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WORKING PAPER

Planning with pastoralists:

PRA and more

A review of methods

focused on Africa

by

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Deutsche Gesellschaft für
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Acronyms and abbreviations

ACORD	Agency for Cooperation and Research in Development
AKRSP	Aga Khan Rural Support Programme
APESS	Association pour la Promotion de l'Elevage au Sahel et en Savane
ARED	Associates in Research & Education for Development
BERAP	Bureau d'Etudes et de Réalisations Agro-Pastorales
CIP	Centro Internacional de la Papa
CRSP-SR	Small Ruminant Collaborative Research Support Program
DELTA	Development Education and Leadership Teams in Action
EL	experience in livestock-keeping system (bibliography)
EP	experience in pastoral livestock-keeping system (bibliography)
FAO	Food and Agricultural Organization of the United Nations
FARM-	Africa Food and Agricultural Research Management Africa
FÜR	Farmer Participatory Research
FRAO	Fondation Rurale de l'Afrique de l'Ouest
FSR	Farming Systems Research
FTPP	Forests, Trees and People Programme
GRAAP	Groupe de Recherche et d'Appui pour l'Autopromotion Paysanne
GTV	gestion des terroirs villageois
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (German Agency for Technical Cooperation)
ICIPE	International Centre of Insect Physiology and Ecology
ICLARM	International Center for Living Aquatic Resources Management
IDS	Institute for Development Studies
IIED	International Institute for Environment and Development
ILCA	International Livestock Centre for Africa
ILEIA	Information Centre for Low-External-Input and Sustainable Agriculture
ISNAR	International Service for National Agricultural Research
ITDG	Intermediate Technology Development Group
LBL	Landwirtschaftliche Beratungszentrale Lindau
LEARN	Local Environmental Analysis and the Assessment of Rural Needs
LTC	Land Tenure Center
MARP	Méthode Accélérée de Recherche Participative, or Méthode Active de Recherche et de Planification Participatives
M&E	monitoring and evaluation
NES	National Environmental Secretariat
NGO	non-governmental organisation
NRM	natural resource management
ODA	Overseas Development Administration
ODI	Overseas Development Institute
OFCOR	On-Farm Client-Oriented Research
PAR	Participatory Action Research
PAME	Participatory Assessment, Monitoring and Evaluation
PP	experience with potential for pastoral livestock-keeping system (bibliography)
PRA	Participatory Rural Appraisal
PTD	Participatory Technology Development
RRA	Rapid Rural Appraisal
RRFH	Regular Research Field Hearings
SAREC	Swedish Agency for Research Cooperation with Developing Countries
SIDA	Swedish International Development Authority
SPEECH	Society of Peoples' Education and Economic Change
UNSO	United Nations Sudano-Sahelian Office
USAID	United States Agency for International Development
WN	World Neighbors

Foreword

The need for planning and implementing development projects together with, rather than for, local people has become increasingly apparent. This is especially true in the pastoral sector, where local-level decision making and great flexibility are vital for the survival of the people who make productive use of adverse environments.

There are now numerous publications on experiences and methodology of participatory situation analysis and project planning in agriculture and rural development. Approaches have being developed to give more responsibility to local residents in natural resource management, such as in the *gestion de terroirs villageois* programmes in West Africa. However, mobile pastoralists have often been ignored and increasingly marginalised by these programmes, and most of the more technically-oriented projects in the livestock sector have paid little attention to issues of pastoralists' participation in project planning.

More emphasis will be laid in the future on "roundtable" strategies:
- to integrate all groups sharing the same natural resources, and
- to prepare all groups to be ready for discussions and negotations on an equal footing.

For this reason, GTZ Unit 422 initiated a project to support participation of pastoralists in landuse planning in semiarid West Africa. This study is the outcome of the first steps in the project:
- reviewing the available literature, including unpublished reports
- identifying institutions and persons with experience in participatory planning
- assessing the applicability of the participatory approaches and methods to the planning of pastoral development.

The study reveals that there are a wide range of experiences in working with pastoralists and various "entry points" to the pastoral world. It shows that it is possible to enter this world if the the pastoralists are taken seriously as professionals, which they most definitely are.

Although this study was commissioned primarily for use by a pastoral organisation in northern Burkina Faso, it was felt that such a state-of-the-art review would be of interest to a wider public of development agency staff (both governmental and nongovernmental), policymakers and training institutions. We are therefore pleased to be able to publish this book within the Working Paper series of the GTZ in both French and English.

We would like to thank the following people for commenting on the first draft of this review: Ute Reckers, Roy Behnke, Annette von Lossau, Marlis Kees, Uwe Kievelitz, Karen Schoonmaker Freudenberger and Ian Scoones.

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PART I

Review of

concepts and experiences

in participatory planning

1. Introduction

Pastoral development has been a difficult chapter in the history of Technical Cooperation between Europe and Africa. Considerable investment has been made in pastoral projects in subsaharan Africa, but with relatively little success measured against the stated aims (cf. Jahnke 1982, Sandford 1983). To a large extent, this shortfall has been due to the development planners' poor understanding of: pastoralists' objectives, the ecosystems in which they live, the functioning of pastoral systems, their productivity relative to the environment, and the economics of extensive animal husbandry.

As a rule, planners have come from other modes of life and have been educated in types of livestock production which differ greatly from that practised in tropical drylands. They have generally underestimated the productivity of African pastoral systems and overestimated the technical possibilities to improve pastoral production. These poor judgements on the part of planners have been combined with:
- agricultural development policies which - perhaps unknowingly - favoured cropping to the detriment of pastoralism, and
- a tendency to plan for, rather than with, pastoral producers.

Project planners generally regarded pastoralists as difficult to understand or even to find.

In the last two decades, research has thrown some light on the rationale, functioning and productivity of pastoral systems (eg. Sandford 1983, Swift 1984, Scoones 1994b, various ODI Pastoral Network Papers). It was found that pastoral societies have, in most cases, complex objectives and that, when judged according to these objectives, their pastoral systems are often highly productive (eg. Behnke 1983, de Ridder & Wagenaar 1986).

A better understanding of rangeland ecosystems in Africa is also gradually being gained. In the past, the vegetation dynamics under grazing on semiarid and arid range was explained with the succession theory, which implies that grazing pushes the composition of the vegetation away from an assumed climax vegetation. Range management was aimed at maintaining the vegetation at a particular state of succession, assuming stability of production. It has now been recognised that the highly variable rainfall in semiarid and arid regions results in a "constant disequilibrium" or "permanent transition" (Behnke et al 1993). Furthermore, rainfall varies not only between years but also spatially, ie. one area of range may receive much more rainfall in one year than another close by, whereas in the following year the reverse may be true. This points to the need for mobility and the importance of flexible and decentralised decision-making in range management (Grell 1992, Bayer & Grell 1994). Thus, the necessity for local-level planning is especially great in the pastoral sector, yet methods for collaboration between official planners and diverse groups of pastoralists were - at least until recently - lacking or not very effective.

Since the 1970s, numerous publications have been appearing about the theory and methods of participatory approaches in agricultural development and about experience gained with such approaches. A good overview of reports about rural development participation coming from the UN, the World Bank, USAID and various other mainstream development agencies, as well as non-governmental organisations (NGOs), is given by Uphoff et al (1979) and Whyte (1981).

Literature on rural development participation has been mushrooming since the latter half of the 1980s. However, most of this deals with crop farmers and the management of soils, water and trees. Until recently, few reports referred to livestock-keeping, let alone to pastoralism. Only now are such writings beginning to emerge (cf. *RRA Notes* 20, 1994).

In this paper, an overview is given of these mainly recent experiences in participatory approaches to pastoral development, focusing on methods that have been applied in the planning process. Also included are methods applied with nonpastoral peoples but possibly suitable for work in pastoral settings. The aim of this paper is to identify how pastoralists are being and can be actively involved in planning for natural resource management and rural development, particularly in the West African Sahel. The ultimate beneficiaries of this work should be the pastoralists. However, this review is intended for the intermediaries: development agents in projects, governmental organisations and NGOs who, by trying out some of the methods presented here, may be able to strengthen pastoralists' capacity to articulate and present their needs in joint planning processes.

It is hoped that, eventually, pastoral people will be able to apply some of these methods themselves so as to better defend their cause. These could complement the strategies which they have already developed to deal with government administrations, development projects and other intervening organisations. We are by no means assuming that, without outside assistance, pastoralists do not plan. Not only have they developed local

institutions which govern the use of natural resources (cf. Niamir 1990); not only do they meet among themselves to discuss problems, grazing patterns, diseases, water access, necessity for moving herds etc; they also establish links and negotiate with nonpastoral peoples for purposes of marketing, temporary landuse, political lobbying etc. Much of their planning is concerned not with technical but rather with sociopolitical matters. It is in this realm that future participatory planning with pastoralists will probably be most intensive: institutional innovations that help pastoralists gain and ensure rights to resources needed to continue using the drylands.

Box: What can be found where in this report?

In Part I we review some definitions and concepts of participation in situation analysis and planning. Some field experiences with more-or-less rapid approaches to planning, including monitoring and evaluation, are presented, and the difficulties and responsibilities which these entail are discussed. On the basis of these reports and own experience, we make some recommendations regarding methods which can be used during different stages of the planning process, and regarding training in participatory methods.

In Part II, we briefly describe specific methods used in participatory planning, outline their purposes and suggest the most suitable partners of development agents using these methods. Reference is made to field experiences with these methods; more information about the context can be found in the annotated bibliography. The descriptions of methods are very basic and are meant to stimulate ideas and indicate potentials and difficulties, rather than to provide a step-by-step recipe of the "right" way to do it.

The annotated bibliography in Part III refers first to a small sample of general works on PRA methods. For more information about numerous other publications in this line, contact IIED or IDS (addresses in Annex A). The main part of the bibliography refers to works on participatory planning with pastoralists - whether using PRA or other methods - plus some reports on planning with other rural groups but involving methods also applicable in pastoral settings. In the abstracts we tried to highlight the methods related to participatory planning. Most of these reports can be obtained from the contact organisations and persons acknowledged in the annex. Otherwise, source addresses are given after the bibliographic citation.

The bibliography was compiled by using our home library on livestock systems and pastoral development and by drawing on our network of contact persons working in this field. These led to an inflow of information and reports from these people and their own contacts (see Annex), to whom we extend our heartfelt thanks.

2. Definitions and concepts

2.1 The path of "participation"

The so-called "target population" or the "intended beneficiaries" have long participated in development projects. In many projects, especially in the 1960s and 1970s, their participation was passive, ie. they were told what to do and expected to do what they were told. Alternatively, they practised "negative participation", in the sense of taking part in decision-making by deciding not to cooperate.

Then started the era of deliberately promoting "rural development participation" to achieve greater sustainability of project activities. Local people participated in the planning stages of such projects by answering the questions of project planners who tried to identify the major problems. The data were interpreted by these outsiders, who then decided what was to be done. An unexpressed assumption behind this approach was that development occurred only through external projects.

Chambers (1983) vividly describes the many biases of these rural tours for development planning: spatial (urban, tarmac, roadside), project (show-piece), persons (elite, male, user/adopter, active, present and living), dry-season (easier to travel), diplomatic (politeness and timidity) and professional (each doing his/her own thing). All of this combined into a bias against poor people, especially those in areas which were "marginal" from the viewpoint of the national planners.

During the 1980s, Farming Systems Research (FSR) contributed a great deal to revealing that traditional farming systems are by no means static. It showed that rural people are capable of adapting their farming systems to changing conditions, and have been doing so without or even in spite of externally planned projects. Crop

farmers and pastoralists were found to be generating innovations with little or no outside support. However, outside support could speed up the process of adaptation to new circumstances and make the process less painful by helping to avoid some errors. Participation is now starting to be understood as the participation of outsiders (external development agents) in this process of generating or adapting innovations in agriculture and natural resource management by giving support to the local development actors: the rural people.

As Simonazzi (1993) points out, this approach to rural development participation grew out of the realisation that:
- it is generally not possible for outsiders to identify the needs of rural poor; these can be identified only with active involvement of the "beneficiaries" themselves;
- the primary responsibility for implementing solutions to rural people's problems has to lie with these people: only in this way can a sense of "ownership" be created and can local institutions be developed which can continue activities after external support has ceased;
- outsiders with primarily technical skills should relinquish control and serve as catalysts or facilitators in a process of indigenous development rather than as managers of technical innovation.

The range of people's participation in development, from passive to increasingly active, is reflected in the typology shown in Table 1.

Table 1: A typology of participation: how people participate in development programmes and projects

Typology	Components of each type
Passive participation	People participate by being told what is going to happen or has already happened. It is a unilateral announcement by an administration or project management without any listening to people's responses. The information being shared belongs only to external professionals.
Participation in information giving	People participate by answering questions posed by extractive researchers using questionnaire surveys or similar approaches. People do not have the opportunity to influence proceedings, as the findings of the research are neither shared not checked for accuracy.
Participation by consultation	People participate by being consulted, and external agents listen to views. These external agents define both problems and solutions, and may modify these in the light of people's responses. Such a consultative process does not concede any share in decision-making, and professionals are under no obligation to take on board people's views.
Participation for material incentives	People participate by providing resources, eg. labour, in return for food, cash or other material incentives. Much on-farm research falls in this category, as farmers provide the fields but are not involved in the experimentation or the process of learning. It is very common to see this called participation, yet people have no stake in prolonging activities when the incentives end.
Functional participation	People participate by forming groups to meet predetermined objectives related to the project, which can involve the development or promotion of externally initiated social organisation. Such involvement does not tend to be at early stages of project cycles or planning, but rather after major decisions have been made. These institutions tend to be dependent on external initiators and facilitators, but may become self-dependent.

Interactive participation	People participate in joint analysis, which leads to action plans and the formation of new local institutions or the strengthening of existing ones. It tends to involve interdisciplinary methodologies that seek multiple objectives and make use of systematic and structured learning processes. These groups take control over local decisions, and so people have a stake in maintaining structures or practices.
Self-mobilisation	People participate by taking initiatives independent of external institutions to change systems. Such self-initiated mobilisation and collective action may or may not challenge existing inequitable distributions of wealth and power.

Source: Pretty 1993.

2.2 The rise of rapid and participatory planning

A major constraint to conventional planning of agricultural development projects is that the available data on the situation in rural areas are scanty and poor. The information that can be collected during a "normal" project-identification mission of short duration is little more than anecdotal and cannot avoid being biased. Chambers (1983) has called this "quick and clean (no muddy shoes) rural development tourism".

The other extreme has been the costly and time-consuming process of making surveys on the basis of questionnaires, in the case of animal production, often involving lengthy and detailed monitoring of herds and households. The results can be interpreted only with great difficulty, not only because of the large amount of data accumulated but also because qualitative information is lacking to help explain the quantitative findings. The search for cost-effective ways to learn about the situation, needs and initiatives of rural people and to collect data relevant for planning projects led to the development of Rapid Rural Appraisal (RRA) methods.

At the 1985 international conference at Khon Kaen University in Thailand, RRA was defined as any systematic activity designed to draw inferences, conclusions, hypotheses or assessments, including acquisition of new information, in a limited period of time (Grandstaff & Grandstaff 1987). An initial RRA, also known as *sondeo* (Hildebrand 1981) or informal agricultural survey (Rhoades 1982), can be completed, including reporting, within a couple of weeks. It results in a problem analysis which is broad and indicates promising directions - so-called "best bets" - for development action. RRA is still in the mode of early rural development participation, with the intended beneficiaries involved mainly as informants, responding to questions asked by outsiders, who then analyse the responses.

Experimentation with RRA methods, especially in India, revealed that the local people are quite capable of analysing their own problems. This led to the development of Participatory Rural Appraisal (PRA), which actively involves the rural people in identifying their problems, seeking solutions and evaluating the results. PRA combines local capacities for development planning with those of external development agents.

Although not quite so rapid, PRA approaches share with RRA the aims of obtaining data of better quality than normally obtainable in questionnaire surveys, and of collecting and analysing data more quickly, efficiently and cost-effectively than with conventional questionnaire or FSR methods. RRA/PRA reports are produced within weeks after the completion of fieldwork, whereas reports on conventional surveys and FSR studies can take months or even years to appear.

Participatory approaches to planning, whether rapid or otherwise, aim at:

- eliciting local knowledge to provide a common ground for communication, thus creating a more effective dialogue between rural people and external development agents, and to help make plans more appropriate for the local situation;

- ensuring continuity. The local people's participation in the planning process increases their commitment and feeling of responsibility, and helps maintain continuity through all project phases. Plans made together with them are more likely to be put into practice and continued even after the end of project support;

- making project planning processes transparent to local people, thus increasing their understanding of outsiders' intentions and giving them a chance to influence higher-level planning authorities both indirectly and directly. For example, data collected using PRA methods can be used by rural people themselves to clarify their situation to government agencies and external project planners;

- strengthening local capacities to plan, implement and evaluate development activities.

2.3 Specificities of pastoral planning

The above refers to participatory approaches to development planning in general. Such approaches are increasingly being applied in agricultural or natural resource management projects such as in village landuse planning. However, projects in pastoral settings differ from other rural development projects for the following reasons:
- pastoralists make use of arid and semiarid areas where climatic variability is large, meaning that the natural resources on which they depend are highly variable in space and time, also between years;
- pastoralists' main assets (livestock) are mobile rather than stationary (land);
- land use in pastoral systems is large-scale so as to incorporate wet- and dry-season grazing and emergency reserve areas and tends to be without defined boundaries;
- tenure institutions for resources used by pastoralists tend toward common property regimes rather than clearly defined plots and farms;
- pastoralists often use resources which are used simultaneously or during other seasons or years by other groups, also as cropland;
- pastoralists therefore need to negotiate with other groups to gain access to resources, to manage their use and to improve them;
- to allow for mobility and flexibility of decision making, the pastoral household or an informal group of households are the basic operational units. Arrangements made among households or groups to negotiate resource access and herd movement are usually informal and not rigorously institutionalised (Uphoff 1986).

