categories that make sense in local discourse. It is important to try to avoid derogatory classifications, choosing instead terms that

have broad social acceptability. For example, one community in Uganda agreed on a four-fold classification of (a) “Those who can manage”, a euphemism for the relatively wealthy who could look after their own interests without help from anybody; (b) “Those who have something”, i.e. had some small assets, such as a few animals, some equipment, and an opportunity of developing; (c) “Those who earn slowly”, i.e. they had no real capital assets, but struggled on a daily basis to make ends meet; and (d) “Those who cannot manage” the obverse of the first group who were destitute and therefore required external support to survive (Rennie, 1994). The general characteristics of each social group could be described. Broad approximation can be made of the relative proportions of these, either by observation or social mapping. Further insights can be obtained by identifying households with serious problems, e.g. food shortage, lost all their animals. Yet further insights can be obtained by individual household analysis, biographies, key informants etc.

What was particularly interesting about this four-fold classification of wealth and poverty in Uganda was that it corresponded quite well with a recent World Bank analysis of poverty in that country, thus again allowing linkages between local and contemporary to be made.

Other investigational tools

A menu of PRA tools is included at Annex V to this document. To describe them all is beyond the scope of this document. Researchers in the field are innovative in this respect and experimentation according to what works locally is strongly encouraged.

A special mention may be made of cultures with a strong oral component. Australian aborigines can walk across the hostile Nullarbor desert, navigating by dream line songs which contain essential information on how to travel and where to find water. The praise poetry of the Ila of Zambia contains valuable information on social mechanisms for the accumulation of wealth, references to common property resources and even on adaptive strategies—the adoption of ox-ploughing and maize cultivation, and traditional fishing methods. While you cannot tell an Afars man in Ethiopia to make a resource map, a researcher with entry to the society could make a useful start into sustainable livelihoods by collecting and understanding songs and poetry about camels. Indeed the Ethiopia policy paper cites an Afars proverb about livestock ownership.

Questionnaire surveys are a useful adjunct to field research, but should try to observe several criteria:

- They should be focused on a specific limited set of questions defined by earlier research findings, and not comprise a list of questions on topics that might or might not be relevant;
- They should be short, and manageable;
- They should address questions that cannot be better answered by other methods;
- People should understand the reason for the survey;
- The results should be shared with the people, who may then evaluate it as an exercise.

Preliminary synthesis and identification of topics for special investigation

After preliminary research, the research team should be in a position to make a preliminary synthesis in the field. They should have an overall picture of the constituents of the field, its ecological components, a broad but incisive socio-economic-political analysis which shows the different and often opposing or competitive components of the community. They should thus move, if they have not already done so, to identifying what adaptive strategies have been developed by the community to cope with change, and distinguish these from coping strategies which deal only with short-term or temporary shocks and stresses. They should have ideas, or at least questions, about the circumstances in which coping strategies have become solidified into more routine, regular practice and thus form part of the mix of adaptive strategies. Thus they should be in a position to identify knowledge gaps, to which research effort must be directed in order to produce an adequate description and analysis.

The methodology report of the Burkina Faso team illustrates this point. Having collected through various participatory methods the initial information, they write:

The team had regular synthesis sessions, with the participation of a local facilitator. The concern was to identify the different strategies implemented by the producers. Every strategy was analyzed to determine its respective impacts. Following this, the synthesis was compared to the views of several producers. The analysis resulted in a definition of adaptive strategies leading to sustainable development [sic]: interests, impacts, constraints, methods, and ways of reinforcing the strategies. The team did not stop at collecting the conclusions of the local peasantry: they added information which enabled the producers to deepen their understanding of adaptive strategies. (translation from French.)

In Nougou, for example, the Burkina Faso team found the old traditional practice of entrusting Mossi livestock to professional Fulani herders was breaking down, being replaced by a system of localized livestock rearing. This emerging adaptive strategy (one of several) had considerable promise in linking to a system of mixed farming and exploitation of opportunities of market gardening. The group was able to link this to the policy study, which we shall discuss in the next chapter.

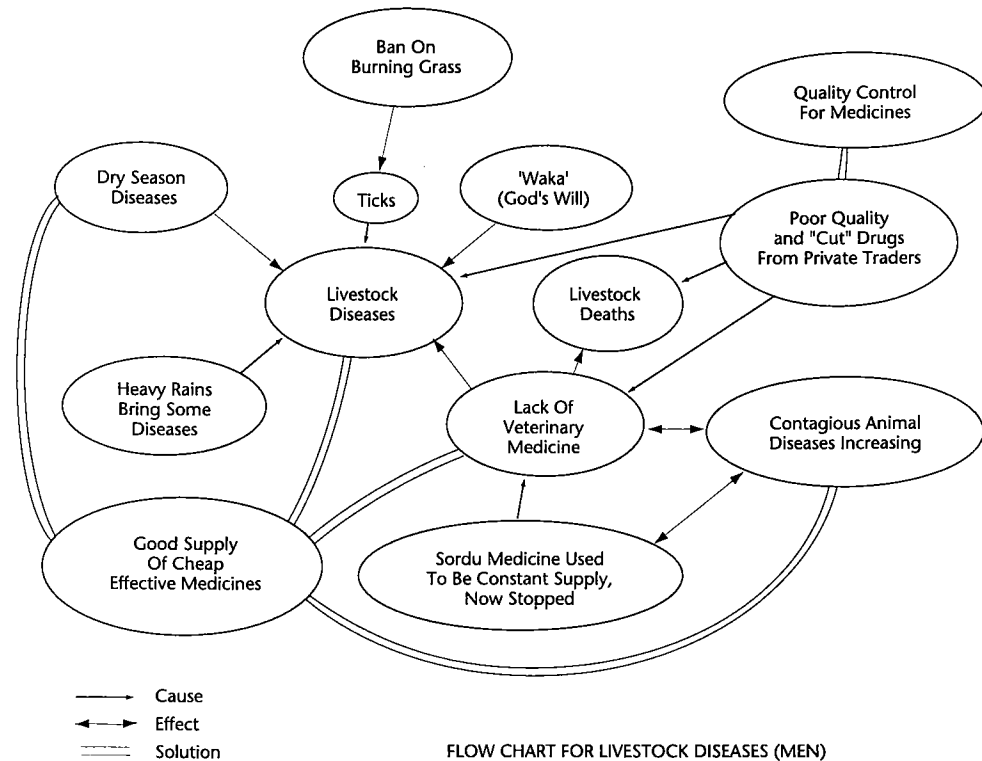
But the strategy was constrained by a number of factors including shortage of capital, poor organization, and lack of technical know-how. These conclusions therefore informed the policy study, which looked at the evolving wider structure of veterinary and credit services and marketing arrangements. The policy study was therefore able to make a series of very specific and practical recommendations which, taken together, would form an enabling environment for this strategy. The same procedure was used for other emerging adaptive strategies, for example, market gardening of fruits and vegetables.

This experience indicates that value of linking field findings to policy research issues in the field, which we will come to in the next chapter. It also demonstrates the need to consider even at this early stage what kinds of local follow-up projects might be developed in order to help remove the constraints in practice, and to demonstrate how adaptive strategies can be strengthened on the ground. This suggests the need for time and resources to move from a PRA to a PAR mode, where the research team and local people sit down together and work out an action plan. This might involve (as in one Burkina Faso site) mechanisms of local conflict resolution and resource management, credit structures or technical support systems, as well as policy reform, unless it is felt that policy reform would automatically allow these initiatives to emerge.