2.3.1 Conflict management

With such flexible and multiple landuse strategies, conflicts are unavoidable. Conflict management therefore plays a central role in pastoral planning. Technical aspects, eg. new varieties of forage, are, in most cases, of lesser importance.

Where conflicts are not evident in a situation where one would expect them, eg. when different ethnic groups are using the same resources, then it is highly likely that very efficient indigenous institutions of natural resource management are in place. In such cases, the local institutions are not evident because they function so well.

A participatory planning process can help identify potential and existing local-level conflicts, as well as institutions and mechanisms for their resolution, or at least indicate where such mechanisms need to be set up. Project staff thus become aware of where time and money must be invested to assure not only that the interests of different groups are well articulated in project design, but also that competing interests are constantly negotiated (Schoonmaker Freudenberger M 1993).

All efforts to strengthen the position of disadvantaged groups, such as pastoral minorities or poorer pastoralists or pastoral women, relative to other groups in the society will lead to more conflict rather than less. Where certain groups are unable to voice their concerns or to assert any rights, conflict will be lacking. Where change processes supported by an external project allow such groups to gain decision-making power or access to productive resources or benefits from production, increased conflict is inevitable and a sign of progress. The challenge is particularly great in pastoral settings to create fora to negotiate change and to channel conflict into constructive action.

Also on the national level, conflicts or at least some resistence can be expected. A major constraint to participatory planning arises from hesitation by governments to delegate power in decision making, and this is particularly the case with pastoral peoples who are in a minority and/or are often regarded as unpredictable.

2.3.2 Landuse planning

A major difficulty for pastoral planning is that herders are often excluded from landuse planning projects in areas that are used only temporarily for grazing, although these areas may be vital for the pastoral production system. This is the case in landuse planning based on the concept of bounded village territories, known in West Africa as *gestion des terroirs villageois* (GTV). The GTV approach aims to clarify issues of tenure and redefine the responsibilities and rights of communities to manage their resources. It is meant to be a participatory planning process in which the development agency and the villagers jointly diagnose their environmental, economic, institutional and social problems, and plan and implement programmes to alleviate them (Toulmin 1993). Village committees, which are formed to manage local resources, are sometimes built on existing local institutions, but are often initiated by outsiders. Legal boundaries to village resources and often even individual land holdings are established. The plans are usually confined to technical aspects of "good" land management, such as contour bunds. All of these innovations have serious implications for pastoral tenure and access rights (Laban 1993, Marty 1993, Lane & Moorehead 1994).

"The 'territory' concept is derived from settled farming villages with a defined set of resources surrounding them. Herders, particularly in more marginal areas, rarely use a contiguous set of resources within a comparatively manageable area to make their livelihoods: indeed, one of their principal strategies is to move continuously between and within agroecological zones. This means they rarely possess defined 'territories' and often use resources exploited by other production systems at other times of the year (ie crop residues on fields belonging to farmers), and may have only secondary or tertiary rights of access to these resources. There is a danger that the 'territory' approach may empower sedentary farmers to exclude transhumant and nomadic pastoralists from grazing areas they previously had access to. This may be particularly the case where the farmers themselves are beginning to own and herd their own livestock or where population growth is leading to the cultivation of former areas of pasture" (Lane & Moorehead 1994).

Thus, these new "participatory" and decentralised approaches to natural resource management are - like the earlier top-down national planning - excluding pastoralists from decision-making about using the resources on which they depend for their livelihood. This exclusion is in the interest neither of the pastoralists nor the nation: the areas being increasingly controlled by crop farmers are often strategic in allowing herders to use more marginal areas during other seasons of the year.

2.3.3 Pastoral organisation

An extremely important component in the process of participatory planning with pastoralists is the strengthening of pastoral organisation and interaction with other groups. In view of the seasonal movements and splitting of households among many pastoral groups, as well as the lack of social homogeneity in class-structured groups, the formation of pastoral organisations to plan, implement and monitor action is relatively difficult. Pastoralists will be willing to devote time to this only where they can expect considerable benefits.

First of all, it must be recognised what institutions already exist and where more formal organisation is really needed. Many activities are being and can be managed by pastoralists on an informal basis, through personal alliances. Efforts to create larger permanent organisations to manage rangeland resources "can lead to a unit which [is] too small to cope with environmental fluctuations and too large to cope with social coordination" (Dyson-Hudson 1985, quoted in Uphoff 1986).

Building up pastoral organisation and strengthening local institutions do not necessarily have to precede all action. Rather, they go hand-in-hand with implementing new activities. The type of organisation which develops will differ according to the activity. It is too often assumed that one local-level planning body, eg. the "village management committee", can handle all local matters of natural resource management, without exploring existing institutions or clarifying how these could interact with a new one. It is likely to be more effective if there are various types of organisation to manage different resources and at different levels, with various means of interaction.

In pastoral development, the paramount importance of at least temporary resource-use rights, including rights of herd passage, must be recognised. Large "roundtables" or discussion fora involving herders, farmers, NGOs, other development agencies and government bodies at various levels are now being advocated by some development planners, but there is little experience with this approach thus far. Resource-use issues need to be negotiated at the lowest local level possible by the people directly concerned. It is important that pastoralists are informed about their rights according to modern law and about the consequences of certain actions, such as selling land, so that they can incorporate this knowledge into their existing institutions for natural resource management and landuse negotiations.

Participatory approaches to planning in a pastoral context should help:
- to reveal the false assumptions of outside planners, eg. that traditional grazing patterns are haphazard, that no landuse mechanisms operate, and thus 1) to avoid plans likely to damage the local pastoral economy, degrade the environment and lead to emigration of pastoralists from the area and 2) to provide pastoralists with a means to prevent projects which try to replace existing pastoral practices with destructive "modern" and "scientific" methods (Lane & Moorehead 1994);
- to elicit the different objectives of different groups and subgroups using the same natural resources for different or similar purposes;
- to find a better match between official and indigenous regulatory systems for natural resource management (Laban 1993);
- to increase the likelihood that indigenous pastoral skills and knowledge are preserved rather than destroyed.

2.4 Approaches to participatory planning

A multitude of approaches and corresponding acronyms for participatory planning have emerged and re-emerged in the last couple of decades: RRA (Rapid Rural Appraisal), PRA (Participatory Rural Appraisal), MARP (Méthode Accélérée de Recherche Participative, or Méthode Active de Recherche et de Planification Participatives), PAR (Participatory Action Research), DELTA (Development Education and Leadership Teams in Action), GRAAP (Groupe de Recherche et d'Appui pour l'Autopromotion Paysanne), PTD (Participatory Technology Development) etc (see Schönhuth & Kievelitz 1993 for an overview of these and many more concepts in participatory planning). They all grew out of a dissatisfaction with development approaches which planned often without, sometimes for, but rarely with the people concerned.

Broadly speaking, two main paths have converged in participatory planning: one coming mainly from the research side and the other from the side of agricultural extension and community development.

Farming Systems Research (FSR, also called Livestock Systems Research when focusing on livestock-keepers) and its French counterpart, Recherche-Développement have increased the scientific understanding of many indigenous production systems. However, the complexity of the various disciplinary studies and the various on-station and on-farm trials, and the difficulties experienced in integrating the results meant that it took several years for a system to be analysed. Development practitioners involved in project planning retained the systems-orientation of FSR but developed quicker ways to obtain useful data, using methods summarily referred to as RRA. As described below, with experience these gradually took on more participatory forms, just as on-farm trials in FSR has gradually shifted to forms of Farmer Participatory Research, in which farmers have more influence on what is being tested and how.

At the same time, the change-agent approach had been promoted in community development, especially in Asia, since the 1950s. This was intended to nurture local capacities to identify problems and needs, mobilise resources (usually local savings) and assume responsibility for development activities. Change agents were meant to act as catalysts stimulating local people to develop new skills and knowledge in the process of selecting, testing, adapting and evaluating new technologies (Hovdenak 1993).

Also in francophone countries, "animation rurale" was introduced in the 1950s, initially to mobilise rural people to participate in government programmes. In the 1970s and 1980s, many NGOs saw animation as a tool to increase the ability of rural groups to control their lives and gain some independence from the state (McEwan 1991). The promotion of "auto-evaluation", in which beneficiaries evaluate external support and what they have achieved with it, was also a step in the direction of more local participation in development (re)planning. The GRAAP methodology (see below), with its roots in the liberation pedagogy advocated by Paolo Freire, has been another important strand of the participatory approaches in francophone countries.

All these strands have come together into forms of participatory development in which local people plan and implement activities with the support of external agents. These activities are regarded as "experiments". Participatory monitoring and evaluation of these experiments help deepen the analysis of problems and opportunities and lead into an iterative process of replanning, action and reflection. This process has been given yet another label: "Participatory Technology Development" or PTD (Reijntjes et al 1992).

2.4.1 RRA/PRA

RRA core principles, as expressed by Chambers and his colleagues in numerous publications, are:
- rapid cumulative learning (exploratory, flexible response to the unexpected, inventive, interactive, interdisciplinary, iterative process of action and reflection leading to refinement of initial hypotheses through progressive review of findings);
- reversals (learning from and with rural people, exploring diversity rather than norms, incorporating local perspectives and indigenous knowledge into the planning of development);
- direct contact (investigators and rural people, face to face, in the field), with emphasis on communication and listening skills;
- optimal ignorance and appropriate imprecision (not finding out more than is needed, not measuring more accurately than is needed, avoiding unnecessary detail, identifying trends rather than absolute values);
- triangulation (looking at things from various perspectives by applying different methods, using different sources of information, collected by different people; crosschecking to become more accurate through successive approximations).

PRA is based on the same principles as RRA, but is more process-oriented. Whereas RRA is basically a tool to plan for people after having consulted them and analysed their situation, PRA aims at empowering local people to manage their own affairs. Key elements of PRA are (Chambers 1992):
- an even stronger emphasis than in RRA on changes in behaviour and attitudes of outsiders: self-critical awareness, embracing and learning from error, reversals in roles, learning from rural people;
- facilitation of processes by which local people collect and analyse information about their own situation and plan for their future;
- emphasis on visualisation of information instead of only verbal communication; diagrams are used to elicit, present and analyse information and to stimulate discussion within groups;
- encouraging local people to organise their knowledge in their own categories and idiom, so that they retain control over it;
- sharing this knowledge among diverse and ever-widening circles, including other rural groups, NGOs, policymakers, formal researchers, and involving local people also in this dissemination process.

RRA/PRA methods can be applied:
- in a short, concentrated RRA/PRA exercise (2-3 weeks, including report writing in the field and feedback sessions with local people);
- as a series of different methods applied with different groups over time during the course of identifying, planning, implementing, monitoring and evaluating a project;
- in a sequence of increasingly focused RRAs/PRAs over time, eg. general overview, preliminary problem analysis, topical studies, evaluation exercises.

RRA/PRA methods can be applied with large groups such as entire villages, with subgroups (eg. women, pastoralists, ethnic minorities, village quarters), with small focus-interest groups or with individuals.

Positive aspects of using PRA methods are:
- visual sharing: if diagrams, maps etc are prepared by rural people, these are readily understood by them and others in their community. Information is thus made visible and can be checked and corrected on the spot, whereas notes made by an interiewer cannot. Visualisation also permits participation in discussion of information by people who cannot read and write;
- local control: PRA can give local people control over the type of information being recorded and disseminated to the outside world;
- better rapport and understanding: by bringing researchers, development agents and, in some case, also government officials into direct contact and discussion with local people in their own setting, PRA can help improve understanding between rural and non-rural people;
- relative ranking and scoring: this type of data is easier to obtain than absolute values of, eg, number of animals in herd or cash income; relative values and approximations are usually precise enough for planning purposes;
- openness of approach: the subjects to be investigated are not predetermined. Discussions and other interactions between a PRA team and the local people can raise unexpected issues (eg. in the case of livestock-keepers in arid areas, support to gain easier access to grain may be more important than animal-related issues);
- more enjoyable methods than long questionnaires which confine thinking to preconceived ideas important to the persons who compiled the questionnaire but possibly not to the people answering it (or to the enumerators);

- creativity allowed: the PRA facilitators and the people with whom they are doing the analysis, planning and evaluation are not bound by rigidly described methods or sequences of activities;
- supports decentralisation of efforts and diversity, allowing and enabling people to determine what fits their specific needs (Leurs 1993).

MARP (Méthode Accélérée de Recherche Participative) is basically the French version of RRA/PRA.

2.4.2 Some further approaches to participatory planning

Applied anthropology. Where participatory planning with pastoralists is documented, it is often in connection with the work of applied anthropologists or people using similar methods: spending long periods in the field with the pastoralists, building up rapport, participant observation, conversations, informal interviews, investigating indigenous knowledge, working with focus groups and key informants. According to Chambers (1992) PRA draws on many of these methods, but tries to avoid the length and unnecessary detail of anthropological studies. The planning procedure which grows out of this applied anthropological approach generally consists of a loosely structured series of meetings and workshops.

Participatory Action Research (PAR). Paulo Freire's approach to enabling poor people to analyse their reality, thus empowering them for action, is based on the assumption that poor people are creative, and can do much of their own investigation and planning. Outsiders have a role in PAR as convenors, catalysts and facilitators (Chambers 1993a). In these aspects, PRA and PAR have much in common. However, the PAR approach has much stronger political connotations and is usually facilitated by persons who accompany the local people over a long period of strengthening their self-confidence and political clout, without the pressure of having to produce data and results for a defined and limited-term project.

Anglophone and francophone forms of PAR which are frequently applied in Africa, especially by NGOs, are:
- **DELTA** (Development Education and Leadership Teams in Action), started in Kenya by Anne Hope and Sally Timmel and continued as "Training for Transformation" in Zimbabwe (Hope & Timmel 1984). It combines Freire's ideas with North American management training principles; teams trained in communication skills and critical awareness of local conditions conduct listening surveys of community needs, prepare codes (sketches, pictures, songs) to illustrate problems and present these in community meetings for discussion or "processing". The codes help make conflicts of interest explicit by showing people a mirror of their own lives. The animator-led processing sessions give more opportunity for the socially less influential to voice their concerns than in conventional village meetings, and provide fora for conflict arbitration. The community is expected to reach consensus about which problem requires most immediate action, and to plan action to tackle its causes: to clarify aims, time dimensions, and management of labour and resources, including application for funding (Leach 1991);
- **GRAAP**, developed by the Groupe de Recherche et d'Appui pour l'Auto-promotion Paysanne in Burkina Faso (GRAAP 1987). It aims at catalysing self-help development through a process of increasing self-awareness. Issues important in the lives of the local people are identified by an animator and visualised in drawings or posters which can be stuck to a flannelboard. As in DELTA, the GRAAP method encourages the airing of conflicts within the community. The animator acts as a mirror by posing a series of questions to stimulate reflection, dialogue and analysis of the issues. Solutions focus on resolving conflicts and promoting development which is in the interest of all community members. This often involves discussions in small homogenous subgroups, who then share their ideas in the whole group. Major steps are:
. to see: people consciously look at their lives and share their observations with each other
. to reflect: by comparing with the past and with other areas, analysing the causes and consequences of their situation, and identifying problems and opportunities
. to act: to determine their own priorities and capabilities, to plan joint actions to improve their situation, and to identify where they need support (primarily training)
. to evaluate: to look at what they have achieved and decide on the next step, moving into the next cycle of seeing, reflecting and acting (GRAAP 1987).
The animator helps the community develop its agenda for action, also by suggesting promising technologies, linking with experience in other areas, and making training facilities available.

These various approaches to participatory planning may differ with respect to their origins and their depth in the planning cycle (RRA/PRA having been used mainly for situation analysis, while applied anthropology and PAR are more process-oriented). However, they have a large common denominator: the value given to the capacities of local people as development actors rather than "targets" for transfer of technology.

All of these approaches are semistructured and open-ended, and allow and demand creativity by the practitioners. This is self-evident in the case of applied anthropology and PAR, but also RRA/PRA - despite the many handy manuals which have been produced - is not intended as a pre-set methodology in package form. It comprises a series of choices from which practitioners can select according to their needs and experience and the given situation (Scoones & McCracken 1989). Since situations and people are very specific, there are narrow limits to how far these approaches can be standardised. Basic essentials are 1) the ability to recognise the unavoidable subjectivity and biases involved in working with other people and 2) the attitude of respecting other people. Respect is not everything but, without respect, none of the methods described in this book can be called participatory.

2.5 Is participatory planning better?

Development agencies considering the use of participatory approaches tend to ask whether "participatory" projects are more successful than conventional ones. The answer depends on how and when "success" is judged and by whom, and is influenced by three important differences between participatory and conventional projects:
1) Participatory projects, especially in the pastoral sector, are not confined to developing production techniques. Institutional issues and the "empowerment" of local people are an important part of such projects. Here, meaningful indicators must be sought, and the relative value of technical and institutional achievements has to be taken into account.
2) Participatory projects are process-oriented. This means that success or failure may be measurable only after a considerable length of time.
3) Participatory projects must be evaluated jointly by local people and outsiders, taking into account the local people's criteria and indicators for success or failure. A meaningful comparison of participatory and conventional projects would require that both types of projects are evaluated using the same approach. Although it is conceivable that conventional projects are evaluated jointly by local people and outsiders, we know of no such experience. Moreover, if it is done, this would already be a step away from a conventional project approach towards a more participatory approach to development.

An excellent discussion of conceptual frameworks and indicators for evaluating participatory projects in agricultural research can be found in Okali et al (1994). The emphasis they give to analysing local people's experimentation (whether with technical or institutional innovations) and information exchange is also applicable to pastoral development, and should provide the basis for participatory evaluation of project success.

Development agencies interested in applying participatory methods in project work should not expect this to be a low-cost replacement for other forms of investigation. Particularly planners with little information about pastoral systems may hope that participatory methods of enquiry will provide more and better data. However, participatory methods yield only approximate data and trends - and this is often all that is required for project planning and evaluation. More importantly, participatory approaches lay a basis for communication between pastoralists and outsiders, and reinforce local capacities to assess problems and possibilities. Where, for well-deliberated reasons, development agencies or authorities require data going beyond that which the local people require for participatory planning, then more conventional approaches to situation analysis and monitoring will have to be applied (and financed) by the donors.