This is the point, therefore, where field research has to become much more focused on strategies, opportunities and constraints, and removal of constraints. There are a variety of field tools and techniques appropriate to this more focused stage of research: these are listed in Annex V and could well include the following:

- Household level investigations, including short questionnaires, farm plans, preference ranking, to understand better how and why choices are made; may well require preliminary wealth ranking or rough wealth or poverty classification;
- Key informants;
- Institutional analysis, to find out which institutions people interact with, and how, as a way of elaborating policy constraints;
- Species identification;
- Quantification;
- Problem and solution webs and trees (Fig. 15);
- Problem and solution ranking;
- Representation of visions of the future (mapping the ideal community, modeling sustainable livelihoods).

Figure 15: Problem web (Boran men, Ethiopia) showing cause and effect interactions



Articulation of adaptive strategies leading to sustainable livelihoods

In describing adaptive strategies, we should be clear that a community does not have a single strategy, but rather a bundle of options, some of which are open to some members of the community and some to others.

We are looking for significant, enduring patterns of change that reflect people's search for sustainable livelihoods. These changes will be reflected in settlement and land use patterns, patterns of resource use and management both individual and collective, and in the nature of their responses to external pressures and signals: market opportunities, the changing values of commodities, access to services, labour markets, and to the regime of institutions, rules and legislation, and decision-making within which they live. These patterns of change require description and explanation. We are looking for innovations, continuities, and links.

We also want to describe significant, enduring patterns of ecosystem change—not necessarily degradation—and to explain these in relation to changes in their use and management.

The key objectives of this stage are, in consultation with key informants and subsequently with a wide selection of community representatives:

- To clarify and describe the adaptive and coping strategies, showing which ones are community-wide and which are specific by gender, socio-economic status or age;
- To relate them to the major challenges or vulnerabilities;
- To identify and agree on policy interventions that will create an enabling or supportive environment for adaptive strategies leading to sustainable livelihoods.

There appeared to be three key variables contributing to success at this stage:

- Sufficient familiarity with local language and culture to enable discussion of adaptive strategies for sustainable livelihoods, translating these concepts into local idiom whose relevance was quickly perceived by local people;
- A receptive research site, where strategies exist that people have been able to relate to the concerns of the research team, and where people can perceive some potential future advantage to themselves in identifying and describing the strategies. The dialog must not be obscured by suspicion or apathy;
- Identification of processes of change over time. It is very difficult to analyze adaptive strategies unless this part of the analysis is clear. We have noted above some of the difficulties in arriving at such an identification, for a medium-term time frame (the last few decades).

After sufficient clarification with smaller focus groups, a larger community workshop could be held to test, elaborate, and agree on the descriptions of adaptive strategies.

Indicators

We are concerned here with indicators at the community level, having dealt with indicators at the expert level in a previous section. We should first discuss the concept of an indicator, and agree in a small expert group of people proficient in the local language and culture on what local word to use. In the Ugandan case, the word chosen was signpost. Everybody recognized what it was and what it was not: a signpost points to something else, but is not itself the thing it points to. Some initial preparatory time needs to be taken to get this concept right in the local situation. The South African team used the concept of a tool to measure a child's school progress—the school report card.

General criteria for selection of community indicators should be applied. We take here an example of an indicator of hunger in Uganda, eating beer bananas, which was both community derived and expert-validated. Eating beer bananas (which are normally reserved for brewing) as a staple food, is a sign that a family has been reduced to poverty and hunger. We then judge the indicator by those key criteria. For example, we ask ourselves first, does this indicator meet the following criteria?

- Valid? Does it measure what we think it is measuring and not something else? When discussing indicators of hunger at community level in Uganda, increased domestic quarreling and eating meals at other peoples' houses were first offered by local representatives. After discussion, it was agreed that these would not be good indicators of hunger, as many other factors could also lead to the same result. Finally, it was agreed that eating beer bananas was a valid indicator, since nothing except hunger would lead to it.
- Measurable? Yes, we can count the number of households affected.
- Verifiable? Yes. Anybody can check. It is not difficult to know who is reduced to eating beer bananas: the fact is hard to hide. It is different in a household expenditure survey, where you have to hope that people are telling you the truth about how much they spent last month, but have no way of checking.
- Cost effective? Yes, you just count. It doesn't take long, and doesn't require any special equipment or training. Even schoolchildren could help.
- Timely? Only somewhat. It depends what you want to know. It is a trailing indicator, which shows that people are already in a state of hunger. On the other hand, you could get a picture of the situation quickly: just walk into a village and ask for the indicator, and people will get it within a day.
- Simple? Clearly so.
- Relevant? Everybody agrees it is. It is something they would be willing to monitor on their own, as it is relevant to their own problems. This is an essential point if the community is

to help in monitoring an indicator—it must be something that they see as important as well as not burdensome.

- Sensitive? Somewhat. It measures moderate hunger. It will not be very useful if things get much worse, when everybody finds themselves in the same situation, or if things get so bad that even beer bananas are finished. We would need other indicators for severe, prolonged hunger, like eating roots and other emergency foods.
- Specific? Yes, it doesn't seem to measure anything else, and we are measuring only one thing.
- Punctual? It can be measured at regular intervals, e.g. weekly or monthly.
- Precise? No. It will only tell you how many households are affected, but not how seriously. You would have to look at the nutritional status of the children to determine acute or chronic malnutrition. This would require expert help, although at that level there are rapid survey methods available.

Table 21: Example of summary strategy (South Africa, 1995)

| | |
|----------------|---|
| Practice: | Investment in children's education |
| Stress: | Lack of security for elderly |
| Response: | Invest in children |
| Strategy type: | Adaptive |
| Description: | Parents invest a great deal in the education of their offspring, often with significant financial implications. In the long term, there is the expectation that the children will be able to access well remunerated employment and will in turn support their parents. This is not always the case as the well educated find jobs in the urban centers. However, they may send remittances home to their parents. The driving force is a strong sense of one's moral obligation to parents. In Tshunelani, parents are able to reinforce the children's commitment to them by promising them land. |
| Policy: | A recent policy has been to grant free education, but in reality this is still not operational. |
| Indicator: | Number/percentage of 15-year-olds still in formal educational process. |

Community-based indicators should be selected for collection by the community (thus the issue must be one in which they are stakeholders) while also being upwardly compatible with higher-level monitoring and evaluation concerns. Thus we have to find common ground between the statistician and the community, and a possible trade off between professional standards and practicality or realism from the community point of view. If communities are involved in monitoring indicators, there would need to be motivation, and feedback into a local information system so that the process of indicator measurement is not purely extractive: it has to contribute to local understanding and empowerment, and not simply to the satisfaction of the researcher.

It is also useful to submit the possible list of expert indicators to the same criteria.

6

Policy and Process Issues

Policy analysis: the second circle

One of the main outputs of this project is policy change: to promote those changes in the policy, institutional and economic external environment that will reinforce local adaptive strategies for sustainable livelihoods. The direct output is a policy paper; but policy papers themselves do not result in change, and therefore there will be required a process of:

- Advocacy or lobbying, to get the ear of policy makers;
- Local demonstration, to show the potential of sustainable livelihoods;
- Empowerment, to enable local communities to have a voice in policy issues that affect them.

Referring back to Fig. 1, the task is to understand the nature of the influence of policy (the solid arrow 2) and in what ways it would be possible to institute a reversal (the dotted arrow 2) so that local concerns are reflected in a more supportive policy environment. Policy is taken, as explained above, in its widest sense to comprise the entire set of external political, social and institutional factors impinging on the community and on the strategies they have evolved.

Every country project, therefore, should have a policy component. This requires a policy analyst, probably coordinating a small team. The central questions that the policy analyst should address are: what policy environment would be conducive to assisting people to develop their options, their adaptive strategies, into truly sustainable livelihoods? What key constraints need to be removed? What secondary constraints would emerge? And what procedures and mechanisms are appropriate to securing the best chance for policy reform?

This section of the chapter therefore takes us through four key issues of preparing the policy analysis. These are the selection of the analyst; the process of integration of the analyst into the field team through an initial policy review; the dialogue in the field between the policy analyst and the field team, and the links to policy-makers.

Selection

The analyst must have skills and experience in drafting policy recommendations. History or description should not mark the policy output, which instead should be characterized by clear recommendations backed up by concise argument and making reference to factual investigations and supporting data. It may well be that a series of policy options may be best: decision makers often expect to be presented with more than an argument taking a single line of approach. Therefore the analyst must be capable of seeing the broader picture, while relating it to the microcosm. There is a need to combine analytical skills with the ability to synthesize and communicate; a knowledge of major issues with an ability to understand the dilemmas faced by ordinary people. Policy analysts with such attributes are much in demand and hard to engage without adequate notice—therefore the search for the analyst and the composition and briefing of the team should start early.

It would be highly desirable for the policy analyst to be selected in the same way as the LPC, through an initial issues paper, contributed to the first workshop.

It is unlikely that a single analyst will have all the expertise required to cover the many issues that arise in the preparation of a paper on adaptive strategies, as the topics will range across local government, several ministries, environmental and natural resource issues, education, economics, marketing, livestock, education, water development, natural resources, infrastructure, legislation, housing, small-scale enterprises, to name only some of the most significant. The terms of reference of the analyst must be sufficiently wide as to allow response to issues raised, but not so general that the analyst can write a paper that does not relate to the field work, and the budget should make provision for the commissioning of special studies as required and defined in the course of investigation.

Integration with field team and initial scoping of issues

The link between the policy analysis and the field team is a dialectic one. The policy analysis overlaps with or runs concurrently with the field work and takes as its starting point the policy

issues identified in the preliminary literature survey. The initial questions will focus on the ecosystem set selected, and relevant government policy to that ecosystem. In the case of ASALs, what have been the defining policy objectives towards these areas, and how have they changed over time? Has the policy attitude been hostile or supportive, interventionist or remote, conservative or reforming? What have been the policy backgrounds to the key variables impinging on adaptive strategies—settlement patterns, land use, natural resources use, education, markets, services, security? From what levels have the principal influences come—district, provincial or national level? Are there discernible influences from the international level? What is the legislative framework? Who are the agents of policy? What institutions and ministries are involved? How do they coordinate their efforts? What is the planning process? What major projects in respect of these areas are under implementation, or planned? What is the involvement of the donor community? Where are the tensions, conflicts and inconsistencies in policy, and how are they resolved? What have been the positive and negative impacts of policy? These questions are addressed in the first instance by a literature review, and also by interviews with key people at different levels, both national and local.

At this stage, the policy analysis may identify some significant issues for the field team. For example, the Ethiopian analysis revealed a number of key conclusions, which included the following:

- Government policy to pastoral areas had been defined more by a philosophy of livestock development than by one of pastoralist development;
- The matter of the ownership of pastoral lands was a constitutional issue; all the legal provisions, explicitly or implicitly, made pastoral lands the property of the state, a position that was unaffected by the radical land reforms of 1975; pastoralists enjoy usufructuary rights in areas whose extent is defined by law;
- Despite a commitment to radical decentralization, the actual process of policy formulation has in practice remained largely driven from the center.

The policy analyst in dialog with the field team will develop a specific series of questions for investigation. Some strategy is required here, as there is no point in just preparing a laundry list of recommendations that have no chance of being implemented because resources cannot be found. It will probably be useful to make a distinction at this stage between hard and soft policy. Hard policy is enshrined in legislation, institutional objectives and commitments, and budgetary allocations. Soft policy relates more to decisions, attitudes and interpretations by administrators based on their understanding of what they think has to be done. National policies also operate within a wider context, over which national decision-makers exercise little or no control: these include matters like international markets and terms of trade, and currency exchange rates. It will be particularly useful to determine areas of policy failure, where the government has attempted and failed to achieve certain objectives.

In developing policy recommendations, it is easiest to focus first on those policy failures that are a matter for regret. Government has invested time, effort and money to achieve certain objectives, such as health or education service delivery, promotion of agricultural production and marketing; technology transfer to rural areas. This is the “win-win” solution. Where these policies have not worked, and where there is a synergy between what might be termed grand government policy and local sustainable livelihood interests, there exists space in which to develop recommendations for government to achieve its objectives, and local sustainable livelihood strengthening.

We could then focus on the soft area, being the area that is often amenable to the education and enlightenment of officials and decision-makers. This is what might be termed the “win-no lose” situation. Another example from Ethiopia: a major problem faced by the Boran and Afars is change in the rangeland ecosystem—bush encroachment on pasture lands, the multiplication of unpalatable species at the expense of desirable species, and tick infestation, all of which adversely affect pastoral production. One major cause of this degradation is the prohibition on burning pasture. Yet this prohibition is not hard law, but local administrative practice, which could be reversed or modified, given the right kind of mutual education and agreement on what should be future management practice.

Finally, there are the tricky “win-lose” problems. These require care, not least because poor rural people are generally at a disadvantage when faced with powerful vested interests relating to legislative or institutional reform, market operations, or the modification of the budget of a major development project. They are also the areas where the selection of a skilled and competent national NGO as implementing agency can bear most fruit, because they are more aware of the advocacy processes and less vulnerable to the charge that they are merely trouble-making outsiders in search of a cause. Here, research is required not only on the advantages of policy, institutional or legislative reform, but on the opposition and constraints to such reform, and the processes of forming stakeholder alliances.

The initial literature research of the field team in conjunction with the policy analyst is likely to generate a list of issues for policy investigation, based on the presumptive needs of sustainable livelihoods and the constraints to adaptive strategies. These might include, as in Burkina Faso, matters of rural-urban terms of trade, the cost and availability of inputs, physical and organizational infrastructure, the cost of consumer commodities, market information, the functioning of educational and health services, the capacity of local organizations. The policy analyst, having been briefed on the nature of the project, might do some background work on these questions while the team is preparing itself for the field.

Field visit and defining research issues

The analyst (or team of analysts) must join the team in the field once research is underway. It is important that the analysts see for themselves in the field the definition and identification of adaptive strategies, and the constraints to their adoption or success. To fail to do so would allow a fatal gap to open up between the policy research and the field work.

The fieldwork must drive the policy analysis, and not vice versa. As the field team identifies adaptive strategies, they must be able to brief the policy analyst on the questions and issues raised, and on specific suggestions and recommendations for reform, particularly those coming from the community. The result should not simply be an extension of the list of topics for the analyst to research, but a prioritization, focusing, and paring down of topics. For example, the Ethiopia team identified six major issues affecting the Afars: drought (requiring more extensive movements of herds); inter-ethnic conflict over resource management, resulting in acute physical insecurity; expansion of irrigation schemes and game reserves (restricting livestock movements); bush encroachment; human and livestock diseases; and periodic flooding in the Awash river. Similarly the Burkina Faso team defined six major issues: the operation of the market; irrigation infrastructure; technology research and transfer; basic education (children and adults); primary health care; and local organizations. Policy analysis would do well to focus and organize itself around such topics, which arise directly from questions of adaptive strategies and sustainable livelihoods. At this point, because of the range of topics that may emerge, it may be necessary to co-opt additional specialists into the policy team.

Relating to policy makers

The continuation of policy research and analysis from the point of definition of issues in the field will again be largely a matter of individual style. However some general recommendations may be made.