3. Experiences with participatory appraisal and planning

3.1 Sources and main themes

Although mainly "grey literature", about 90 reports on participatory appraisal and planning could be collected which are either directly concerned with or have potential for use in pastoral production systems. Abstracts of these reports as well as of some general overviews on methods of participatory appraisal and planning are presented in Part III. This bibliography is in no way comprehensive.

Most of the reports come from Africa (possibly because we have closer links with and have focused our literature search on subsaharan Africa) but some also come from Asia (mainly India and Mongolia) and Latin America. The organisations involved are international (eg. FAO, ILCA), national (eg. NES), bilateral donors (eg. ODA, GTZ) and non-governmental organisations (NGOs). Thus, according to reports, the use of participatory planning methods appears to have a wide geographical and institutional spread. Of the university and research institutes dealing with participatory methods, the most important are probably IDS in Brighton and IIED in London, which are very active in training and publish the informal periodical *RRA Notes*.

In terms of content, most reports describe methods and activities during initial situation analysis and project identification. Further steps in participatory planning are often proposed, but reports on actual experiences in planning specific activities with pastoralists are rare. Similarly, there are few documented cases of participatory monitoring and evaluation with pastoralists.

This concentration of experience mainly in initial project phases and the scarcity of reports about what was actually done after an RRA/PRA exercise may have several reasons. Firstly, most feasibility studies and training activities are carried out by short-term consultants who must quickly produce reports for their clients. Implementing the projects is a task for "practical" long-term experts, for whom report writing has lower priority, since they are busy organising project activities and interacting with partner organisations and intended beneficiaries. Another reason is that it is difficult for governments and donors to "let things go" and to support projects in which much of the decision-making is handed over to the local people. A third reason is that RRA/PRA is relatively new as a widely accepted approach. Therefore, few projects have been documented or evaluated which have ventured beyond the phase of initial planning or orientation.

The situation differs in the case of older projects that did not start with explicitly "participatory" methods but, because of the open attitudes and deep personal commitment of the development agents involved, progressed to participatory implementation, monitoring and further planning of pastoral development activities (eg. Gentil & Marty 1979, Cullis & Pacey 1992).

3.2 Experiences with RRA/PRA methods in pastoral planning

There are few RRA/PRA methods that cannot be used in pastoral settings, and they have been used there - if not widely - for already more than a decade. Indeed, the now well-known RRA method of wealth ranking, initially developed by Polly Hill (1972) in Nigeria, was further refined by Barbara Grandin (1983a) during studies of pastoral production systems in Kenya.

As with participatory approaches in general, the use of PRA methods in dealing with pastoral systems can open up a new dimension of understanding between planners and development workers, on one side, and pastoralists, on the other. As an example: when the use of browse by cattle in central Nigeria was investigated by asking Fulani pastoralists to identify and rank the browse species (Bayer 1990), the Fulani greatly appreciated the recognition that outsiders gave to their knowledge and became more open to discuss pastoral matters with these outsiders.

RRA/PRA methods have been used particularly often in pastoral settings to assess forage resources. In the above-mentioned case, the Fulani not only knew a wide range of browse species; they could also judge their value: the species they ranked as important for their cattle had, on average, a better feeding value and were more abundant than those ranked lower. A browse-ranking exercise with pastoralists in Zimbabwe showed the importance of differentiating between relative abundance of the species and the animals' preferences and also showed that differences in ranking between season, animal species and plant parts had to be considered (Scoones 1994a). Forage calendars have been used to highlight the importance of different forage resources in different seasons (eg. FARM-Africa & IIED 1991).

Combinations of matrices and proportional piling techniques for ranking and scoring livestock diseases, as well as calendars to show the seasonality of diseases, have been used in planning animal healthcare projects in, eg. Afghanistan (Leyland 1994), Tibet (Heffernan 1994), Somaliland (Hadrill & Yusuf 1994b) and Kenya (Young 1993). Grandin et al (1991) developed an ethnoveterinary interview guide to assess training needs in paraveterinary care in different areas of Kenya. This work revealed differences between pastoralists (most widely knowledgeable about animal diseases and treatments), agropastoralists (with specialised healers) and livestock-keeping farmers (relying most heavily on "modern" veterinary services). However, all groups experienced difficulties in dealing with "modern" drugs. Use of the interview guide revealed the need for different training approaches for different target groups. For farmers and agropastoralists in relatively densely-settled areas, specialised paraveterinary staff could be trained. For pastoralists, who live in sparsely-settled areas and who pride themselves in their knowledge of animal disease, a more widely-based training approach to reach ideally all pastoralists was more appropriate.

A further set of rapid methods widely used in situation analysis in pastoral settings are specific to livestock production systems: progeny histories and herder recall of the fate of animals over 1 or 2 years. These give a quick overview of major productivity parameters such as reproductive, mortality and offtake rates (eg. Swift 1981, Grandin 1983b, Armbruster & Bayer 1992, Iles 1994). The results of such studies often disprove the widespread misconception among development planners that pastoral systems are not very productive, and help clarify the major problems in animal production, eg. that the prime biotechnical problem is not low reproduction

but rather high mortality of young stock. However, as animal productivity is defined and calculated mainly by outsiders (researchers, project staff), these studies tend to be extractive rather than participatory in the sense of empowering the pastoralists. The information is gained through semistructured interviews with herders in the presence of their animals. The results are recorded by the outsiders, who analyse the data and write the reports in terms which require considerable knowledge of academic animal science to be understood. The results of the productivity analyses are rarely discussed in detail with the pastoralists who provided the original data.

Even if data are collected by the pastoralists themselves, as in the case of milk recording by Fulani women in central Nigeria (Waters-Bayer 1985), the approach is not necessarily "participatory". In this case, milk weights were being recorded for the information of the research organisation. The women already had their own ways of comparing milk yields (by volume in calabash bowls) but this was not sufficiently "scientific" for Research. Only to the extent that the women learned to read and write numbers, which they could later use in recording debts of milk customers, were they able to benefit from their involvement in such data recording. For this reason, it appeared only fair to pay them for their services to Research.

A recent case of RRA/PRA in situation analysis for planning pastoral development is that of Mongolia (3 papers by Mearns and others). After the collapse of the centralised economy in 1989, it was clear that the entire pastoral sector would have to reorganise itself. Government administrators and researchers were given training in PRA. Methods such as resource mapping, social mapping, wealth ranking, institutional ranking and historical matrices have been applied to help pastoralists evaluate their own situation and to familiarise officials with the real world of the pastoralists.

A promising beginning to participatory planning was made in Tanzania, where a seminar was held in 1991 to sensitise middle-level policymakers about pastoral land use by involving them in RRA/PRAs. According to the seminar proceedings, the participants reached agreement that traditional tenure arrangements catered much better to the needs of pastoralists than did the proposed changes in land legislation (Johansson & Hoben 1992). Unfortunately, this could not prevent the Tanzanian Parliament from abolishing customary rights shortly thereafter (Toulmin 1993).

Another promising beginning was made in Kenya, where a small team of consultants worked with Borana pastoralists to compile dossiers of various pastoral neighbourhoods, including details about pastoral resources, their geographical location and uses. Here, wealth ranking methods provided information on social differentiation, and a problem-and-solution game indicated priority problems and potential solutions from the pastoralists' viewpoint (Swift & Umar 1991). This participatory planning process was to be followed by regular meetings between pastoralists and project staff, coordination of activities by development committees on various levels, and internal and external evaluation after 12 months. However, for unknown reasons, the bilateral donor agency decided not to support continuation of the process recommended by the consultants.

3.3 Less "rapid" pastoral planning experiences

In a few cases, experience has been gained in planning with pastoralists which goes beyond the situation analysis phase. These tend to be older projects started before RRA/PRA was "in vogue". For example, in Kenya a series of meetings using DELTA techniques involved elders and leaders from East and West Pokot to elicit comments, responses and recommendations on the possible formulation of group ranches. The meetings were designed to make the Pokot pastoralists look critically at issues affecting range management in present-day Kenya and how it affects them, to assess benefits and possible pitfalls in the group-ranch structure, and to consider how best these pitfalls might be avoided or made less dangerous (Barrow 1987).

Also in Kenya, a series of workshops involving chiefs and elders of Turkana pastoral groups, plus local officials and extension agents from government agencies and NGOs was organised by the Forestry Department at district and divisional levels to reach agreement on action to protect the natural vegetation. The workshops were designed to elicit the Turkana's own knowledge and to raise their awareness of problems facing the woody resources in their area. Discussions during the workshops and field visits centred around current government and traditional rules affecting trees, fuelwood and charcoal production, use of timber, clearing of woodland, tree planting and management. This approach used local knowledge to help solve forestry problems and to guide forestry policy, including drawing up new legislation to integrate traditional Turkana rules and modern laws (Barrow 1987).

As an indication of the timeframe involved: the phase of building up the participatory extension programme among the Turkana lasted six years. Thereafter, project investment costs were deemed to be necessary, albeit at a constantly decreasing rate, for over ten more years (Barrow 1991b).

An early example of participatory planning is reported from Mali in West Africa, where local development agents and supporting (intermittent) consultants acted as catalysts to stimulate discussion of how the herders were coping after drought and how they thought they could solve their problems. The herders were encouraged to draw up a plan of action, to implement their plan, to evaluate the results and to plan further activities. The development agents provided information from outside or arranged visits with other groups of farmers or scientists. Continual internal monitoring and evaluation was done by the local development agents (Gentil & Marty 1979). This process approach to pastoral development demanded firm but flexible commitment by donors over a period of more than ten years (Marty 1990).

As pastoralists use natural resources which are also used at the same or different times of the year by other groups, they cannot plan independently from these other groups. Therefore, experience made in joint planning by pastoralists and other groups deserves particular attention. In the Kaarta area of Mali, clusters of farming villages and pastoral groups negotiate joint management of natural resources. Key aspects are recognising that pastoral use confers legitimate rights to land and recognising the interdependencies between herders and farmers by jointly analysing the complementarities between their production systems. Joint commissions of herders and farmers began by negotiating consensus, which led not to a fixed landuse plan but rather to frequent monitoring and re-negotiation in response to changing conditions. These commissions play an important role in settling disputes and have gradually developed new activities, such as establishing depots for medicines and building vaccination areas. It is concluded that rehabilitation of pastoralism depends not on making a plan but rather on strengthening institutions for decentralised negotiation (Marty 1993).

Early experience with participatory planning in pastoral settings has also generated debate about the limits to participation, expressed in various articles in *Nomadic Peoples*, especially in the years 1985-86. One example is the approach taken in designing a project of the Government of Niger and USAID (1978-83). Two consultant anthropologists traveled separately among pastoralists (WoDaaBe Fulani and Tuareg) to elicit their needs and ideas as to how a project could aid them. During project implementation, a fulltime anthropologist supervised four field anthropologists and other staff in studying pastoral production patterns and in pilot actions for change, after thorough discussion with all concerned. However, the needs expressed by the local people depended greatly on the experience, interests, culture and, therefore, questions asked by the different outsiders. The project wanted to involve all resource users in the planning process. In discussions, the Fulani and Tuareg said that joint management was important but that outsiders would have to raise this issue because any insider would be deemed to have ulterior motives. In practice, neither group was willing to consider new associations which crosscut older social units. Participation was meant to be a first step to giving the pastoralists more control over project planning and implementation, but it proved extremely difficult to define needs and to overcome barriers to communication. The concept of wide participation in development decisions did not fit with nonegalitarian social forms, particularly of the Tuareg. Not all information was regarded by local people as public or free to share. Government and beneficiaries saw different problems and needs, leading to different interpretations of participation (Aronson 1985).

It is noteworthy that some projects in which participatory planning has been practised originally started in a very conventional way. For example, after the famine in the late 1970s in northern Kenya, a Turkana relief project took the form of "food-for-work". As project planners thought that water harvesting could make farming more secure, food was given for water-harvesting work using techniques from abroad (Israel), but with little success. After several years, as project staff became better acquainted with the Turkana and their situation, the project changed its course. The staff tried to understand and strengthen existing institutions among the Turkana at appropriate levels, depending on the technology involved. Pastoralists' participation in vaccination campaigns was organised by section leaders, in well and garden projects by the people within a specific "home area", and in animal healthcare by smaller herding groups. The activities developed at a pace set by these local institutions. This approach required long-term commitment and a lack of pressure from donors for quick results (Cullis & Pacey 1992). This example shows the value of frankly assessing the weaknesses and errors in project work and allowing project staff to learn from experience and adjust their approach.

These examples give some indication of how planning with pastoralists can be approached. It is striking that the examples which document not only situation analysis but also an on-going process of pastoral planning and development involve mainly methods of applied anthropology and PAR, with or without the use of PRA tools. Key issues in pastoral development appear to be institutional rather than technical, in contrast to the case with crop farmers, where more emphasis has been given to joint solving of biotechnical problems (eg. selecting new crop varieties). Nevertheless, institutions are developed around specific activities or concerns felt by the local people. Such processes of institutional change require much time and pressure from within rather than from the outside.

3.4 Participatory monitoring and evaluation

Little is documented on the use of participatory methods to monitor project progress with pastoralists. The annotated bibliography of literature on PRA in monitoring and evaluation (M&E) recently compiled by McPherson (1994) refers to only one field experience (Mali, see below). ActionAid is planning to use PRA tools to monitor their animal health work (Catley 1994) and a network of British NGOs is currently assessing methods of participatory M&E, also with reference to pastoral projects (Simonazzi 1993). A training course in using PRA methods in participatory M&E of forestry projects in Sudan is reported by Quinney (1994), but it is still too early for reports on application of what was learned.

With crop farmers, however, some experience with M&E has been made, which could be adapted to pastoral conditions. Basically the same methods are applied as in situation analysis, but with a tendency to being more topically focused. Often, maps and diagrams are drawn with similar objectives as during the diagnostic phase, and the two sets are compared to monitor progress (eg. Shah et al 1991). Some further examples are:
- In Malawi, farmers made drawings of bioresource and cash flows before and after an innovation (in this case, incorporating fish ponds into the farm system). Comparison of the "before" and "after" drawings showed changes in flows of inputs and outputs and in resource linkages within the farm system. This allowed both the farmer and the development agent to monitor progress (more intensive use of farm-internal inputs, higher net incomes, reduced need to buy fish), and provided farmers with a tool for improving their decision-making in resource management (Lightfoot & Noble 1993);
- In Nepal, local people (schoolteachers) formed an internal M&E team, drawing maps, interviewing others in the community and recording information. Assessment of this experience led to the conclusion that the information must be processed by the people who did the monitoring, so that errors and gaps can be identified quickly and corrected. The information should also be analysed by these same people, possibly with some external assistance (ActionAid-Nepal 1992);

Good documentation of M&E with pastoralists is provided by ACORD, a London-based NGO. Working with Tuareg in Mali, ACORD designed a self-evaluation approach based on the GRAAP method. Project teams collect information on the conditions of a group and prepare a baseline "fiche". Subgroups divided according to age and sex discuss their problems, present their results to each other in the plenum and agree on activities to start. These are outlined in a "fiche action". The group identifies the support it needs, makes a contract to this effect with ACORD and identifies social, economic, technical and institutional indicators for evaluating each activity. Working with subgroups permits the views of marginalised groups, eg. women, to be heard, and reveals differences in aims and criteria for success. The local criteria are combined with ACORD's own criteria to form an overall evaluation framework, which is made into a "fiche de suivi". Upon completion of a particular activity, the group and ACORD evaluate it according to the agreed indicators. The "fiches" provide a framework for data collection to assist the process of monitoring, evaluation and replanning (Roche 1991).

Considerable time of staff well-trained in animation techniques is required for this approach. Civil unrest in the project area in 1991 prevented ACORD staff from giving intensive support to this process. As field visits became impossible, pastoralists began to send oral or written messages to staff at ACORD bases. The evaluation and planning activities were then shifted to intercommunity meetings held at ACORD bases, preceded and followed by meetings in each community organised by local representatives. The principle of subgroups and plenary meetings was retained in the intercommunity meetings. The most common monitoring tool actually used by the groups themselves are simple notebooks. For example, a management committee for livestock reconstitution has a notebook showing the cost, number and species of animals bought, to whom they were loaned, and how much of the loan has been repaid. The report on the development of the self-evaluation process (Capezzuoli 1994) gives a detailed overview of the strengths and weaknesses of various monitoring and evaluation tools and strategies used by ACORD and its partners in Mali since the mid-1980s.

3.5 Problems, limitations, biases and dangers

The promotors of RRA/PRA, particularly in the UK and India, have published innumerable papers and books about the advantages of these methods. We do not deny the great potential of PRA in empowering local people to plan and implement their own development. However, in view of the perhaps even greater danger that "participatory" methods - presently in style - are misused, we draw attention here to some of the problems, limitations, biases and dangers which have become evident. These are not meant as arguments against applying PRA approaches but rather to ensure that practitioners keep the "red warning lights" in view. The outcomes of recent meetings in the UK about PRA also contain some good self-critique which should help to improve the approach (eg. IDS Workshop 1994, Scoones & Thompson 1994).

Like other approaches to development planning, participatory approaches are not a panacea and are by no means easy. Their application requires considerable skill and sensitivity. This means that appropriate training is needed and that, even then, not all staff of development agencies will have the aptitude to apply participatory approaches.

3.5.1 Need for communication skills

Participatory methods require, above all, communication skills - not only listening skills, but also the ability to ask relevant questions. Development agents commonly regard themselves as teachers with knowledge and insight superior to that of rural people. Instead of listening to local views and ideas, they draw heavily on their experience from elsewhere and explore questions which are of concern perhaps to government ministries, research institutes or donor headquarters but not to the local people.