The field work operates from selected sites only, presumed to be representative of a larger universe of ecosystem problems, adaptive strategies, and sustainable livelihoods. The policy analysis should address the larger issues, not the specific and peculiar concerns of one or two local communities. Thus the policy analyst must be satisfied that the issues raised from the field are sufficiently representative of a wider problem and wider solutions.

Policy operates at different levels. It is important to touch base with each level from the local situation to the national or international. In view of the local definition of the issues, the policy team should consider tracking the issues from the field outward and upward, meeting first with local administrators to understand the constraints they face. An institutional analysis (e.g. Venn diagram) prepared by the community with the field team would be useful for guidance, to show salient institutions from the local point of view.

Policy research should focus first on understanding the mentality and position of the policy makers, major external stakeholders, and institutional incumbents—indeed many of the PRA methods and approaches are not inappropriate at this level also. The aim of policy research is to devise and promote solutions, an end seldom served by hostile confrontation. At the same time, the policy analyst must ensure objectivity and keep a necessary distance from the policy makers, relating the evidence all the time to the issues from the field, and being able to distinguish genuine reasoning from rhetoric, wishful thinking, self-justifications, excuses and special pleading—all skills well represented in the policy community.

The policy analyst will be alert to the obligation to investigate opportunities and avenues for change as well as constraints to change. The Ethiopia and Burkina Faso policies of radical decentralization both indicated major opportunities for innovative proposals. They also showed directly or implicitly, the highly fragmented nature of policy formulation.

It is likely that the NGO implementing the country project will see an opportunity for its own future involvement in policy reform, either by advocacy for change, or by promoting a demonstration project to prove the importance of the adaptive strategies for sustainable livelihoods concept. Some self-denial might be called for here—the ultimate objective being to strengthen local organizations and capability.

As the South African team pointed out, shelves are full of policy recommendations gathering dust, and little is achieved by the repetition of slogans of equity, access or empowerment. The policy team, the field team, and the community must engage policy makers in a dialog that may not be brief, and there has to be a strategy to promote policy change. The policy team, therefore, must not only say what changes are required, but how decisions are to be secured. That process will vary greatly across countries, and according to the specific matter under consideration. But it requires specific communication skills, and resources, to prepare persuasive briefings not only for administrators, but for and with community representatives.

It should be emphasized again that policy recommendations, to be taken seriously, should be concise, practical and reasoned, supported by preliminary consultations if possible to find out what range of initiatives might have the possibility of receiving consideration.

Process: knowledge sharing, local empowerment, and NGO empowerment

It has been mentioned at several points above that in order to avoid merely becoming an extractive process, the project has to bring “value added” to the participating communities. What goes back to the communities as output of the project cannot simply be a reflection of what they put in—in language less comprehensible to them. It must add to their knowledge, their capacities, their motivation or self-confidence, and make a tangible contribution to the realization of sustainable livelihoods. This section rounds out this theme.

Of all the objectives of the project, this one will likely prove the most difficult to realize. This is not because it is intrinsically difficult, but simply because in any situation it is easier to do research and write papers, than to institute or initiate change. But there are, in principle, three main ways in which “empowerment” can take place through the project, and lessons learned can be built more systematically into future projects of this nature:

- The participating organization (NGO) is in a position to access, demystify and package relevant contemporary knowledge. To enable local communities to operate the levers of power in the wider socio-political environment is a critical part of participatory action research. Future projects will have to think more clearly about what kinds of resources can be released to support this process.
- By assisting local communities to systematize and validate their local knowledge, a process of legitimization of this knowledge is set in motion.
- The NGO itself can be in a process of self-empowerment, because potentially it is in a position to straddle the divide between the world of the technocrats and bureaucrats on the one hand, and the world of local communities on the other. To the extent that it can do so,

and assist in mediating communications in each direction, it must be well aware of the imperative to use this power with the utmost responsibility. Such an approach informed the Ethiopian policy paper which resulted from an adaptive strategies project.

7

Outputs and Follow-up

In this concluding chapter, a brief synopsis is given of the main expected direct outputs of the project and follow-up.

Each LPC and the project team should be responsible for producing a substantive country report (perhaps about 60 pages) bringing together the field study and the policy recommendations in a single reference document. From this are derived two more targeted outputs: the community level output and the policy level.

Community level output

The community level output is a simplified version—perhaps 20 pages—of the reference document. It would summarize the background, giving a brief (one to two page) profile of the community, supplemented by diagrams and maps. The documents would describe in simple language the adaptive strategies in the context of the community, and the policy context.

Finally, the community document should make suggestions for the future; it would indicate what policy changes the community might attempt to secure, and through what appropriate channels and methods. Worth noting here is the need to target different recommendations at different levels: for example, certain requests or proposals might be directed to the district or local government administration, to take actions that are within its designated power.

The community paper could also indicate what advocacy strategies could be pursued, suggest appropriate indicators that might be employed to demonstrate measurable progress toward sustainable livelihoods, and possible local projects for follow up. This document can then become the community's reference document for action.

The process of preparing this community level output requires two further steps:

- A process of validation of the results with the communities and;
- A process of translation and packaging of findings in appropriate idiom, so that the results are accessible. The documents should be able to address a heterogeneous readership, from literate community representatives, to academics and policy makers.

The objectives of outputs at this level are to foster empowerment, both at the local and at a wider level, to create awareness of what changes are taking place spontaneously in communities and in what context, and to act as a catalyst for future development and a possible mechanism for facilitation for conflict resolution. The outputs at this level will serve to link local knowledge with contemporary or scientific/technical knowledge.

The possibility of further derived outputs should be considered. These might consist of local translations and popularizations, using different media and local idiom.

Policy level output

A wide range of audiences is envisaged for this document: collaborating institutions (implementing NGOs) and supporting agencies (funders); local, national and regional government institutions; other communities and NGOs, parastatals, the media, and academia.

The policy outputs are more formal and structured, but their format will vary widely according to their specific status. Normally, policy documents must be concise, practical and persuasively reasoned, setting out clearly the problem, the courses of action open to remedy it, the arguments for and against each option, and expected consequences of no action. However there are in each country processes whereby policy recommendations are prepared and absorbed into the system, and these can be so varied that even general recommendations or guides might be of little help on this point.

One possibility would be to prepare a clear and substantive synthesis paper, integrating the work of the policy analyst and the field team, in about 20 pages. This document would serve the purpose of being a policy issues paper: it could be circulated widely and for the basis of a national stakeholder workshop. The workshop could consider the paper, and other presentations, and then set up a working group to prepare formal policy recommendations to the appropriate authority.

Such a paper could be read in conjunction with the reference document, so as to indicate the underlying research findings and methods. It might have the following components.

Executive Summary

Introduction

Project background

Concepts: definitions, levels, sources, kinds of policy, process of policy formulation

ASALs in the national context

Description of ecosystem type, features, Strengths, Weaknesses, Options, Threats (SWOT) analysis, national priorities

Key policy issues relating to ecosystem type

Macro policies (e.g. decentralization, regional policies, development policies)

Micro policies (local) e.g. grass burning

Policy impacts on adaptive strategies—absence of enabling policies; supportive or disruptive policies

Policies that would enable or support adaptive strategies for sustainable livelihoods—scenarios, options and recommendations

Stakeholder analysis

Monitoring and evaluation of policy impacts: indicators for measurement; means and sources of verification

A further derived policy output could be a cross-national policy analysis.

Community follow up and evaluation

Community follow up

Community follow up is one area where the real divergence of the research team and the community is likely to emerge, and one that will test the integrity and honesty of professions of empowerment and participation. The research team wants findings for a report and recommendations. The community, not being able to eat recommendations, wants to see something tangible. They want to better their lives, and improve the prospects for their children, and they will want to see that the project has helped them to do so, or will help them in the future in some way. There are very few communities anywhere that have not had some experience of researchers of some kind. Therefore they are likely to expect not only policy but also project initiatives required to support their adaptive strategies. This is particularly important if there is an expectation that community-based monitoring of indicators will ensue.

Such follow-up does not necessarily require that the NGO implementing agency acquire its own project resources, although that would be a reasonable consequence. The NGO is in a good position to use its knowledge and contacts to broker interventions by other agencies, or even better to work with the community to develop a series of practical measures that can be taken. Project planning should therefore make allowances for the possibility of a second and more substantive stage.

Both future planning and monitoring some key indicators of sustainable livelihoods could benefit by the use of tools developed during the research, including the mapping tool outlined in Chapter 5 Section C above. This could be incorporated in a process of participatory evaluation of the project.

Evaluation (participatory)

Participatory evaluation of the project is another area in which the integrity and intellectual honesty of the research is tested. It is probably best undertaken some time after the research has been done, and after the policy recommendations have been developed. The evaluation should revert to the original explanations of the project as given to the community, and as their understanding of it has evolved. It should include not only the question of the quality and delivery of the promised outputs, but also the question of whether the exercise was worth undertaking at all.

Consolidation and review workshop (Stage 5)

At some stage, between the preparation of the draft outputs and their finalization, there should be a second international workshop. The purpose of this workshop is to consolidate and compare conclusions, to cross-fertilize ideas and interpretations, and to synthesize cross-national policy issues.

This workshop could well be held in one of the project countries, providing the opportunity for field visits. At least one and preferably more than one member of the field teams, as well as the lead policy analyst should attend, as should the advisory body. The IISD project used this format with considerable success.

Care given to adequate lead time will be well repaid. Country documents should be circulated sufficiently in advance of the workshop for them to be read and discussed among the other country teams as well as the project organizers. Good advance preparation will allow workshop time to be used for substantive issues: the exploration of similarities and differences between countries, the question of whether adaptive strategies have been identified that really can lead to sustainable livelihoods, a careful peer review of the policy recommendations and an exploration of similarities and differences in that sphere, an exploration of follow-up (where do we go from here?) and possible synthesis of recommendations for consideration at the international level.

It is sufficiently important to get quality papers circulated and considered in advance, that project organizers might wish to consider some form of incentives or sanctions to encourage performance in this respect.

Conclusion

This guidebook therefore seeks to promote projects on adaptive strategies for sustainable livelihoods, drawing on the experiences and lessons learned from a pilot project. Such a replication could be expected to bring positive benefits to people through enhancing their strategies to attain sustainable livelihoods. This replication can take three main directions:

- Replication of studies in African ASALs. The diversity of conditions, problems and solutions indicates that the pioneering studies undertaken to date, would be greatly strengthened in their recommendations by a further group of comparable studies.
- Replication in ASALs in other regions. Having consolidated the Africa region, which in terms of human impacts added to the scale of the problem should be seen as one of the most important, there is the opportunity to extend the study to ASALs in Asia and Latin America.
- Extension to other biomes. There is nothing specific to ASALs about the conceptual approach adopted in the pilot project, which could now be extended, for example, to tropical forests, humid and sub-humid woodlands, or island ecosystems.
- Development of a set of principles underlying community adaptation and sustainable livelihoods.

It is of particular importance that the parallel country projects build the ability to talk to each other, so as to assist each other in the evolution of good generalizations and policy issues. Linked country projects offer the opportunity for a small but very meaningful network on Sustainable Development in Africa. The potential of each project and institution to learn from the others, and to expand its intellectual horizons, has already been demonstrated in a small but significant way. It should continue to grow.

The conducting of a series of related projects in different countries provides the opportunity, once a sufficient volume of quality results has been achieved, of examining the international policy implications of sustainable livelihoods, and addressing the all-important question of scale. We noted at the beginning of this guidebook, the numerical importance of ASAL populations, particularly in Africa but also elsewhere, and the importance globally of promoting sustainable livelihoods for those who live in them. The world is littered with international expressions of good intentions for its poor, but indications remain that the scale of the problem is yet to be addressed in any meaningful way. Yet the poor make constant efforts to maintain or better their own conditions. The use of best practice in projects designed to lend support to these efforts, can help to direct the world's development efforts to a more productive outcome.

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Annexes

I. International Advisory Group (IAG)

II. Workshop Participants

III. Research Protocol

IV. IISD Project Terms of Reference:
RPC and LPCs

V: Menu of Participatory Research
Field Tools and Techniques

ANNEX I: International Advisory Group (IAG)

The International Advisory Group draws together persons who combine a very wide range of rich experiences relevant to the Project and its goals, with extensive knowledge of the issues. They also bring to the project a wide range of institutional links and network affiliations.

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Nairobi, September 1994

Wits Rural Facility, South Africa, March 1995

(Participants marked + attended both workshops. Participants marked * attended the Nairobi workshop only.)

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ANNEX III: Research Protocol

This research protocol is intended as a concise statement of what is expected of each in-country program. It presents questions, guidelines and issues which each study site must address and adhere to.

In order to realize the goals and objectives of the adaptive strategy initiative, researchers will seek to capture the synergies arising out of the interaction between contemporary and indigenous knowledge, and the conditions and processes which produce and reinforce adaptive strategies.

The Role of the RPC and LPCs

The Regional Project Co-ordinator (RPC) will manage the implementation of the project at national levels, liaise with local project co-ordinators, monitor progress and synthesize policy reviews from the five participating countries.

The Local Project Co-ordinators (LPCs) will be the lead researchers who must work directly in the field with other researchers and the community; and must reside within the community together with team members over the duration of fieldwork. Delegation at this level will be inconsistent with the thrust of the project.

Time-Frame

The actual field implementation of the project commences in October of 1994 and will end in August of 1995. Preliminary reports are expected in mid-December to allow for inputs into the World Summit for Social Development (WSSD) third preparatory committee meeting in January, 1995.

Structure and Content

This section describes the questions which the research report should address, and indicates the structure and contents of the report.

a) Context

The context provides the national historical and macro-policy environment in which communities exist and function and will largely be based on existing literature, but can be supplemented by interviews with appropriate individuals. Special emphasis should be placed on those policies which impact on communities.

i) Historical context

Key question: What kinds of ecosystem, socio-economic and political changes have occurred in the project countries?

(Time-frame - emphasis might be placed on the post-colonial period. However, other strategic issues may be considered.)

In this section researchers need to describe the signals and indicators of change. Consider a tabular presentation of national and community data to put community data in perspective. Examples of indicators follow:

- Ecosystem indicators i.e., agro-ecological zones; climatic variables including rainfall patterns and major droughts; soils status; extent of desertification; siltation rates; vegetation types and cover, etc.
- Socio-economic indicators i.e., the nature of enterprises; income sources and their distribution; migration and other demographic factors; employment; human health indicators (e.g., mortality rates); animal health indicators; rights, including grazing, land-tenure, tree tenure and land-use.