Participatory approaches require that outsiders are open to the knowledge and competence of the local people, and are prepared to admit their own ignorance of the local situation. The outsiders must retain, rather, an "intelligent ignorance": theory and prior knowledge about local social and environmental conditions can help in asking better questions and in preparing for possible discriminating factors such as age, gender and social stratification (Njiforti et al 1989).

As participation is a two-way process, outsiders must also be able to critically assess and openly question the information received in dialogue with local people. For example, pastoralists (and development agents) may claim that large amounts of milk are thrown away because it cannot been sold. Meanwhile, plans for a milk-marketing scheme with free or highly subsidised inputs may be simmering. Calf mortality is often high in pastoral systems, and extra milk for the calves can improve their survival rate. It would therefore be important to explore the reasons for excess milk or the claims that it exists.

In participatory planning, both the outsiders and the local people have to be prepared to give up their preconceived ideas. Still, the attitudes and behaviour of many people working in development agencies are not particularly conducive to this approach. Under the pressure to get things done, there is often a tendency to curtail dialogue by suggesting or even enforcing preconceived action. Even with GRAAP methods, designed to stimulate local people to decide themselves how to deal with environmental change, there is a tendency for poorly-trained extensionists merely to lecture, eg. about establishing woodlots (Kerkhof 1990), instead of communicating with local people to identify their priorities and their own activities.

An aspect of communication seldom discussed in the reports on participatory approaches with pastoralists is the question of translation. Many pastoralists, especially women, do not speak the official language of the country in which they live, and outsiders trying to facilitate a participatory planning process usually do not speak the pastoralists' mother tongue (cf. Waters-Bayer & Bayer 1988). Although the visualisation methods used in PRA can overcome the barrier of different languages, the differences in interpretation of images will remain. It is ideal if local people who speak the language and understand the local "codes" can be members of the PRA team (eg. Mlenge & Johansson 1992).

If persons are hired as translators, there is a danger that they filter and influence the communication with the local community. Translators should be involved in planning and discussing the fieldwork, so that they share an understanding of the purpose and can bring in their own knowledge of the culture. It is useful to list in the local language the concepts and terms which are likely to be encountered (eg. animals, breeds, husbandry practices, forage resources, diseases, seasons, land forms) and to revise these lists as new key concepts arise during fieldwork. For longer-term interaction in a development process, the importance of learning a language with which one can communicate directly with the pastoralists, including the women, is undeniable.

3.5.2 Power issues

The information provided by farmers and herders, or by men and women, or by richer and poorer herders reflects their view of the subject under discussion. It normally cannot be separated from personal and group interests. Using this information, projects often try to create or reinforce local organisations as a "participation tool" to further the aims of the external planners: to adapt proposed interventions to local conditions and to marshall local resources. This approach can easily give powerful local groups a chance to dominate the process. The local organisation decides who is allowed to benefit, for example, who is allowed to put how many head of livestock on (improved) pasture in Morocco (Gow 1987). From Somaliland, Prior (1994) describes how one pastoral group tried to take advantage of a project supported by an external NGO in order to secure exclusive rights to land to which several groups had traditional claims. The non-sensitive or naive application of participatory methods can increase inequities.

For this reason, participatory planning processes should be preceded by an analysis of differences between social groups. In any case, different gender and wealth groups are likely to have different problems and preferences. Important differences may also occur between ethnic, occupation or age groups. An initial idea about different social groups relevant in the project area can be gained through study of secondary data and discussions with key informants who have long experience in the area. Wealth-ranking (Grandin 1988) has proved useful in many settings to distinguish between groups according to local criteria of wealth and poverty. Participatory methods of identifying problems and opportunities, such as mapping, proportional piling, ranking or matrix scoring, can then be applied in the different social groups (cf. Swift & Umar 1991).

Power issues are involved, and practitioners of participatory approaches are in danger of being pawns, not only on local but also on national levels. There is no universal recipe against misuse of participatory methods - or against simply initial naivity - in development processes. Promotors of participatory development must remain alert, so that inequitable tendencies can be discovered early and appropriate remedial action can be taken.

3.5.3 Gender issues

Gender differences define how, in a specific social and cultural context, women and men interact and what is considered appropriate for each to do, thus determining their development options and constraints (Guijt 1994). These differences are historically determined, but not static.

There is an intrinsic gender bias in some RRA/PRA methods that take several hours to complete and interfere with women's normal routine (cooking, collecting fuel and water, childcare), as women tend to have less free time than men. Furthermore, in many societies women are less accustomed than men to expressing themselves in public and may be reluctant to be involved in meetings of larger groups. In some societies, cultural rules limit women's contacts with strangers, and it is not socially acceptable that women speak openly on formal occasions. An RRA/PRA team may regard their activities as "informal" in comparison with conventional survey methods, but the visit of an external team is likely to be regarded by the local people as a formal occasion. Also the paraphenalia of PRA (charts, maps etc) may mystify and not invite participation, particularly of women (Mosse 1993).

It is often easier or even necessary that PRA practitioners (preferably women) interact with local women in smaller groups. Gender differences can be deliberately raised during PRAs by asking separate groups of men and women to do the same exercise, such as mapping (Ejigu et al 1991, Birch 1994). As another example, men can be asked about the activities of women in addition to their own activities, and women about their own activities and those of the men. Comparison of the two sets of information can generate useful discussion about customary roles, changes in actual activities, and what these mean for future development action. However, such "public" discussions can also create resistance (particularly among men) and undermine the private means that women have developed to deal with the existing gender roles. Here, too, the outsiders must have considerable sensitivity and a good knowledge of the prevailing "gender atmosphere".

3.5.4 Confined views of location and time

RRA/PRAs often focus on only one or two villages. Information is gathered from the perspective of the inhabitants of these villages (eg. agropastoralists) while other groups (eg. nomadic pastoralists) and their perspectives are excluded, especially if different ethnic groups are concerned.

Certain groups of resource users may not reside permanently in the area studied. This is particularly the case with herders, whose rights of access to natural resources are often only seasonal and overlap with the rights of others, who use perhaps different products from the area at the same or different times. Because external RRA/PRA teams typically spend a relatively short time in an area and talk to those who happen to be there at the moment, there is a danger of overlooking interests of absent users. This suggests a systematic bias of RRA/PRA against nomadic people (Schoonmaker Freudenberger 1994a). RRA/PRAs with a view to pastoral development must deliberately seek out seasonal users of the resources and therefore require a longer time and more travelling than on most other agricultural settings.

It may not be sufficient to schedule a "one-shot" RRA/PRA for a time when seasonally migran t people are expected to be present, as this could still exclude the active participation of other groups. For example, in Kenya, a PRA exercise was scheduled for the growing season, so as to include migrant labourers who normally return home for cropping. However, this meant that women were largely excluded, as they had to weed during the time of the PRA (Simonazzi 1993). In order to include seasonally absent (or seasonally very busy) resource users, it may be necessary to repeat PRA activities, such as transects and ranking exercises, at different times of the year.

Because of the great importance of seasonality in pastoral systems, a PRA exercise during only one season is bound to be biased. Preferably, RRA/PRA methods should be applied by persons working continuously or, at least, repeatedly in an area, so that their analysis can be deepened during the course of collaboration.

3.5.5 Superficial data

RRA/PRAs tend to stop at describing the activities and physical surroundings of a community and often fail to probe more deeply to understand strategic decisions that underlie the observed patterns of activities or to see how these strategies have evolved over time (Schoonmaker Freudenberger 1994a). In many cases, the maps, diagrams or matrixes are not "interviewed" while they are being made and after they have been completed. They can easily degenerate into being regarding as ends in themselves, rather than as visual tools for generating discussion and reflection by the local people - also recognition how different people in the area see things differently - thus facilitating further analysis.

There is also a tendency in RRA/PRAs to focus on issues that can yield hard data rather than look at social relationships: seasonality of credit rather than sources, uses of trees rather than who uses them, identifying resources rather than who controls them. With a little restructuring of exercises, a little effort at going beneath the surface of information provided and a few exploratory questions, it is possible to bring such relationships to light (Fernandez et al 1991).

Short concentrated RRA/PRA exercises can only begin to explore complex issues and processes such as land tenure and conflicts, which are vital for pastoral peoples. Such issues usually need to be followed up by focused in-depth studies. However, also during these more "conventional" studies, visual tools such as matrices, mapping and other forms of diagramming can be useful.

3.5.6 Uncertain quality of data

The rapid spread of RRA/PRA methods in recent years has revealed a major problem: quality control. In many reports, the objectives of the RRA/PRA are not clearly defined and it is not made clear who actually made the maps or diagrams, who formulated the criteria in a matrix etc. It is not sufficient to describe methods summarily as "RRA" or "PRA" or even to give the names of individual methods applied, eg. Resource Mapping, Preference Ranking. To be able to judge the quality of the data, the readers of reports also need to know how these methods were applied. A welcome step in this direction is taken by Karen and Mark Schoonmaker Freudenberger (various publications), who add a short note to each presentation of RRA/PRA data to explain how the data were compiled and with whom.

An important principle of RRA/PRA is triangulation: crosschecking information by seeking different sources and using different methods to obtain information about the same thing. Ideally, RRA/PRAs are conducted by interdisciplinary teams. This allows further triangulation, as persons with different specialisations and, therefore, different ways of looking at things are involved. However, in actuality, RRA/PRA methods are often applied by individuals or specialist teams. Particularly in such cases, there is a need for a subsequent exchange of information with people of other disciplines in order to identify information gaps (and possible "overkill") and to critically examine how the data were collected and interpreted.

During project implementation, the findings of the initial RRA/PRA need to be deepened, verified or corrected. Triangulation during the RRA/PRA is not enough. Subsequent crosschecking of data can involve observations and conventional research methods such as measurements and focused questionnaire surveys.

Furthermore, the RRA/PRA team has a responsibility to produce useful reports. Here it must be noted that what is useful to the people who participated in the PRA exercise (including the local people) will differ from what is useful for project documentation and for exchange of information with people who did not participate in the PRA. As also those who participated may want to refer to the graphs, matrices etc later, eg. during evaluation, these need to be legible. For those who did not participate, certain visualised information (eg. brainstorming cards, maps) which may have been very useful to stimulate discussions during the PRA may be impossible to understand, if no further explanations are given in the report.

It may also be necessary to interpret the data collected beyond the stage which was possible during the short duration of the initial RRA/PRA in a village or pastoral camp. These additional interpretations by the team or with the aid of additional specialists should be discussed later with the local people concerned.

3.5.7 Imposition of foreign concepts

Certain RRA/PRA tools may impose a western way of seeing or recording, eg, maps, matrices, flow arrows etc. The visualisation may not be readily understood in all societies, although the use of aerial photographs in participatory landuse planning (eg. Sandford 1989) shows that these methods can be used with more success than one might anticipate. Some people with a strong verbal culture may experience difficulties in expressing themselves in diagrams (cf. Leyland 1992b). It is noteworthy that Tuareg pastoralists working with ACORD in Mali explicitly requested a shift from visualisation to the written and spoken word for assessment and planning activities (Capezzuoli 1994).

Various methods from the RRA/PRA "toolbox" can be tried in a particular setting, but the procedure of participatory planning should be sufficiently flexible to allow a change in methods, if those originally applied prove to be poorly suited. Appleton (1992), Grandin (1992) and Birch (1994) give good examples of how methods were adjusted during fieldwork to fit the interests, skills and preferences of both the local people and the PRA team.

Village-based spatial concepts with clearly defined boundaries may be alien to pastoralists. Instead, a concept of space focused on centres of activity (eg. market towns, wells) may predominate, combined with a patchwork of key resources (eg. seasonally-flooded, low-lying areas) and opportunistic movements between different ecological zones and patches.

In the other extreme, care must be taken by outsiders not to romanticise nomadic pastoralism and not to underestimate the hardship of moving herds and households. Pastoral decline and sedentarisation may be so extreme in some areas that promotion of highly-mobile pastoralism has also become an alien concept to the livestock-keepers.

Thus, whether referring to communication methods, spatial views or socio-cultural-political ideals, including women's liberation, participatory planning teams need a great deal of sensitivity to be able to recognise where they might be trying to impose foreign concepts and are in danger of ending up in a stalemate.

3.5.8 Extractive vs empowering application of RRA/PRA

Many RRA/PRA exercises consist in outsiders collecting indigenous knowledge and ideas and then proposing development possibilities to the local people. The term "participatory" is applied to more-or-less conventional methods of extracting information, now called "indigenous knowledge". This is particularly evident in manuals which give samples of "PRA" questionnaires to be applied to farmers.

Rifkin (1992) asks how active participation can be ensured when the planners provide the conceptual framework for data analysis, ie. wealth ranking, matrix priorities, mapping? She sees a danger that such "participatory" methods are used by outsiders to obtain data to use for decision making in which the local people are not involved. PRA can easily become a manipulative process, whereby planners obtain and disseminate selective information from communities. Fernandez et al (1991) have noted that, especially if a PRA exercise lasts only a few days, there is a tendency to collect data for outsiders' purposes and not to initiate a process of discovery and growth of confidence among the local people to solve their problems.

Nevertheless, even "extractive" RRAs or longer systems studies can serve a purpose in influencing research and development policy and, thus, in giving local people at least indirect influence. The study reports can provide policymakers and researchers with information on pastoral production systems about which formal research systems know little or nothing. Advocacy activities of organisations working with herders can contribute to changes in policy in their favour or hinder changes in their disfavour. RRAs have also been done to inform policy discussion directly, eg. focused RRAs by government functionaries and researchers on local land tenure systems and resource management practices to inform debate on a new land code at national level (Schoonmaker Freudenberger 1994, pers. comm.).

All RRA/PRA methods can be used in a more extractive or a more empowering mode but some tend more towards the former (eg. progeny history, transects) and others more to the latter (eg. workshops, ranking, mapping). The key is the type of dialogue which takes place when these methods are applied, such as posing questions which lead to eye-opening among both insiders and outsiders during a transect, or confronting men's and women's views of their own and each others' workloads shown in labour calendars. Where methods are used to show differences within the population, this can evoke discussion and stimulate ideas for change among the local people. Where they show differences between local people and higher planning levels and provide a concrete basis for discussion and finding compromises, they can become tools for collaborative planning.

3.5.9 Weaknesses in follow-up

RRA/PRA exercises are often one-off events, with no visible, immediate result apart from the production of a report, which may not even be easily accessible to the local people. Reasons for the real or apparent lack of follow-up can be (Schoonmaker Freudenberger 1994a):

- conflicting time-frames. Villagers want to see short-term responses to their efforts, whereas project personnel, government officials and donors have to go through the long cycle of reporting, assessing the report, formulating a project proposal according to donor guidelines, gaining approval, recruiting and preparing project staff etc. Even if all parties involved have the good will, a year or more may elapse between the feasibility study and initial project planning and the commencement of project work on the ground;

- different agendas of local people and donors/government. Pre-specified focus of project activities can lead to a situation where the problems a project is supposed to solve (eg. erosion) are not the problems of highest priority to the intended beneficiaries;

- lip service to participation. Donors and governments may give the impression that participatory planning is desired, yet when the results of initial participatory planning are presented, they are ignored, to the great disappointment not only of the local people but also of the RRA/PRA team (see next section).

The danger that there will be no follow-up is particularly great when villagers are "used" to train outsiders in PRA methods (see Section 4.3).

3.6 Ethical issues and responsibilities

PRA is part of a process of activist involvement, which involves building up a forum of collective analyses and ongoing support to the local people in trying to improve their situation (Srivastava 1994). Development agents and donors promoting participatory approaches take huge responsibilities upon themselves, and should be clear about the ethical issues involved.

A striking example is provided by a recent experience in northern Kenya. After a participatory planning exercise stimulated by external consultants hired by a bilateral donor agency, Boran pastoralists proposed the creation of a grazing management committee to control natural resources used by the group. This management committee would also be responsible for managing, operating and maintaining infrastructure such as water, dips and other livestock management structures. The Boran expressed excitement about being involved in planning, an unusual phenomenon, as herders are often asked their problems by people they never see again. This initial planning exercise raised their enthusiasm and hopes and their willingness to assume management responsibilities (Swift & Umar 1991). These expectations have been disappointed, as the donor has reconsidered its position in the meantime. This will mean that later possibilities of cooperation with the pastoralists (perhaps with the support of other organisations) will have been greatly weakened. This rebuff serves only to reinforce the pastoralists' perceptions that that they continue to be left out.

If a donor is not prepared to accept the consequences of local participation in planning and to provide appropriate follow-up support, then the planning process can only be demoralising for the pastoralists as well as for the outside facilitators who were involved. This is the greatest danger of participatory planning approaches: raising false expectations. At least as long as development planners worked in "islands of development" without links to rural realities, the rural people knew what to expect ....

A final question of ethics in connection with participatory approaches to situation analysis and project planning is: who controls the information? The local people have a right to know and influence in what way the information they provide and the ideas they generate are used. Participatory appraisal methods conducted in an atmosphere of mutual trust can generate sensitive data which can be used to the benefit but also to the detriment of the local participants (cf. Waters-Bayer 1994).

Particularly in the case of pastoralists, discrepancies may become evident between state policy and local practices of using natural resources, such as burning or tree lopping. "The simple act of describing the [formally illegal] practice in the PRA report may alert the authorities and endanger its continuation" (Schoonmaker Freudenberger 1994a). Here, a choice must be made between selective dissemination of information to outside authorities, or a concerted effort to convince these authorities to change their policy. In any case, great care must be taken that the information derived from participatory planning processes is not used primarily to strengthen the information base of authorities so that they can better manipulate and control the local people.

4. Participatory planning - some recommendations

4.1 Process approach to planning

Planning is not confined to a phase before starting concrete project activities. It is a continuous process of analysis, decision-making, action, reflection/evaluation, making new decisions and undertaking further action. Participatory planning in bilateral development cooperation normally involves at least three partners: a project-implementing organisation in the developing country, a donor organisation from another country, and the local people who are the intended beneficiaries of the project. From the viewpoint of the intended beneficiaries, both the donor organisation and the local partner organisation are people intervening from "outside".

Here, it is assumed that external development agents and the partners in the local implementing organisation collaborate in the project team that initiates the participatory planning process. From the viewpoint of this team, the planning process can be subdivided into the following stages:
1) identification of geographic area or group of people to plan with
2) preparation of field study by reviewing secondary sources of information
3) developing rapport with the local people intended as beneficiaries
4) field data collection and analysis of findings together with these local people
5) jointly identifying problems and opportunities, and agreeing what is to be done and who will do it
6) jointly implementing these activities, while jointly monitoring what is done and how
7) jointly evaluating both the activities and the new situation, and jointly replanning.

The different stages should not be understood as strictly sequential. As an example: publications on the area, the people or biotechnical issues which are discovered and read after the start of the field study can still help to improve the interpretation of data or lead to modifications and improvements in the way data are collected.

Participatory methods can be used at almost all stages of the planning process. The two first stages are probably the least participatory. Areas and groups for which projects are planned may be identified by national planning (the Dutch work in Province A, the Germans in Province B) or in the course of intergovernmental negotiations about technical cooperation. The decision to work in particular areas or with particular groups may be influenced by previous experience, particularly if the project is an extension or follow-up of another. In such cases, there is more opportunity for local people to be involved in making such decisions. Also informal contacts between "outsiders" and local people can led to project conception.

Useful secondary information can be found in published articles or books, reports from previous projects in the same or a neighbouring area, and archive material. Also relevant technical literature about ecology and production should not be neglected. In the case of pastoral systems, new scientific findings and interpretations about adaptation of animals to the environment and about forage and pasture management in seasonally-dry areas (eg. Behnke et al 1993, Scoones 1994b) deserve particular attention.

4.2 Participatory methods for different planning stages

The focus in the following is on methods which are generally included under the heading "RRA" or "PRA". Many of these can be used at various stages in a planning process, which will be by no means rapid. The sequencing of methods, even during an initial concentrated RRA/PRA exercise, may differ from case to case (cf. Birch 1994), depending on the culture, the time of year, the time availability of the local people etc. We have therefore divided this section not according to a particular sequence of methods, but rather according to stages of interaction between the external and the resident partners in the planning process. Table 2 reflects our experience and opinion as to which methods fit into which stage in the process.

4.2.1 Developing rapport with the local people

Initial contacts between the RRA/PRA team and the beneficiaries can be established by local administrative staff, by (livestock) extension workers or by traditional authorities. The local protocol should be respected. The person(s) who introduce the team to the community and his or her function and standing within the community can have great positive or negative influence on the community's reception of the team. It is self-evident that RRA/PRA teams should not go to villages or pastoral camps without being formally introduced or at least announced, and should avoid visiting at inconvenient times, eg. during harvest or a major celebration.

Several PRA practitioners (eg. Fernandez et al 1991, Mosse 1993) doubt whether RRA/PRA can be effective in establishing an entry point to a completely new area. They emphasise the need for preparation through personal

contact with the local people over several months. The degree of effective participation in mapping, assessing resources etc, the validity of the results and the quality of the resulting project plan depend to a large extent on the rapport built up between the "outsiders" and the "insiders". This is likely to be especially true in the case of nomadic pastoralist groups that have been marginalised by past "development" activities or have deliberately tried to isolate themselves as a distinct culture.

Unfamiliarity of local people with participatory approaches and their uncertainty whether they will derive benefits from the exercise has led some groups to refuse to cooperate in RRA/PRA activities, eg. Mosse (1993) reporting from India and Grandin (1992) reporting about difficulties with wealth ranking in Lesotho.

Although we would agree that it is not advisable for an interdisciplinary team to descend upon a completely unknown pastoral group to conduct a "full-fledged" (eg. concentrated 2-week) RRA/PRA, there are certain RRA/PRA methods that can be applied as entry points to become better acquainted with a group and the area in which they live. These include transect walks (or rides or drives) with the local people, outsiders' participation in daily tasks, joint mapping and recording oral history.

At the beginning, the outsiders are likely to be subjected to certain tests, eg. can the livestock expert recognise a good-quality cow in local terms? Just as the project team is inquisitive about local practices, it should be accepted that the local people may be inquisitive about how things are done elsewhere, such as in the home country or family of members of the project team. This should be a time of information exchange, without putting relative values on the different ways of doing things.

In some cases, a good rapport can be established quickly, but this cannot be forced. Particularly for discussing sensitive issues, such as animal ownership (by men, women, children, absentee-owners etc), a long period of building up mutual trust may be necessary. Barrow (1987), working with Turkana pastoralists in northern Kenya, reports that it took over two years of rapport-building (informal discussions, small joint activities) to learn about local institutions of natural resource management. Waters-Bayer (1988) worked intensively with Fulani women in central Nigeria for almost three years before the women began to talk about how many cattle they had, as this contradicted the social norms that cattle belong to men.

Other ways of establishing rapport include staying overnight in pastoral camps to listen to histories, legends and folk stories, and taking photographs or video films while visiting a pastoral camp or a village and bringing back copies as quickly as possible. The photographs and video films, when shown to the pastoral people who are depicted and to their relatives and friends, can also offer starting points for discussions about pastoral activities and social relationships.

4.2.2 Joint field data collection and analysis of findings

Potentially, the whole range of RRA/PRA methods can be used during field data collection and analysis of findings. Field data collection should be focused, without being rigidly so. If a project (identification) team is originally supposed to investigate, say, range management, yet the main problem of the group of pastoralists concerned is access to land for cultivation, the RRA/PRA team should have the liberty to shift the focus of data collection. However, it should be clear that data are collected not merely because they seem interesting, but because they are needed for a particular purpose related to the development process. Facilitating data collection and analysis in a joint process with local people requires considerable skills, and at least one team member should already be experienced in this.

Basic methods for data collection and analysis consist of discussions with larger and smaller groups, informal dialogues with key informants and individuals from different social groupings, and semistructured interviews with groups and individuals. These verbal methods can be supplemented by methods involving visualisation, such as mapping, ranking or diagramming, to stimulate and structure discussion around specific topics.

Historical methods can help to put the present pattern of resource use into perspective. Timelines can be constructed in small groups or with individuals, mainly elderly people. They can be starting points for discussing environmental change and reasons for this change. To give some idea of the extent of change, proportional piling can be a useful tool.

In most cases, a key issue will be the social differentiation within a village or large group. Wealth ranking is usually proposed for finding out about social differences, but experience with this method has been varied. In some reports (eg. Westphal et al 1994) wealth ranking is regarded as quite simple and readily applicable. Sometimes, however, it proved to be difficult to apply the now almost "classical" method of wealth ranking, since people did not like to classify their neighbours in front of outsiders (eg. Simonazzi 1993). Longer-term

contact and building of confidence between outsiders and the community may be needed before such sensitive issues can be discussed. In the meantime, a simplified version of wealth ranking can be applied by using beans or other markers to represent the number of households in the group, but not identifying the households. By dividing the markers into different wealth/poverty classes, local people can discuss their criteria for wealth and give a general idea of the proportion of households in each category.

Identifying social differences helps in defining types of project activities and beneficiaries. If a project wants to focus on poorer pastoralists, it may be more important to explore alternative (nonpastoral) employment possibilities and income-generating activities than in the case of richer pastoralists, for whom animal husbandry issues may be of greater interest.

To gain a better understanding of local institutions and social relations, diagrams that show links between various organisations and important individuals can be useful tools. Such diagramms can also be used to show and discuss relations between different pastoral groups and between pastoral and nonpastoral groups. However, the extent to which such visual presentations can be used will depend on the sociocultural context. For example, in Afghanistan, pastoralists had much more difficulty in expressing themselves graphically than verbally (Leyland 1992b). In India, women appeared to be less comfortable than men in handling visualisation exercises, and many of the problems of social relations, such as conflicts with husbands and co-wives, were difficult to visualise (Mosse 1993).

To investigate the use of resources for pastoral production, various RRA/PRA methods can be applied, such as:

- mapping of available natural resources
- mapping of herd movements
- mapping of land use by different groups
- calendars of forage availability and use
- calendars of labour use
- profiles of herd composition.

Maps and diagrams have a great potential for investigating decision-making, particularly among pastoral peoples who cover large areas and use a wide variety of natural resources. For example, one can first ask what are the "normal" movements of the pastoral family or group, thus producing a general picture of herd movements. Then one can ask where the herds were taken during a particular year - a drought year, or the past year, for example - and the reasons for differences between the maps can be explored.

The relative importance of different resources can be investigated by means of ranking or proportional piling. This should be done for different seasons. Systems or bioresource-flow diagrams can show links in resource use between different groups.

A participatory situation analysis cannot be completed during a brief mission by external consultants. An exploratory PRA exercise in a project area can provide sufficient information to give general direction to a project, by giving some indication of local priorities and leading to a preliminary plan for action. It provides a basis for scheduling activities and clarifying responsibilities for different tasks. It suggests promising themes to explore and provides a starting point for more detailed and focused inquiries during the course of the project. It is in the course of joint action with pastoralists - small activities to alleviate easily identifiable problems, "best-bet" solutions which cannot do much damage if not successful (Barrow 1987) - that a better understanding of constraints and potentials can be gained by all partners involved in the process.

Especially if the team is not well known to the local people, a rapid PRA to identify initial project activities is likely to result in a "shopping list" of what the local people think the outsiders can provide. The project team should retain a capacity of critical assessment and, by posing questions of a probing or even challenging nature, stimulate discussion of the feasibility and consequences of proposed measures. Nevertheless, misunderstandings and false expectations cannot be completely avoided. Reassessment after several months of collaboration is likely to lead to changes in the project plans so that they correspond more closely with the real priorities of the local people.

Topical RRA/PRAs carried out within the framework of the ongoing project will yield better-focused results than exploratory RRA/PRAs, since the team has a better "feel" for the local situation. This does not mean that RRA/PRAs cannot be meaningfully applied during project identification and feasibility studies, but it does mean that the project team should be aware of the relative superficiality of the initial results.

4.2.3 Identifying problems and opportunities

On the basis of the situation analysis, the major problems can be identified. Whereas global problems, such as low prices for livestock products, can be mentioned, it should be made clear that not all problems can be solved within the framework of a local project.

Proposals for solving the problems are best made in group discussion. Such discussions can be structured by using visualisation methods which fit into the local culture. For example, Swift and Umar (1991) adapted an African game into a "problem-and-solution game" consisting of putting coins into holes scooped in the ground. This is a readily understandable way of ranking problems and solutions. If done with various focus groups, the differences on needs and priorities within a community can be identified. This provides the basis for discussion about which problems affect whom and to decide which problems should be tackled first.

To be able to judge whether the proposed solutions are realistic, they have to be planned in detail and should be assessed for their economic feasibility. For example, the proposal may be made that milk be collected and pasteurised for sale in town. In this case, it should be made clear how much milk is required for processing, how much milk is available at different times of the year, how much work is involved and by whom, how the collection of milk is organised, how the transport from the collection centre to the town is organised, how much the processing, packaging and transport would cost, what the risks of spoilage are, what the sales prices are likely to be, and how much profit there would be to the producer. All of this should be worked out and discussed together with the pastoralists, including all household members concerned. This may mean a process of separate discussions with groups of men and women, who then bring their findings together. Finally, in the light of such a joint economic analysis, it has be decided by the pastoralists whether this project is really feasible and desirable, or whether another project would be of higher priority to them.

Another good way to stimulate discussion about possible solutions and opportunities is in exchange with other pastoral groups. This can be done by joint field workshops, or by visits of representatives of one group to another. The pastoralist-to-pastoralist exchange of ideas seems to be a tool rarely used in formal development cooperation, possibly because considerable travelling distances may be involved. As markets already serve as traditional channels of information exchange for pastoralists, these would be obvious places to encourage such discussions of opportunities to pursue.

4.2.4 Implementation and monitoring

Reliability of the different project partners is vital for project implementation. Division of responsibilities in carrying out project activities can be set down in written contracts between pastoral groups and development projects. In many cases, however, verbal agreements may suffice, especially if these are honoured by local custom. Particularly if one partner is illiterate, verbal agreements with witnesses may be more appropriate than written agreements.

The institutional set-up will depend on the type of innovation proposed. If this is in the realm of forage production, then the project can initially work with individual farmers, perhaps loosely joined in a common interest group. Pasture management, particularly if communal areas are involved, requires some form of local organisation and management: either existing groups and their leadership structure, or a management committee which conforms, as much as possible, with traditional forms of organisation. Nevertheless, adaptations to traditional organisation can be stimulated. For example, the local PRA team in Tanzania suggested that - contrary to custom - women be allowed to participate in a community assembly to discuss environmental issues, and the elders agreed to try this out (Mlenge 1994).

Since pastoralists often use land resources for only part of the year, coordination with other groups is necessary. These may involve pastoralists and farmers who negotiate land use (cf Marty 1993). For large-scale regional projects, a steering committee may be necessary with representatives from the different groups of land users, from different levels of government and from different development organisations active in the region.

Judging primarily from experiences in participatory monitoring of agricultural and forestry projects, the greatest weakness appears to be a lack of clear and simple indicators. Monitoring needs to be done on different levels and with different partners, each of whom will have their own indicators. If a project deals with issues important for pastoralists, then they will make an informal evaluation during their own discussions, whether or not they are formally involved in project M&E. Informal or semistructured discussions, using the indicators implicitly used in the existing exchanges concerning project progress, are likely to be the most important tools in participatory evaluation of pastoral projects. Visual tools, such as diagramming, mapping and matrix scoring, can be used to help to stimulate and structure these discussions and to illustrate and document the outcome.

Starting up such semistructured discussions and documenting the outcome will initially be the role of project staff, at the same time as they encourage pastoral organisations to develop appropriate ways of keeping track of their own progress. As monitoring is a key element of participatory projects taking a process approach, a staff member of relatively high seniority should be in charge of this. The task of this person - possibly with support staff - would be not only to monitor the activities planned together with the pastoralists and to stimulate self-monitoring by the pastoralists, but also to monitor the interactions within the project team and between the team members and the pastoralists. In other words, project self-criticism of the participatory planning process should be built into the activities and staffing of the project. At the same time, the person responsible for monitoring should have an "ear on the ground" to ensure that the pastoralists' assessment of project activities and interactions with project staff is given a strong voice during day-to-day project work.

As more responsibilities for project activities are taken over by the pastoralists themselves, organising the monitoring process and documenting the outcomes should also become increasingly the task of the pastoralists.

4.2.5 Evaluation and replanning

In addition to the ongoing monitoring discussions, a more formal evaluation should take place at regular intervals, eg. every year, by means of meetings and workshops with pastoralists and other project partners. Either one large workshop can be organised involving all project partners, or a series of meetings with focus groups can be followed by a larger meeting of representatives of pastoral groups and other organisations and persons involved in the project. The choice of approach to evaluation will depend on the differences and relations between all parties involved.

It is also possible to conduct limited, focused RRA/PRAs at regular intervals for the purpose of evaluation and replanning. However, these should not repeat previous RRA/PRAs or, if the same exercises are carried out, it should be made clear to the local partners that this is to allow them to compare the present with the previous situation. This is one reason why it is so important that the results of RRA/PRAs be documented in a way that is accessible for all participants. A RRA/PRA exercise should be repeated only if the recommendations which came out the previous one have actually been given project support, so that some change can be expected.

Otherwise the problem will not be, as when commencing a participatory planning process, that the local people are not familiar with this way of interacting with outsiders and are uncertain what benefits it will bring them. Instead, by this point, they will be all too familiar with PRA methods and the lack of follow-up. Devavaram (1994) reports from India that villagers were so disappointed that the recommendations from a prior PRA evaluation workshop had not been acted upon that they scorned any suggestion of "playing games" (drawing resource maps) again with a team wanting to apply PRA methods in another evaluation.

4.3 Training

Training should involve a familiarisation of the trainees with different methods and approaches of PRA. It must include a practical part, in which - under the guidance of experienced trainers - the different methods (eg. diagramming, mapping) are applied together with farmers or pastoralists. As follow-up to such training courses, workshops to share experiences in participatory approaches and to discuss the principles learned can help to refresh and deepen the understanding of trainees. Furthermore, publications such as *RRA Notes* - also regional or national versions - can stimulate the exchange of experience and ideas.

Self-critical reports on participatory research and planning activities also provide learning opportunities for the project staff and others interested in taking similar approaches. Reports from PRA training courses which focus not so much on the information collected but rather on a description and evaluation of the training approach taken and the lessons learned (eg. Birch 1994, Grandin 1992) are extremely useful.

We strongly advise against using villagers and pastoralists as training objects without any intention of follow-up. RRA/PRA training should be conducted in areas where a project is commencing or ongoing, or where a local NGO or government agency is committed to continue working and can ensure follow-up to the participatory planning exercise. Additional learners from outside the project area can take part, but the majority of trainees should be people who will continue to interact with the local people. If it is unavoidable to have a "dry run", eg. close to a town because the training workshop cannot be organised in the project area for some reason, then the villagers should be compensated for their cooperation.

There are also limits to the extent that participatory methods can be taught. An attitude of partnership and genuine respect for local people is more important than the correct use of a particular method. Training can,

however, provide some useful hints, help avoid traps and help make the participatory interaction between locals and outsiders more efficient.

PRA methods have thus far been used in the process of designing and implementing projects in order to give local people more influence. The methods can also be used by local people themselves to devise strategic development plans. The IIED Drylands Programme is working together with ARED and other development NGOs in Senegal and Mali in training pastoralists directly in PRA techniques, to enable them to draw up their own management plans and express their interests to higher planning levels. In combination with a literacy programme for herders, PRA training materials in the Pulaar (Fulfulde) language are being tested and improved so as to tailor them to suit pastoral communities. Newly literate herders can thus become facilitators of the PRA/planning activities. This participatory process approach should help in elaborating national pastoral development policy and provide a clear demonstration of how pastoralists can be supported to plan and manage their resources (IIED 1994; Toulmin, pers. comm. 1994).