- Political indicators i.e., the nature of government; the extent of centralization and decentralization of political authority (i.e. local self-government); system of procurement of goods and services including trade, and financial flows to communities.
- ii) Macro-policy context
- Key question: What national and international policies, i.e., agricultural, economic, environmental, social, impede or facilitate the achievement of sustainable livelihoods?
- Policies to be considered include macro-policy adjustments including structural adjustment programs, trade policy, and the role of the formal and informal sectors.
- b) Community Profile
- i) Defining community
- Specify the size (density, size of territory), nature (ethnicity, agro-pastoralist vs. pastoralist), migration patterns and relationships with other communities.
- (It may be necessary to use a sampling design.)
- ii) Indicators of change
- In addition to indicators outlined in (a) (i) above, use community knowledge to describe the following indicators of change:
- (Note here that the time boundary may be as far as communities can recall.)
- Ecosystem
 - biomass, species and water availability and access

(Biomass availability is a function of herd species composition, i.e. mix of cattle, sheep, and goats. Is herd mix a survival strategy? Is the strategy sustainable? What about the composition of human diet as an indication of ecosystem stress?)
 - indicator species

(Include indigenous knowledge types.)
 - vegetative cover

(Note seasonal variations.)
 - water quality and availability as indicators of ecosystem health
 - Socio-economic
 - infrastructure, credit, labour
 - incidence of animal disease
 - commodity markets - links to foreign markets, procurement, zoning and other restrictions
- iii) Common property institutions
- Issues to consider include boundary rules, resource allocation rules, and mechanism for conflict resolution and enforcement (sanctions).
- (Include, for example, traditional institutions of managing quarantine as opposed to modern quarantine rules which restrict the free movement of livestock.)
- iv) Values, beliefs and practices
- What are the values, beliefs and practices of communities which support or impede adaptive strategies? What relevant cultural changes have occurred over time and how have these impacted on values and livelihood systems?

It should be recognized that values, beliefs and practices are dynamic. In some instances beliefs may not be translated into practices and in others merely used for convenience or as excuses.

v) Technological innovations

Identify and describe local technological innovations such as water conservation, soil stabilization, etc.

(It has been suggested that weather prediction is the most important technological need of communities. Are meteorological forecasts available to them? What are the traditional methods of weather prediction?)

vi) Possible indicators of sustainability

- Network resilience, i.e. depletion and replenishment cycle in response to perturbation. Note that this may not be necessarily sustainable
- Time and energy spent on meeting basic needs
- Change in age and sex composition of community. Note the implications for who tends the cattle and the distance covered in cattle herding
- Herd size to family size ratio, e.g., six herd per family of six a threshold level
- Shift in size and composition of herd. (Major increases in sheep may be unsustainable)
- Trends suggestive of reduction in carrying capacity, i.e.,
 - depletion of groundwater table (note that long-term hydrological cycles have not yet been determined);
 - water quality;
 - degradation of common lands;
- Trends in shift from household labour to hired labour;
- Shift in composition of expenditure on consumption baskets.

vii) Community responses

- What has been the impact of ecosystem, socio-economic and political changes on livelihoods in the study area?
- What are the demographic, socio-economic, cultural and political responses (adaptive strategies) of communities to these changes? Are there differential responses between men and women?
- What informs these responses - traditional, contemporary knowledge and practices or the integration of the two; internal and external technological innovations?
- Have these responses led to sustainable livelihoods? or, Do they have the potential to lead to sustainable livelihoods?
- What kinds of interventions (communication and outreach strategies, technological innovation etc.) are needed to enhance communities responses so that they lead to sustainable outcomes?
- What is the process by which communities and external change agents integrate contemporary and indigenous knowledge in pursuit of adaptive strategies that lead to sustainable livelihoods?

c) Identification of adaptive strategies that lead to sustainable livelihoods

What economic, ecological, social, cultural, or political environment contributes to the evolution of successful adaptive strategies (best practice)?

To what extent does this environment impact positively or negatively on poverty alleviation, employment generation and social cohesion?

What indicators can be used to measure progress towards sustainable livelihoods?

What role can external agents play in developing indicators and reinforcing adaptive strategies?

What kinds of policy changes are needed to support the evolution or enhancement of adaptive strategies that lead to sustainable livelihoods?

d) Community Methodology

The country researchers will utilize, as desirable, participatory action research approaches and a multidisciplinary team of which two members will be senior students with complementary skills from local universities.

Within communities, agreed upon methodologies will be used in in-depth interviews with elders, community leaders and community members preceded by country and community profiles.

Interviews at the community level will be conducted in local languages.

The information gathered will be complemented by a literature review of adaptive strategies.

The participatory methodology mixes used to collect local information will have to utilize an iterative process to maximize effectiveness as experience is gained on the ground.

Agreed upon methodology will be made available. This manual provides just one aspect of the methodology mixes which the LPCs will require to answer all the questions outlined here and will hopefully assist them in decision making and keeping the Project on track.

e) Policy review analysis

A separate but closely linked review of policy will be conducted, which will follow the following process:

i) Identification of policy priorities

The LPCs will identify policy priorities one month after commencement of field work, i.e., at the end of October. They will also reflect on how policy has affected communities, for example, the impact of policies on incentives/disincentives to utilize certain adaptive strategies; and then have communities respond.

ii) National seminars

The Regional Project Co-ordinator (RPC), the International Advisory Group (IAG), and LPCs will help to identify the author of a lead policy paper for each participating country; and appropriate policy makers and analysts to participate in a seminar held in February, 1995.

The outputs of the seminars were two-fold:

- A comprehensive and analytical paper on policies that impinge on adaptive strategies
- The generation of reasonable responses to policy issues raised by the studies.

ANNEX IV: IISD Project Terms of Reference: RPC and LPCs

Regional Project Co-ordinator

The RPC is responsible for the management of the project in the region. He/she will:

- Co-ordinate and monitor five country studies
- Assist in the organization of the orientation and training and other project related meetings
- Ensure the delivery of drafts and final documents on schedule
- Review and analyze policy conditions under which selected adaptive strategies evolved
- Participate in national policy meetings
- Prepare a report on the process and methodology of the exercise
- Assist in the dissemination of outputs to communities and monitor utilization

Local Project Co-ordinator

The five Local Project Co-ordinators (LPCs) are responsible for the management and implementation of the project in their respective countries.

Each LPC will:

- Participate in the orientation and training workshop
- Convene an interdisciplinary team
- Orient the team to the project concept and in the use of participatory action research methodologies
- Convene and facilitate national meetings
- Prepare background material on the participating communities, including location, history, sources of livelihoods and adaptive strategies employed
- Identify policy priorities relevant to adaptive strategies and prepare a brief policy issues paper
- Conduct fieldwork
- Ensure the delivery of drafts and final documents on schedule
- Translate the results of fieldwork into English
- Participate in the regional meeting to consolidate the results from participating countries
- Disseminate outputs to communities and monitor utilization

ANNEX V: Menu of Participatory Research Field Tools and Techniques

Each team will choose the methods which are more appropriate in their field context to efficiently generate the kinds of information required to define and describe the components of adaptive strategies and sustainable livelihoods. Most of the methods are content-neutral and may be applied to different subjects. It is strongly emphasized that these are not exercises to be undertaken with community members so much as representations may allow community members to communicate information of a much more complex nature than is normally possible in a purely verbal medium. Creativity, spontaneity and imagination are valuable in adapting existing representations and in developing new ones. It is important that researchers should not inhibit informants by trying to impose their own prior conceptions of what a representation should look like, its orientation, or composition.

The process of preparing the representation—the discussions or arguments which ensue—can be as illuminating as the final product. Researchers will find it better to interrogate the representation than to interrogate its makers.

It is important to triangulate important information, i.e., verify or validate it against that obtained from other sources or methods.

The representation is the property of the people who made it, not the researcher.

Any paper reproduction should say who made it, where, and when. Annotations of process and comments are also useful.

Taken from Chambers (1992).

Classification

Classification is far easier done visually than verbally. Also, the results can be discussed and questioned by the researcher or by other informants. Classification may be presumed to be for some useful purpose, and it can be a very useful way into learning the diversity of things which people make use of in gaining their livelihoods. Classification of wealth and poverty categories, using local attributes of a wealthy person, an ordinary person, a poor person, a destitute, very poor person, can be a far more productive way to assess the local equity situation than an attempt to rank households by possessions or income, which is likely to be seen as intrusive. See also social maps, below.