5. Conclusions

The main conclusions drawn from this literature review are:

1. Participatory approaches are not a low-cost way for development agencies or authorities to gain more information about pastoral production. They can give guidance for better orienting externally-sponsored projects and research to the needs of pastoralists, but are intended above all to lay a basis for communication between pastoralists and external development agents and to strengthen local capacities to assess problems and possibilities.

2. Participatory methods should not be strictly codified. They have to be adapted to the respective societies and must therefore be flexible. Although the methods and sequences documented cannot be simply transferred, they can generate ideas for people working with pastoralists.

3. Virtually all participatory methods and tools can potentially be applied in planning with pastoralists, and there are few methods which are applicable only to animal production (eg. progeny histories to assess productivity).

4. In contrast to methods, some concepts used in planning within settled farmers are poorly suited for mobile herders. This is especially true with regard to "territory", which cannot be easily defined by boundaries and can vary according to season, year and purpose of resource use. Project-supported planning approaches normally assume a more or less constant presence of the "local" people. The natural conditions under which pastoralists live require that they move with their herds in an opportunistic way. This means that planning with pastoralists requires an approach oriented to social rather than territorial units.

5. The prevailing agricultural policies, which favour sedentarisation and crop production, may contribute to a distrust on the part of pastoral people toward outsiders. It may therefore take some time before sufficient rapport between outsiders and pastoralists can be developed to allow discussion of such sensitive issues as resource tenure arrangements and animal ownership as a basis for joint planning. In some cases, this may take several years.

6. In pastoral development, institutional issues are more important than technical ones. However, organisations and institutional agreements must develop around clear objectives and activities, and not for their own sake.

7. The level of pastoral organisation with which projects are planned will depend on the task at hand. Various types of organisation - formal and informal, sometimes including only pastoralists, sometimes including also other resource users - will be suitable for managing different resources at different levels, and various means of interaction will be needed at each level.

8. Institutions that permit the shared use of natural resources by herders and crop farmers are vital for many pastoral groups; therefore, participatory approaches to landuse planning with pastoralists must include also other resource users and aim at creating or strengthening agreements between them.

9. Where resources are used by different groups, conflicts are inevitable. Conflict management is therefore an important part of pastoral management strategy. As outside interference without a good understanding of the existing conflict-management mechanisms can cause more harm than good, projects need to take a very cautious approach to such issues.

10. Participatory planning exercises - whether with village or pastoral groups - should not be carried out purely for training purposes. Trainees can be incorporated into groups carrying out "real-life" participatory appraisals or during a participatory planning process.

It cannot be repeated often enough that participatory planning with local people - pastoralists or otherwise - is the commencement of a long process, and should not be started unless there is commitment from the initiators to continue.

Table 2: Planning phases, types of information on livestock systems and methods that can be used to explore them

Planning phase Type of information or purpose	Methods and tools suggested*
Establishing rapport:	
History of area	Timelines
(past trends, accomplishments)	Oral history
General information	Transect walks
on area and production conditions	Participating in daily tasks
General information	Taking photographs and
on people and relationships	giving and discussing prints
	Key informants, small groups, larger group meetings
Situation analysis:	
Relative importance of livestock in	Livelihood analysis
livelihood system	Proportional piling
Resources available to livestock	Seasonal resource mapping
Resource use	Bioresource flow diagram
	Mapping
	Proportional piling
	Matrix
Grazing pattern/	Calendars
forage resource use	Resource use mapping
Fodder preference	Ranking
Animal husbandry practices	Seasonal calendars
	Mobility maps
Local knowledge of livestock diseases	Ethnoveterinary guide
	Causal diagram
History of livestock diseases	Timelines
Preferred traits of livestock breeds	Matrix scoring
Relative mortality in different species	Proportional piling
Livestock productivity	Progeny histories
parameters	Herder recall
Livestock linkages with other sectors	Flow diagram
Seasonal trends in, eg:	Calendars
- disease & parasite load	Proportional piling
- mortality of livestock	
- livestock sales and prices	
- prices of inputs products, items needed	
- birth events in livestock	
- milk yield	
Proportional income from	Proportional piling
livestock products	Diagramming

Table 2 (continued)

Planning phase Type of information or purpose	Methods and tools suggested
Situation analysis (continued):	
Labour requirements	Seasonal calendars Daily timelines Learning local tasks
Stock loaning and sharing relationships	Social mapping
Social organisation	Venn diagram Social mapping
Institutional links	Venn diagram
Wealth differences	Wealth ranking
Marketing structure	Flow diagram
Conflict analysis	Venn diagram Flow diagram Critical incident
Innovation history	Pathway diagram charts
Services available	Venn diagram Services and opportunity map
Problem analysis	Problem tree Causal diagram
Meeting with small groups, key informants, committees, larger groups	
Planning:	
Prioritising problems	Brainstorming / Ranking
Prioritising solutions	Brainstorming / Ranking Problem & solution game
Allocating tasks, time planning	Process diagram Matrix
Group discussions, meetings, workshops	
Monitoring & Evaluation:	
Monitoring & evaluation	Meetings and workshops, using ranking/scoring methods Series of calendars or maps Impact diagram
Deepening situation analysis	Same tools as situation analysis but more topical
Group discussions, meetings, workshops	

* Semistructured interviews can be used in all stages of planning and to explore all types of information mentioned above.

PART II

Participatory methods

for pastoral planning:

practice and potential

II. Participatory methods for pastoral planning: practice and potential

Robert Chambers has often pleaded to avoid step-by-step manuals and has recommended the one-sentence manual from India: "Use your own best judgement at all times." His emphasis is rather on exchanging experiences between PRA practitioners, by way of visits, films and other visual media, and by quick documentation of PRA experiences published in, for example, *RRA Notes*. These should generate ideas and encourage creativity in developing and applying PRA methods. He is convinced that most PRA practitioners work without formal manuals (Chambers 1993b).

Nevertheless, RRA/PRA manuals have sprung up like mushrooms in the last couple of years. As the methods are more than sufficiently described in these publications (see bibliography*), we confine ourselves here to very basic descriptions, and pay more attention to describing how the methods have been and can be applied, assessing their strengths and weaknesses, and giving sources of further information.

Wherever available, examples are given of experiences in applying the methods in work with pastoralists or, at least, livestock-keepers. However, methods which appear suitable for pastoral settings, although not yet - to our knowledge - applied there, are also included. Particularly useful methods and those which have already been applied frequently in pastoral systems are described in more detail.

For each method, it is indicated under "Partners" whether it is most appropriate to be applied with small groups or large groups of specific types, or with individuals. Groups may be casually encountered or deliberately structured (specialists or focus groups of people with similar conditions and interests), village communities, neighbourhoods, households or locally established groups. PRA teams often seek small groups who are marginalised in larger public meetings (women, poor, ethnic minorities, immigrants etc), to allow them to express and analyse their knowledge, perceptions, problems and needs. Like the groups, the individuals involved as partners in PRA may be met by chance or purposively selected because they belong to a specific gender, age, ethnic or other group or because they are "key informants". This term refers here to local experts: people in the project area with a profound knowledge of a particular issue or technology. In a concentrated PRA exercise, short intensive periods of fieldwork with individuals and small groups are interspersed with workshops with larger groups.

All methods are combined with direct observation of objects, events, processes, relationships, husbandry practices etc, which are recorded by the PRA team in notes or diagrams. These observations provide starting points for dialogue and indicate where further probing is necessary (eg. the team is told that women do not herd, but women can be seen herding).

Not included in this overview are prepared pictures, drawings and figures, such as those used in the DELTA/GRAAP approaches, and photographs (aerial or otherwise), which can also help stimulate and guide planning sessions. In this overview, the emphasis is rather on visualisation done by the local people themselves during the process of inquiry, analysis and planning.

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* GTZ staff should note that brief descriptions in German of participatory appraisal and planning methods can be found in Schönhuth & Kievelitz (1993), which has now appeared also in French, English and Spanish.
The methods applied in a a longer-term process of participatory planning, such as participating on local activities, semistructured interviews, and workshops and other meetings can be supported at appropriate points by tools such as diagramming and ranking.

Participatory approaches to planning require extremely self-critical teamwork. It is important that PRA teams draw up their own guidelines for collaboration, such as changing subteams, regularly exchanging information and replanning fieldwork, mutual criticism and help, agreeing on how to behave during interactions in the field and arranging signs such as shoulder tapping (Shah 1991) to alert colleagues if they are talking too much or putting forward their own ideas instead of listening to local people and eliciting their ideas. It is also important to clarify at the outset where, when and how the report will be written: either in the field before returning to regular work, or by team members designated in advance to do this immediately upon completion of the PRA.

Continuing in the spirit of sharing, the report should be returned to the local people in their own language, such as the translation into Fulfulde of the results of a PRA conducted among Fulbe pastoralists in Senegal (ARED, see Annex A). Decisions about how the results of participatory research and planning are disseminated, and to whom, should be made together with the local people who were involved in generating the results. In this connection, see also the principles of good practice stated by PRA practitioners and trainers in May 1994 (IDS Workshop 1994).

1. Historical analyses

Oral History: This involves listening to accounts by elder ly men and women about past changes in their lives and the causes for them. Certain themes can be deepened, eg. animal husbandry practices, migration, education, health, depending on the experience and interests shown by the informant. Besides the economic and political history of the group, also religious and spiritual aspects can be included. With the support of teachers, the local history can be recorded in pictures and words or songs by younger group members, eg. in school or adult education (literacy) classes. The findings can be discussed in group meetings involving also younger age groups. Oral history is generally sought through informal interviewing techniques, but aids such as pictures or drawings can stimulate memory. Timelines, maps or matrices can help visualise the information (see below).

Partners: Key informants (elderly men and women) individually or in small groups.

Purposes: To provide an opportunity to reflect on past accomplishments and failures; to find out about past innovations and interventions and their effects; to discover and reinforce shared aspirations within a group; to establish rapport, as people are usually pleased that others show an interest in their history.

Comments: It is important to recognise that oral history may be manipulated to justify actions of particular groups. As Mark Schoonmaker Freudenberger (1993) found in The Gambia, the retelling of history represents the interplay of competing interests. Our own experience with this method in Nigeria led to heated debate about who first used the area for grazing and cultivation, and which ethnic group granted temporary cropping rights to whom. Project activities could then be expanded to include all ethnic groups who felt they had rights to use the land.

Timelines / Timetrends / Historical Profiles: A chronology is made of major events and activities in the area over as long as can be recalled by local informants. The events which local people remember as being significant are listed, with approximate dates. This can be displayed along a line drawn on the ground or on paper, starting with the oldest event at the top or one end and marking or symbolising subsequent events up to the present day. Other useful tools in identifying and analysing trends are historical matrices, or mapping or proportional piling/ranking for different periods (see below). Such trend analyses can be used to show changes in, eg:
- livestock holdings
- access to pastoral resources: rangeland, water, crop residues
- yields of grain, milk, etc
- population and migration
- prices of major livestock and crop products
- area under crops
- use of chemical fertiliser and organic manure on cropland
- population of different animal species
- number and types of trees
- cases of crop damage by livestock.

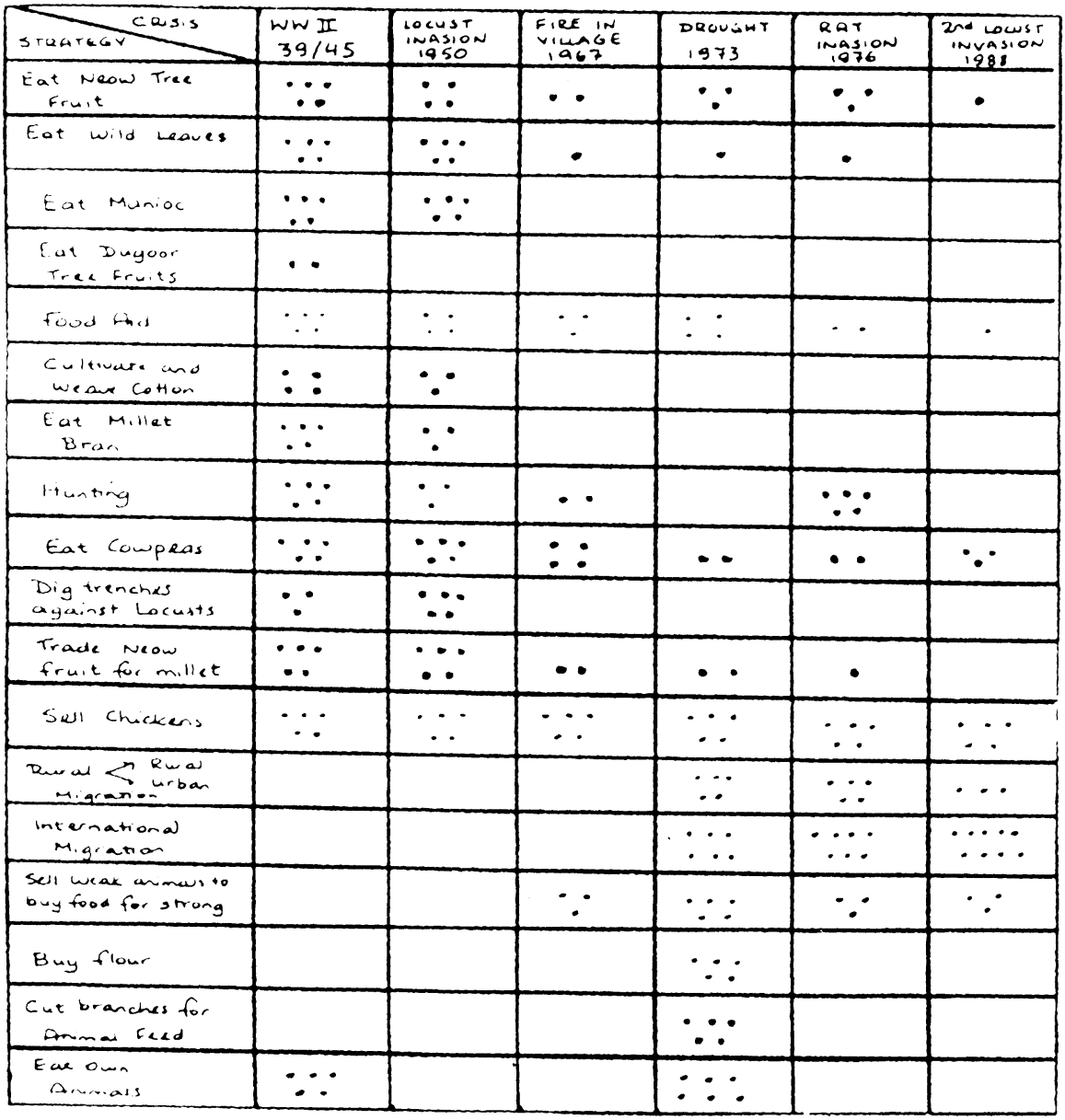
Partners: Elderly people, either individually or in small groups, who have used the resources in the area at least seasonally for several decades.

Purposes: To identify development trends, innovations/projects which came and went (this can lead into discussions of what has been tried before and why it did or did not work); to identify livelihood and coping strategies and how they have changed over time; to help local people analyse what happened in their lives and why; to identify past conflicts which colour present perceptions and possibilities of collaboration between groups, particularly ethnic groups.

Comments: Trend analyses offer a useful point of entry into a planning process, as the information is common to the area rather than personal and can easily be shared. When exploring history with Pokot pastoralists in Kenya, Reckers (1994) found it useful to discover first the local names for years.

Examples: Adebo et al (1992) in Ethiopia, Braganca (1994) in Mozambique, Birch (1994) in Kenya, Cullis (1994) in Mongolia, Mearns et al (1994) in Mongolia, NES et al (1991) in Kenya, Reckers (1994) in Kenya.

Figure 1: Historical matrix of coping strategies in times of crisis
This diagram began by a discussion with a large group of men (and some women on the periphery) in Ndam Mor Fademba village, Senegal, to identify the categories on the horizontal axis: the periods of crisis in their memory. They then brainstormed about strategies to respond to those crises (vertical axis) and ranked the importance of each strategy during each time of crisis by placing 0-5 seeds in each matrix square. When reaching the migration row, the young men placing the seeds under supervision of elders requested more than 5 seeds. Source: M & K Schoonmaker Freudenberger 1993.
Examples: Ba et al (1993) in Senegal, Cooper & Gelezhamstin (1994a) in Mongolia, Dia et al (1991) in Senegal, M Schoonmaker Freudenberger (1993) in The Gambia (see also "Historical matrices", below).



Innovation History, also called "Pathway Diagram" charts the origins and history of specific changes or innovations in the production system, such as the introduction of a new livestock breed, animal traction or a new feedstuff. It is also revealing to chart the history of innovations which were tried in the past but were later abandoned, in order to explore the reasons and to discuss whether determining factors have changed since that time. In pastoral systems, a history of the origins of livestock breeds and species and of the changes in species mix within the herd is likely to be a welcome subject of discussion. The transfer of emphasis from one species to another and the attempts made by pastoralists to breed new traits into their indigenous livestock can reveal trends in ecological conditions and/or pastoralists' priorities over time.

Examples: Several with reference to crop history, eg. Box (1987) in the Dominican Republic; Mills & Gilbert (1990) in The Gambia, FARM-Africa & IIED (1991) in Ethiopia; ethnographical and historical methods have been used to chart change in livestock systems, but no documentation could be found about applying rapid methods to chart the history of livestock species or breeds or other innovations in pastoral systems.

2. Learning Local Tasks (or as Robert Chambers puts it: "Do it yourself")

This is a form of participant observation. The PRA practitioners participate in daily activities of different household members, requesting to be taught to perform tasks. While working alongside the teachers, they ask about different aspects of the task and also note (at least mentally) the teacher's unsolicited information about the task.

Partners: Local people as teachers of outsiders.

Purposes: To gain a better understanding of husbandry practices, the skills required and the rationale behind them; to build rapport by showing active interest in local knowledge and skills.

Comments: Examples of livestock-related tasks which can be learned from pastoralists are herding, milking, milk processing, fetching water, cutting and carrying grass, lopping tree fodder, tying animals, building night enclosures, collecting manure, and animal healthcare (including manual deticking and collecting herbs for veterinary treatment). A great deal can be learned by spending an entire day with herders tending the grazing animals during different (locally defined) seasons of the year.

Examples: Hatch (1976) with maize farmers in Peru and Rocheleau et al. (1989) in an agroforestry programme in Kenya; examples with pastoralists: McEwan (1991) in Sudan, Perezgrovas et al (1994) in Mexico, Perrier (1983) in Nigeria, Sollod et al (1984) in Burkina Faso and Niger, Young (1993) in Kenya.

3. Transects

This involves systematically travelling (usually walking) with local people through the area they use, and observing, asking and listening. Transects can follow a loop, a straight line or a winding route to fit the local topography and to cover what informants (and outsiders) consider to be key features. Particularly important are the informal discussions while travelling the transect, both with the local people accompanying the team and with people met along the way. The main observations made during the transect are recorded in a cross-section sketch of the spatial differences in the area: the topography according to altitude (usually drawn at the top of the diagram set up as a matrix table) is combined with details about major distinguishing features, available resources and their uses, eg. soils, crops and the byproducts available as feed, trees, livestock, wildlife, different types of grazing areas, water sources in each microenvironment.

The emphasis is on direct observation and asking about what is being seen, eg. condition of animals, people working with livestock, grazing areas, herd movements, feeding strategies, milking, watering sites and techniques, herd composition, types and breeds of livestock, care of young stock, differences in ways of doing things.

Partners: Key informants, small number of local inhabitants.

Comments: Transects are useful early in the PRA process to give an overview of natural resources in the area and to focus attention on different zones or key resources. In pastoral systems involving long distances of transhumance, transects are more likely to be done from the vehicle or - better yet to avoid the tarmac bias - from the saddle, as reported by Mearns et al (1992) from Mongolia. They found that travelling by horseback with local herders was an "icebreaker" in discussions with other herders met along the way. Where precise maps of an area already exist, an adaptation of the transect walk are "focused walks", making sure to cover types of sites of functional interest for the production system, eg. watering sites, areas of wet-season kraaling, woodland patches

where medicinal plants may be collected. This variation was applied by Rifkin (1992) to study human health issues in rural Guinea.

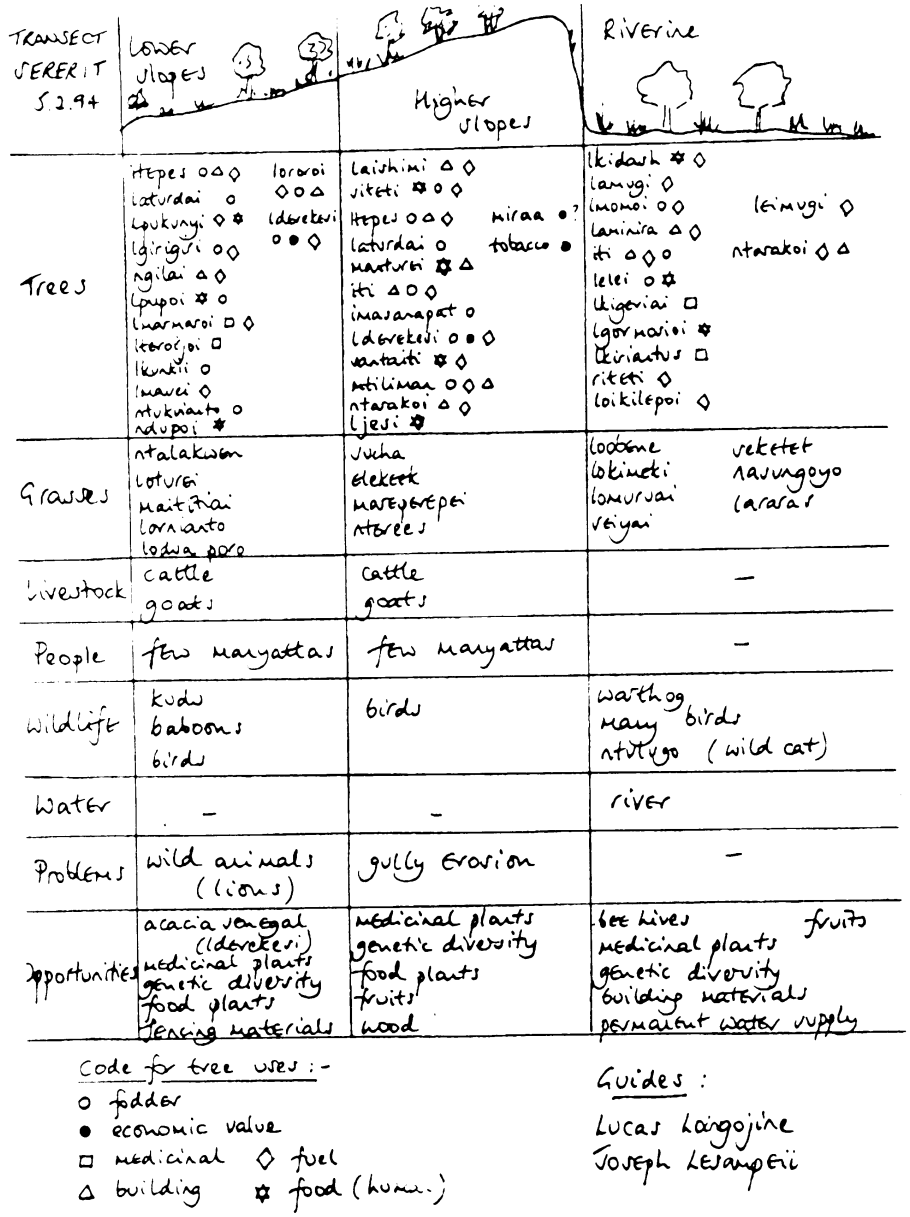
A tip for when one is followed by hoards of curious children: One adult "outsider" can make a transect with the group of children (and listen seriously to their comments), while other members of the PRA team make transects with adult villagers.

Examples: Bagayogo et al (1994) in Mali, Birch (1994) in Kenya, Braganca (1994) in Mozambique, Dia et al (1991) in Senegal, FARM-Africa & IIED (1991) in Ethiopia, Mearns et al (1994) in Mongolia, M Schoonmaker Freudenberger (1993) in The Gambia, M & K Schoonmaker Freudenberger (1993) in Senegal, Westphal et al (1994) in Namibia, Young et al (1994) in Nepal.

Figure 2: Transect walk

Walk guided by two Samburu community members on 5 February 1994 in Sererit, Kenya; diagram drawn by PRA team on basis of group discussion after walk. Source: Birch 1994.

Purposes: To identify different geographical and agroecological zones, to observe local technologies and differences or innovations which indicate problems and opportunities in different zones; if repeated for important periods in the past, to be used as a basis for analysing how landuse and availability of natural resources have changed (historical transects).



4. Mapping / Modelling

Local people are asked to make maps on paper or on the ground using local materials (eg. seeds, stones, branches) or symbols on cards to show various features in the area they use. Maps made on paper (or copied from ground to paper) can be kept locally as a record, also for later use in monitoring progress. During the mapping exercise, discussions about the siting of particular features are recorded, at least mentally, by the project team. Some idea of the relative importance of different features for different people can be gained by noting what is drawn in first and by whom. See Mascarenhas & Kumar (1991) for details about mapping techniques and useful tips.

The emphasis in participatory approaches is mapping by the local people themselves. However, good experience in participatory planning has also been made with three-dimensional physical models of land resources to use as tools to clarify causes of landuse problems and to settle disputes. For example, Tan-Kim-Yong (1992) describes landuse planning by different ethnic groups in northern Thailand, using physical models and large-scale aerial photographs. In a pastoral setting, among Tuareg in Mali, physical models helped to solve conflict within the community, and to experiment with possible solutions to a technical problem (Capezzuoli 1994).

Partners: Individuals; large mixed groups to combine everybody's knowledge in one map, or small groups divided according to gender, age, ethnicity, class etc.

Purposes:
- To gain a general overview of the area, particularly of features important to the local people;
- As an entry-point activity to establish rapport between the project team and local people;
- To support local analysis and planning: as an impersonal focus of attention and discussion, maps and models can help create consensus within a group; the siting of proposed actions, such as establishing a livestock market or maintaining waterpoints, can be marked on a map. ICIPE used maps in this way to assist community decision-making about placement of tsetse traps (Omolo et al 1993, cited in Okali et al 1994);
- By comparing maps depicting past and present, to raise awareness of and analyse change; also making maps of how people expect the area to look in, say, 10 years if present trends continue, and how they would like it to look, to stimulate planning for action (Chambers 1993a);
- By comparing maps drawn by different groups, to discover differences in perceptions and priorities; analysing these differences can generate local discussion about the constraints and opportunities of the different groups;
- By comparing several maps made over a project period, to monitor activities and assess environmental impact; maps and models facilitate group assessment, as the coverage of different project activities can be visualised and the information can be shared by all present. Positive experience has been made with participatory monitoring and evaluation of community development activities in Nepal (ActionAid-Nepal 1992).

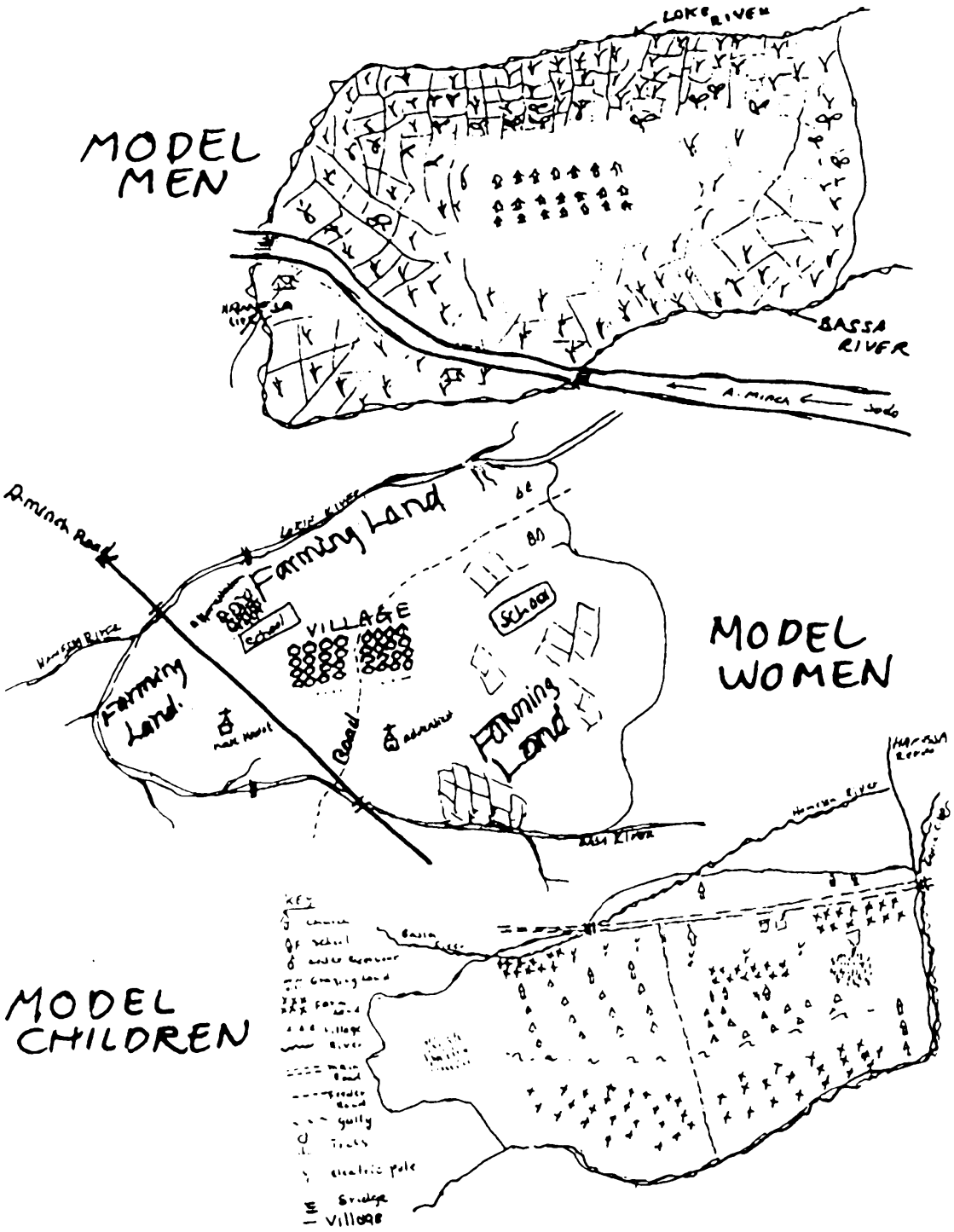
Resource Maps show natural resources according to local classifications, which may include different types of grazing and browsing areas, different types of water sources, thatch-harvesting areas, permanently cropped fields etc. They can provide site-specific information relevant for livestock management, such as browse and fodder species found in the region, or areas that herders associate with animal disease (Kirsopp-Reed 1994). Also local place names can provide information about uses or environmental conditions at specific sites (Reckers 1994). In seasonally dry areas where most pastoralists operate, separate maps of pastoral resources need to be drawn for the different seasons, paying particular attention to small areas of key resources that are used only seasonally.

Examples: In Somalia pastoralists mapped the location of waterholes by estimating distances (in terms of the time it took to walk) from three known points marked on official maps. Soils and vegetation were also marked and a map was made which helped in understanding and moderating conflicts between camel and cattle owners (Chambers et al 1989).

In Niger Fulani pastoralists drew maps showing different ecological areas and indicated where cattle suffered from night blindness (caused by lack of vitamin A) in the dry season where there were no green plants. Scientists identified these as sources of carotene, from which vitamin A is synthesised in the body. They took some vitamin A to a Fulani camp where the cattle had night blindness. The cattle owner asked that only half his animals be treated so that he could see the effects and compare with the untreated half (Swift, cited in Cahmber 1983).

Further examples of resource maps mentioned in the bibliography are Ba et al (1993) in Senegal, Bagayogo et al (1994) in Mali, Birch (1994) in Kenya, FARM-Africa & IIED (1991) in Ethiopia, Guijt (1992) in Burkina Faso, Mearns et al (1994) in Mongolia, M & K Schoonmaker Freudenberger (1993) in Senegal, Simonazzi (1993) in Kenya, Westphal et al (1994) in Namibia, and Young et al (1994) in Nepal.

Figure 3: Mapping/modelling
Maps drawn by village men, women and children during an RRA training course in North Omo, Ethiopia. Source: Ejigu et al 1991.



Mobility Maps show where, why and how men and women travel, with or without their livestock. The informant's "home base" is drawn at the centre of the map, and concentric lines are drawn between that and destinations. Such maps may be drawn for pastoral groups travelling together, for individual households, for herders travelling with different flocks and herds of one household, or for different individuals within a household. In the documented cases of mobility mapping with pastoralists, researchers drew the maps based on information from pastoralists, often marking the movements on prepared maps showing key topographical features such as rivers and hills. In the case of pastoralists practising long-distance transhumance, maps of different scales must be drawn for herd movements over the year(s) and for movements within the seasonal grazing areas. Comparing maps representing different years allows analysis of strategies in "normal" and adverse years, changes in mobility over time (eg. 10 years ago and now) or changes after an intervention (eg. restocking).

Examples: Cooper & Gelezhamstin (1994b) in Mongolia, Hadrill & Yusuf (1994a) in Somaliland, Marty (1975) in Mali, Mearns et al (1994) in Mongolia, Reckers (1992) in Kenya.

Social Maps show households in a village or hamlet area, their key social features (household composition, religion, ethnic group etc) and the relationships between them. In the case of pastoralists, marking in seasonal campsites can also reveal alliances among pastoralists and with nonpastoral households (eg. on whose fields the herd is kept in the dry season).

It is suggested by Kirsopp-Reed (1994) that local people could mark on their map the number of animals in each household, irrespective of ownership, then use arrows to indicate the owners of the animals (if not owned by household members). We could find no record of this actually having been done, but our own experience and frequent references in the literature suggest that there are usually great difficulties in obtaining information about herd size and animal ownership among pastoral peoples. It might be easier to use this method to discover animal loaning or sharing arrangements without asking for absolute numbers. This procedure is likely to serve primarily as a tool for outsiders to learn more quickly about social relationships, rather than to facilitate pastoralists' own analysis and planning. However, it could bring to light how widespread such arrangements as contract herding are, possibly not fully realised by the pastoral group until it is visualised, and stimulate discussion about what this means for them and their environment.

Examples: Braganca (1994) in Mozambique, Mearns & Bayartsogt (1994) in Mongolia.

Services and Opportunities Maps show markets, veterinary posts, local healers, dispensaries, input stores, employment opportunities, grazing reserves demarcated by the government, etc. Such maps would indicate focal points of pastoral life and of economic interaction with other individuals and groups.