- Diagrammatic representations, spontaneous. Informants may use maps, diagrams or charts to illustrate classifications e.g., soil types, pasture types, natural items collected; or associations, e.g., which soil types go with which crops.
- Matrices. Useful for comparison of “apples and oranges”, i.e., different items with different qualities. Best restricted to about half a dozen items and half a dozen characteristics. Agree with the community first what the characteristics are to be and the standard of measurement. For example, having found that the six key characteristics people look for in crop varieties are taste, ease of storage, resistance to pests while growing, drought resistance, availability of seed, and selling price, the matrix lists the crop names on one axis and the qualities on the other axis. Values can be assigned by placing counters (beans, stones) in each box, e.g., three for good, two for O.K., one for poor. Make sure positive and negative characteristics are not confused, and that three beans always represent the most desirable end of the scale, otherwise the matrix becomes difficult to interpret.
- Names of things or types, local. Local names e.g., grasses, livestock types, and soils are usually far more discriminating than names in English or French, and can give valuable clues to classification.
- Sorting samples and symbols. Schoolchildren with herding experience can, for example, have a collecting competition for a small prize for the greatest knowledge of local grasses (judged by elders). The samples or the symbols may be sorted into groups according to their various characteristics—palatability, seasonality, distribution, etc.

Collection

There is no limit to the collections which may be made in the field. The problem for the researcher is to be judicious in what collections, and how extensive, will best serve the purpose of the research. But local people will also have their own priorities. Museums of local knowledge (e.g. useful flora) have been created, and can be an important vehicle for legitimizing local knowledge and assisting in its transmission.

- Biographies. Collection of individual biographies (practised by the South African team) can be an extremely insightful exercise, revealing livelihood crises and responses, and critical choices. Comparison of biographies can be useful. They can also indicate household poverty-wealth cycles.
- Physical specimens and samples. (See last item in previous section.) These can include flora, fauna, identified bird feathers or animal skins.
- Songs, stories, poetry, proverbs, anecdotes, jokes, riddles, mini-histories and case histories, place names. It may be difficult to predict their usefulness for the purposes of this research, but these often can encapsulate local knowledge in relation to the natural environment, e.g. weather predictions, timing of agricultural or pastoral operations. The research team should make running lists, as additions are often serendipitous. Songs or poetry can be particularly valuable because they can be durable (cf. English nursery rhymes, which are widely remembered for centuries, long after their social commentary function has been forgotten by society at large.) The etymology of place names and individual nick-names is also frequently informative.
- Local written materials. It is not unusual to find a literate local person who has written a history or geography of the area.

Comparison, Ordering and Ranking

- Pair ranking. Normally a group exercise, in which every item in a list is compared against every other item, and the total number of wins totalled for each item. The final list is then reviewed with the group. There are several possible ways of doing this, including adding a stone to an item's pile each time it scores a win. The matrix method is illustrated in the main text of this document. This method can be used to wealth rank households, if the number is not too great, and provided that it does not cause embarrassment or resentment.
- Preference ranking. Either by some kind of voting, or through discussion and consensus, informants can generate a simple list of preferences or choices. The danger here is that locally dominant groups or individuals may disproportionately influence the outcome. In such a case, it is worth reviewing the preferences with minorities or those who are less vocal.
- Sequential prioritization. This can be a useful technique for determining coping strategies. It consists of interrogating behaviour, for example in response to a stress. If the rains fail and you are short of food, what do you do? If strategy x fails, what do you do then? and so on down the list of increasingly unattractive options. Thus a list can be generated like the Frankenberg and Goldstein (1990) one: use famine foods, borrow grain from kin, use stored foods, sell labour locally, migrate for wage work, undertake dry season farming, sell livestock, borrow from merchants, sell domestic assets, pledge land, migrate for aid, sell land, pawn children, or permanent outmigration. Of course, not all options will be open to all, and different social or cultural circumstances will influence priorities.

Interviews

Interviews are a primary method of collecting information in the field, but they can be a burden on the community's valuable time and can also be intrusive. They should be prepared in advance as far as possible, and conducted with sensitivity by experienced researchers, who have good induction into what is acceptable in local culture.

- Casual, spontaneous. The researcher as learner, asks in situ: why do you do this in such and such a way? What is this called? What is it used for? People often enjoy communicating and teaching outsiders.
- Focus-group (usually small group). This can be an ideal follow-on to a representational activity, such as a map, diagram or matrix. Key informant interviews can often develop into focus group interviews, frequently to their benefit.
- In-depth, key informants. Usually the most time-efficient method for the researcher, and with the proper controls against individual biases and prejudices, extremely effective. Key informants are often older people, and should receive several days' notice of the topics, to allow them to organize their thoughts. The researcher must be alert to signs of fatigue, or competing concerns. Use a carefully prepared check list. Informants may prefer to give information in a small group to avoid community suspicions. Community members also benefit from hearing them.
- Individual, open ended. These are particularly good when participating in an activity. Especially when helping a local person with a task (weeding, harvesting, processing).
- Outsiders interviewed by community, individuals or groups. Questions by local people of outsiders can be quite revealing, e.g., the Bangladeshi women who asked Hillary Clinton if she owned cows (*Washington Post*, 1995).
- Public, open-ended, semi-structured.

Observation

A great deal can be learned by simple observation. It is good if the research team can set aside time to share their observations, conclusions and findings. Observation usually generates questions for further investigation. Observation in company with a local guide usually precedes any kind of wandering around which must await acceptance of the researcher by the local community. It is best to cultivate a habit of good recall, and make notes later.

- Attendance at events. Attendance at and participation in activities, formal and informal—funerals, marriages, births, religious festivals—can all provide excellent opportunities for observing.
- Casual, wandering around, serendipitous. Usually done early on in the research, as soon as the researchers are comfortable. A local market is usually an excellent first stop, as it gives a useful picture of what people produce, buy and sell, prices, criteria. But it is useful throughout a research period to set aside intermittent periods for casual observation.
- Structured, counting (quantitative). Quantitative observation can yield useful preliminary information on physical features: how many houses have iron sheet roofs? How many households have grain stores? It can also be used for information related to time: how long certain activities take, how an individual's time is allocated to different activities. Such information can be a useful check on what people tell you. For example, it is not uncommon for farmers to overestimate the area they have under cultivation (and therefore underestimate their yield per unit area).
- Structured, sample (quantitative and qualitative). After information is obtained on the total population (e.g. households, livestock, or vegetation distribution) structured sample observations may be conducted for quantitative or qualitative estimation. The specific research design and experience will influence what is to be described or quantified, but might include such topics as grazing pressure, or cultivation characteristics.
- Transects. Normally done early in the field research, a transect offers both an overview of the field site and the opportunity to make structured observations on natural resources and human activity. It can be accompanied, of course, with casual, on-the-spot interviews, collection of local names of things, etc.

- Visits to selected sites. During the source of field work it is common to find references to particular sites where activities take place: stream-bed cultivation, watering points for cattle, dry season pasture, resources which are the subject of conflict with other communities. Visits to these sites are extremely valuable in allowing the researcher to visualize the information and to collect additional information.

Quantification

- It is often remarked that RRA/PRA methods generate qualitative rather than quantitative information. Although RRA/PRA techniques developed in reaction to the high-cost generation of spurious quantitative data through formal survey techniques, the statement is rather misleading. Many of the techniques described above and below, used with imagination, can yield quantitative results. The researcher must keep clearly in mind the distinction between numerical precision, and validity. For example, a statement that “more than half the households own some cattle” is quantitative, but not precise. A well done social map will census the local population. From this a sample can be chosen for more detailed investigation which can include counting. Many valid conclusions can be drawn from relative or imprecise quantitative data.
- Questionnaire survey. Questionnaire surveys can be a very useful component of PRA, particularly if they are done some time into the research. By that time, the questions can be more focused, concentrating on items that cannot be obtained better in other ways. People will be familiar with the research, can participate in the design of the questionnaire and share in the results. This will limit the temptation to ask questions on too wide a range of topics. Long, cumbersome and uninformative questionnaires are the besetting sin of quantitative social science research which many of the methods above can help to cure.

Representation, general

Representations by local informants form the heart of participatory research. The many types of representations are classified below under the headings proportional, relational, spatial and temporal. This section deals with some general representations.

- Dramatic, role playing. Drama can be a powerful and insightful way in which local people can present their ideas and interpretations on the theme of response to stress.
- Pictures, sketches. Art, particularly that of school children, can be used to portray a variety of relevant themes, and might be particularly interesting in representing visions or fears of the future in relation to sustainable livelihoods.

Representation, proportional

- Bar charts. Simple columnar bar charts (which can be made with rows of seeds or pebbles on the ground) can be used to compare quantities in different categories or quantities at different points in time. Bar charts are often a good preparation for trend lines (see below) since during its preparation the quantities can be adjusted in the light of discussion. Thus, you are likely to get a better picture of precipitation, or change in animal numbers over time, from a bar chart where each individual year can be adjusted separately. A bar chart can also be used to indicate relative quantities or variation, e.g., rainfall variability, as departures above or below a norm.
- Heaps. Heaps of stones, pebbles or seeds can be used to represent relative quantities. These can stand alone, or they can be superimposed on another representation such as a seasonal calendar (see below).
- Pebbles and stones. Pebbles and stones of different sizes are placed in a pattern on the ground, usually connected to a central node by a line scratched in the soil. For example, they can represent concretely a central chieftaincy and outlying sub-chiefs or headmen, and thus represent distance, direction, and size or importance. Or they can be used in a rather more abstract way: representing, for example, the sources of income of a household (distance = distance or effort, size = importance or amount).

- Pie charts. Pie charts represent percentage distributions within a whole quantity: they can thus be used to represent proportions of daily time spent on different activities, or proportions of income gained from various sources, or proportion of household expenditure on different classes of item. They can be quickly and conveniently made by scratching a circle on the ground and having informants place sticks on it to mark off areas. Note that while we think of neat sectors, divided by radii from the centre, informants may decide to use secants or other irregular subdivisions.

(See also classification; Venn Diagrams; seasonal calendars)

Representation, relational

- Trees. Trees, or rivers, can represent any branching relationship such as cause and effect.
- Venn diagrams. Often made with circular cards of different sizes and colours, they are placed in relation to one another on a base area. The most common use is for mapping of institutional concepts, with area (size) representing importance, and degree of overlap representing intensity of interaction. They could in principle be applied to any set of variable interactive relationships: for example, sources of livelihood.
- Webs. Often used for representing interactions of cause and effect, webs show multiple linkages between items.

(See also comparisons, ranking.)

Representation, spatial (area, line and point)

- Cross sections. A transect is one source of information of a cross section of an area of land.
- Maps, topo. Normally maps are one of the most popular and successful of activities. A large group map on the ground can be the work of a team of people, using whatever natural materials are at hand. It is interesting to get maps drawn by different groups of people: men, women, children: different groups represent different things. For example, in one map children, in their innocence, represented all the illegal liquor brewing sites which adults tactfully refrained from entering. Differences in maps can reflect community conflicts in the management of natural resources, as in Burkina Faso. It is good not to show too many different things on a single map, but to make several maps showing sets of items.
- Models (physical three-dimensional maps). Even more successful than maps, as in Burkina Faso, were three-dimensional models of the area. These can also be used to indicate an ideal future.
- Spatial diagrams (stones and pebbles). See above, under representation, proportional.
- Social maps. Social maps can simply represent population by household, and with a gender and adult-child breakdown can serve as a census map; or they can represent additional distribution of wealthy and poor households.
- Thematic maps. Maps representing a single topic or set of topics, e.g., soils, water. For the purposes of this project, natural resources maps, would be particularly useful.

Representation, temporal

Because of the importance of change over time in this project, temporal information is of particular importance. Temporal representation may be of cyclical or linear time.

- Cycles. Cycles in relation to rural livelihoods are most often annual, but the researcher should be alert to cycles of other duration, particularly in relation to land use (fallow, transhumant grazing).

- Historical or futuristic maps, diagrams, sketches (visions, fears). These maps or representations enable the informants to visualize past or future trends or states. Historical natural resources maps may be particularly useful if they can be obtained.
- Seasonal calendars. Seasonal calendars should have the names of the seasons along the top (or down the side) and corresponding spaces for thematic information. This could include such things as rainfall, agricultural activity, pastoral activity, or collecting activity. Some items may just be indicated on a present/absent basis. Informants wish to show changing relative quantities in other cases (like rainfall in which case heaps of stones or beans can be useful.)
- Time lines, absolute. An absolute time line is one with actual dates put on it. These would normally be dates with locally memorable events, e.g. a major famine, a forced resettlement, a war or civil disturbance. These are entered as benchmarks or milestones. Naturally, time lines may be allowed to travel from top to bottom, bottom to top, right to left or left to right at the discretion of the informant, as long as only one direction applies to one representation. It is good to get the benchmarks first from a few older informants. Others can then be asked if they have heard of that event.
- Time lines, relative. Sometimes absolute dates may be hard to get, in which case relative time lines are better than nothing.
- Trend lines. Frequently hard to get or dubious in reliability, trend lines nevertheless can be useful in showing perceptions of change. These could be applied to human or animal populations, trends in literacy, soil erosion, tree cover, etc. Try to get informants to indicate if there were periods of particularly rapid change and why. Again, the discussion of the representation can be of more importance than the representation itself. Sometimes trend lines can reveal hitherto unsuspected correlations, which can then be investigated. A simple example could be an association of literacy and labour availability in a pastoral society. Here the association could simply be that the more young children are in school, the less they are available to help with cattle herding.

Structured group activity

- Contests and competitions. Contests and competitions, especially for children and youth, can involve collections, or map or model making. Adults can be involved in judging. Researchers should not underestimate the collective knowledge of the children in a village. One has to be imaginative to involve youth in participatory research.
- Group discussions and debates. Group discussions and debates are interesting, once more, as much or more for what is revealed by the process, than the result. Researchers will have to be particularly careful not to create or exacerbate dissension unless they are very clear in their own minds on the risks, returns and ethics of such intervention.
- Presentations of findings by community members. If the field work has been truly participatory, the results will be already "owned" by the local community, and a presentation of findings by the community to the research team can be made. The possibility of organizing such an event may be a test of the extent of participation and empowerment. If the report back is only from the researchers to the community, it could reasonably be questioned whether the process was truly participatory.
- Workshops. Community workshops can be held at which a variety of exercises can be undertaken. These could include orientation, training, preliminary analysis, discussion of results, or some major component of the fieldwork. Workshops to report back with value added were a built-in feature of this research.

To be sustainable, development must improve economic efficiency, protect and restore ecological systems and enhance the well-being of people. This is today's agenda, not a far-off goal. It means that business as usual is no longer an option for government, private enterprises, communities or individuals.

IISD's mission is to promote sustainable development in decision making internationally and within Canada. We contribute new knowledge and concepts, analyze policies, identify and disseminate information about best practices, demonstrate how to measure progress, and build partnerships to amplify these messages.

Our audiences and clients are businesses, governments, communities and concerned individuals. Through Internet communications, working groups and project activities we create networks designed to move sustainable development from concept to practice. Action must address the differing views and needs of both developing and industrialized nations.