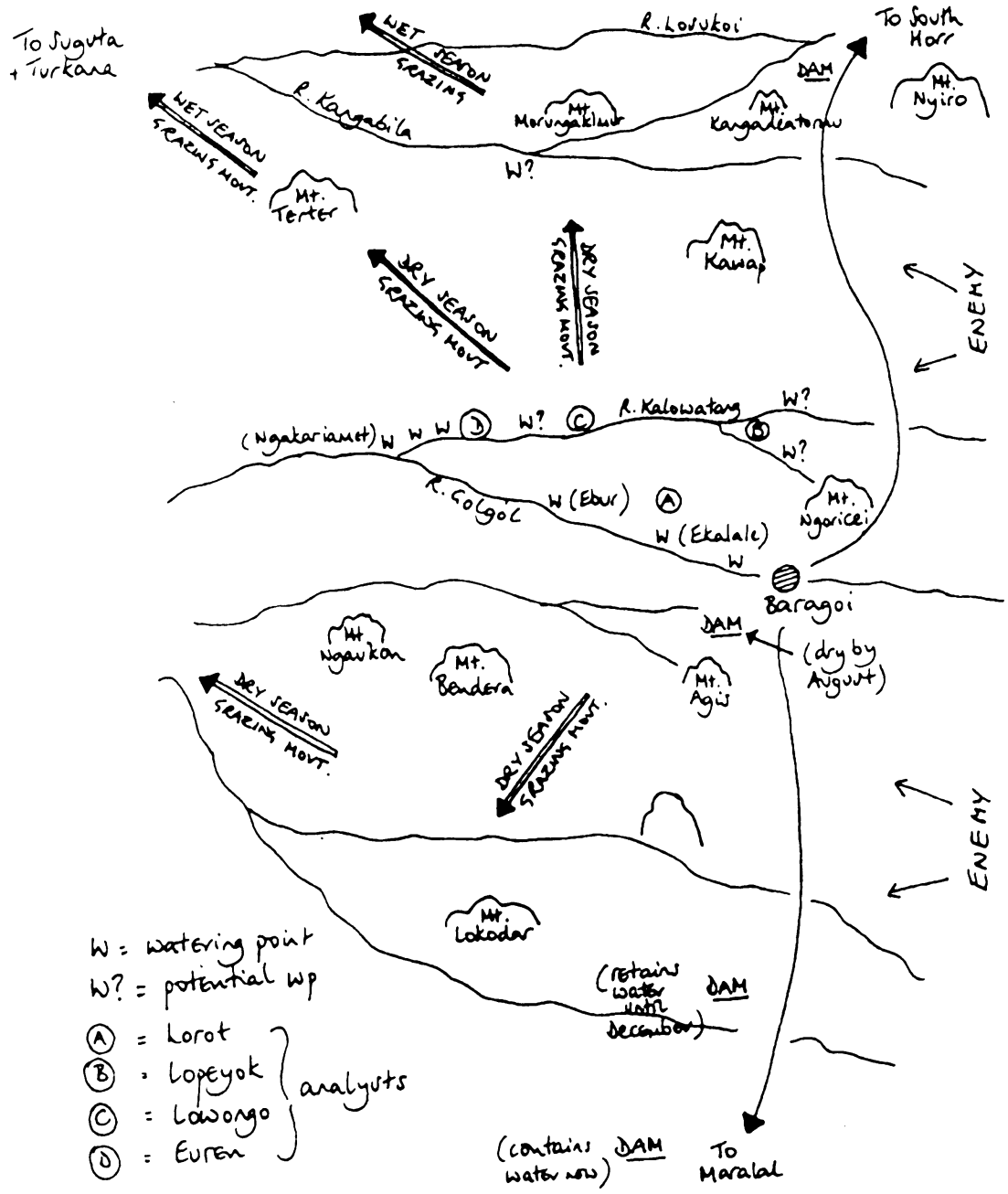
Example: Cornwall & Joseph (1992) with farmers, not pastoralists.

General comments on mapping: It is argued in Chambers et al (1989) that, since pastoralists often cover large distances, they tend to perceive reality in terms of the surface of the earth and can therefore adjust to the conventions of mapping quite easily. For example, it is suggested that Pokot herders in Kenya could map boundaries between three distinct types of grazing land: lowland areas, hill areas with perennial grasses, and hill areas for reserve grazing in hard times, but it is unclear whether this was actually done.
It may be possible to mark boundaries of ecological zones, but Marty (1993) doubts the usefulness of marking boundaries of landuse by different groups in a Sahelian context, where multiple and superimposed rights apply to the same area and a group (not only of pastoralists) may make temporary use of several areas. He argues that traditional conceptions of space in the Sahel are based on vital centres. The strength of resource-use claims diminishes with greater distances from these centres, but there are no defined boundaries between different strengths of claims.

In a floodplain area of northern Nigeria, participatory mapping proved to be problematic because of the highly dynamic and variable nature of the resources. The distribution of resource-use sites (fishing, watering, grazing, cropping, gathering etc) and their productivity vary greatly from year to year and within years. This means that several maps have to be drawn to show conditions in different seasons or years. This makes mapping much more time-consuming for pastoralists (and the project team) than for crop farmers (Thomas 1994).

Nevertheless, mapping appears to be an activity that pastoralists enjoy. Among the Boran in Kenya, the greatest excitement during the initial planning phase was generated by the investigations into the spatial arrangements and organisation of pastoral camps and livestock-herding patterns (Swift & Umar 1991).

Figure 4: Resource map
Map drawn in sand by Samburu herders on 4 February 1994 in Natiti, Kenya, during discussion with PRA team; copied into notebook. Source: Birch 1994.



However, when government officials are present or when the pastoralists are not sure what use will be made of a map they make, mapping can be regarded as a threatening experience. Sensitive issues, such as illegal use of woodland resources for browse, may not be depicted on pastoralists' maps. Only if the pastoralists have trust in the project team or can control the PRA results fully themselves, will they be willing to admit such illegal (but possibly very rational and sustainable) uses of resources.

Participatory mapping is likely to yield "motivated representations" of reality, showing what the local people expect in terms of assistance from the project team. In Ethiopia, for example, men did not map grazing areas and complained about lack of pasture, whereas the children's map showed grazing areas (Ejigu et al 1991; see Fig. 3).

Participatory planning based on maps or models has been documented thus far for village planning and watershed planning by settled farmers. For purposes of planning in pastoral systems, maps and models cannot be limited to a village area or a small watershed, if the pastoralists are using natural resources outside of this area.

As an alternative to sketch maps made by pastoralists, existing materials such as aerial photographs or printed maps can be subjected to participatory analysis to identify soil types, land conditions, land tenure, location of wet and dry season grazing sites, herd movements etc. In numerous countries (Burkina Faso, Ethiopia, Kenya, Zimbabwe) rural people have had little difficulty in recognising features shown on printed maps or aerial photographs of the land they use (Chambers 1993a). Pastoralists appear to be particularly good at translating the printed information into their own knowledge of spatial relationships, and illiterate persons are pleased and proud to be able to "read" this printed material.

5. Semistructured Interviews

These take the form of guided dialogues rather than interviews with a questionnaire. Using a mental or written checklist of initial points to discuss, questions are put to individuals and to groups of different categories in different situations, and are posed in different ways for cross-checking the responses (Ellman 1981). New lines of questioning arise during the interview, following up on answers or comments on former questions. The checklist is then adjusted for subsequent interviews. Semistructured interviews are widely regarded as the "core" of good participatory enquiry.

Partners: Key informants, purposefully or randomly selected individuals.

Purpose: To obtain information and to generate discussion about any topic in a way which gives much room for dialogue partners to raise issues of interest or importance to them.

Comments: This is more or less consciously applied by many people working with pastoralists, in discussions at wells, camps or markets with herders, pastoral women, livestock traders, veterinary agents etc, in order to obtain specific types of information. Conducting informal interviews is an art which improves with practice, but useful tips are: arrange a place and time when the interviewees feel comfortable, start by introducing oneself and one's purposes for being there, show an interest in learning from the interviewee, start with a question about something that can be directly touched or observed, do not ask rhetorical or leading questions, try not to take more than an hour per interview unless the interviewee is particularly keen to continue, and thank the interviewee for the cooperation. Not only the short checklist of questions but also other PRA methods are used to structure the dialogue: tools such as calendars, maps, ranking and diagramming help visualise the issues, which can then be explored in dialogue.

Hadrill & Yusuf (1994a) found that the most successful informal interviews among Somali pastoralists took place when a project staff member was called to treat an animal and took the opportunity to enquire about specific topics such as herd movements.

Some forms of semistructured interviews include:

Critical Incident: delving into causes and effects of an event which is outstanding in the experience of the dialogue partners, such as a drought or a case of land conflict, exploring how the family or group coped, or how the conflict was or was not resolved. It is best to avoid discussion of sensitive issues, such as conflict, in large heterogeneous groups, as it can "wake sleeping dogs". Different versions of a critical incident can be sought in small homogenous groups or in dialogue with various individuals.

Case Studies: in-depth, detailed analyses of a small number of cases, eg. history of family migration over as many generations as can be remembered; individual life history; how specific families such as poor, female-headed or immigrant households cope with a difficult situation and manage to, eg, acquire sufficient food for the family. Many of the examples of applying methods of historical or livelihood analyses with individuals, families or small focus groups represent case studies through informal interviews.

Chain Interviews from group to group, from group to key informant, sequence of key informants, each being an expert on a different stage in a process, eg. men milking, women processing and selling milk products, intermediary buyers/sellers of milk products, milk consumers. Chain interviews are particularly useful in following marketing paths.

Examples: Informal interviews are basic to all participatory enquiry approaches, but preparing a checklist to help structure the interviews is seldom explicitly described. Some examples of guidelines can be found in Cooper & Gelezhamstin (1994b) in Mongolia (interviews structured around labour matrices and calendars, daily labour profiles and mobility maps), Mearns et al (1994) in Mongolia, Scoones & McCracken (1989) in Ethiopia and Young et al (1994) in Nepal. Critical incidents were studied by Bollig (1994) in Kenya. Also in Kenya, domestication of wild plants for food, medicine and fodder was studied through chain interviews, starting with groups of 15-30 women, followed by chains of household-level and individual interviews, progressing from "average" to expert. It is noteworthy that a parallel questionnaire survey of a randomised sample of 63 households "took three times as long and reproduced the same main results as the group interviews and chain of interviews, with less detail and coherence" (Rocheleau et al 1989).

Specific forms of semistructured interviews applicable in pastoral systems are:

Ethnoveterinary interview guide: a checklist for interviews to explore indigenous knowledge about animal healthcare: local vocabulary, classifications etc. It consists of a section designed to collect basic background information on animal husbandry and to identify livestock diseases known in the area, and a section with guidelines for asking about specific diseases.

Partners: Key informants, including men and women livestock -keepers, field agents of livestock services, traditional healers, and local butchers and traders of livestock.

Purposes: To elicit local views about causes of diseases and ways of preventing and/or treating them. Such checklists have been used in designing paraveterinary (village animal healthcare) programmes, eg. for deciding who to train as paravets, what to include in the training and what approach to take, based on what livestock-keepers already know about disease names, symptoms and treatments.

Comments: It is important to identify which gender and age groups of pastoralists are responsible for healthcare of different types of livestock, in order to ensure that the most knowledgeable persons are interviewed. Care must be taken to avoid potential biases, eg, seasonality, periodic epizootics, fatal (as opposed to chronic) diseases.

Examples: Grandin & Young (1994a, 1994b) in Kenya, Mathias-Mundy et al (1992) in Indonesia.

Herder Recall: a "short-cut" method of studying animal productivity, which involves making an inventory of the herd (age, sex, class of animals, possibly also whether a female is highly pregnant or lacatating) and discussing what happened during the last year in terms of births, deaths, sales and purchases of animals. The timespan must be clearly defined. (Hint: find out beforehand what important political, religious or local event happened roughly 12 months ago and use this as a "time boundary").

Partners: Herd owner or manager, herder who has been with the animals for at least a year.

Purpose: To gain quickly a basic idea about herd productivity: output, fertility, mortality.

Comments: Problems arise when reproduction occurs once per year and is highly seasonal, and the survey is conducted during the calving/lambing season. Also a change in class of animals (eg. heifer becomes cow) during the year may cause confusion. It is difficult to generalise from the findings, if the year in question was unusually good or bad.

Example: Grandin (1983b) in Kenya.

Progeny History, also called "Animal Biographies" (Swift 1981) and "Interviewing Cows" (Kassaye et al 1992), involves recording the life history of female animals and their offspring in a semistructured dialogue between pastoralist and PRA practitioner. Typical questions are:
- How old is that cow?
- How often has she calved, and when?

- What happened to each calf, eg. still in herd, sold (age? reason?), died (age? cause?), slaughtered (age? reason?), given to someone else (whom)?
To help explain the data from the progeny history, it is useful to combine this with a timeline, starting at the point when the oldest animal in the herd was born and marking what events affected it during its life.

Partners: Herd manager, preferably the person who has the closest and longest contact with the animals; especially in the case of small livestock, this may be an elderly woman.

Purposes: To gain quickly a basic idea about herd productivity. It is sometimes also possible to obtain information about ownership of the animals (eg. contract herding for farmers, keeping of animals belonging to relatives living elsewhere etc) and sources of purchased animals. The data provide a basis for calculating productivity parameters (fertility, mortality, age at first parity, calving intervals) and potential offtake, and differences in these parameters over time, thus giving a dynamic picture of herd development. However, fertility is strongly influenced by definitions (is a 3-year-old female bovine which has not yet given birth a potential cow or still a heifer, if the average age at calving is 4,5 years in an extensive system and 3 years in a more intensive system?). Exploring progeny history in different herds or flocks permits a comparison of herding efficiency, management strategies and animal losses between households. If combined with wealth ranking and social mapping, it can reveal correlations with wealth, family size, stage in family cycle, availability of labour etc. If combined with livelihood analyses, it can reveal correlations with the relative importance of different livelihood activities (herding, cropping, fishing, trading etc).

Comments: This method is applicable only if the livestock-keepers have detailed knowledge about their animals. It is not suited for very large herds (eg. several hundred sheep) nor for all species (the details about individual chickens may not be remembered). In some areas, herds are kept by hired herders who do not stay for longer than 1-2 years and therefore know little about the history of individual animals.

The advantage over the Herder Recall method is that a longer period of time is covered. However, adult animals which died together with their offspring may be missed by this method. The reliability of the data obtained can be crosschecked to some extent by making a quick overview of herd structure. However, to be able to apply this method successfully, the interviewer must have some idea of what is plausible or not (eg. calving intervals shorter than gestation period) and probe for clarity in an attempt to correct obvious mistakes or misunderstandings.

Both methods, Progeny History and Herder Recall, are participatory to the extent that they help herd managers make extension and veterinary staff aware of major problems and their causes, eg. that the low number of calves in the herd is due to high calf mortality rather than low birth rates. However, the concepts used in assessing productivity, such as "mortality as percentage of calves born" or "fertility", are those of scientists. In this respect, these methods are extractive, providing useful information primarily for scientists and planners outside the pastoral community, information analysed without the participation of the pastoralists.

It is also telling that the method is presented in RRA/PRA literature in a fairly formalised way. In the recent livestock-focused *RRA Notes*, there is even a form for "interviewing cattle" which looks suspiciously like a sheet in a typical survey questionnaire, recorded in a way predefined by outsiders and possibly not comprehensible to the pastoralists. The sheet may be useful to give guidelines for interviewers with no experience in this technique, but if this is meant to be a participatory technique, then ways of visualising the findings will have to be developed, possibly with bones signifying different animals (cf. Cullis 1994) and symbols for what happened to them. This would allow the pastoralist to depict and jointly analyse what is happening within the herd. An opening for creative PRAers!

Examples: Armbruster & Bayer (1992) in Ghana, Bayer (1985) in Nigeria, FARM-Africa & IIED (1991) in Ethiopia, Iles (1994) in Kenya, Kassaye et al (1992) in Ethiopia, Swift (1981) in Mali, Wilson & Wagenaar (1983) in Mali, Young et al (1994) in Nepal.

6. Ranking

Different items are compared to investigate their preferences between them, eg. between different tree species, animal species or breeds, forage resources, water sources; or to investigate relative importance, eg. of different diseases or other problems. The local people are asked which items are most preferred or of greatest importance, which next and so on. This can also be done using the proportional piling technique.

Partners: Key informants, individuals, small or large groups; particularly revealing, if done separately by people from different social groups and then discussed in a plenum.

Purposes: To learn about local people's categories, choices and priorities and the complexities of decision-making; to reveal differences in priorities of different social groups, eg. men and women, crop farmers and

pastoralists, settled and transhumant pastoralists; to elicit locally appropriate criteria for evaluating innovations; if done after wealth ranking, scoring and ranking exercises can reveal decision-making criteria and priorities according to wealth category.

Comments: Ranking has most commonly been used in pastoral systems for discussing animal diseases and fodder. In Nigeria and Zimbabwe, agropastoralists ranked browse species important for their cattle (Bayer 1988, Scoones 1994a). In The Gambia, Fulani men were asked to list the key grasses in the area, then asked what they were good for (eg. milk, health, fertility/reproduction) and to rank each grass with piles of beans to indicate its relative importance. They were then asked about the comparative availability of these grasses before the drought in the 1970s and at present, ie. the ranking exercise was combined with an impact analysis (M Schoonmaker Freudenberger 1993). Heffernan (1994) draws attention to the seasonal biases which can enter into "one-shot" ranking exercises.

Examples:

Author	**Year**	**Items ranked**	**Country**
Bayer	1988	browse	Nigeria
Birch	1994	aspirations, problems	Kenya
Catley	1994	animal diseases	Somaliland
Cooper & Gelezhamstin	1994b	foods, women's tasks	Mongolia
Cullis	1994	animal losses	Mongolia
Grandin	1992	forage	Lesotho
Heffernan	1994	animal diseases	Tibet
Leyland	1994	animal diseases	Afghanistan
Maranga	1992	animal diseases	Kenya
Maranga	1994	restocking success	Kenya
Mearns & Bayartsogt	1994	local institutions	Mongolia
Mearns et al.	1994	fodder, animal species	Mongolia
Mukherjee	1994	browse, animal species	Botswana
Schoonmaker Freudenberger M	1993	fodder, disputes	Gambia
Schoonmaker Freudenberger K&M	1994	livelihood sources	Gambia, Senegal
Scoones	1994a	browse	Zimbabwe
Scoones & McCracken	1989	browse	Ethiopia
Watson	1994	livelihood sources	Kenya
Westphal et al	1994	livestock problems	Namibia
Young et al	1994	pastoralists' problems	Nepal

Particular techniques or other forms of ranking include:

Proportional Piling. This is a technique by which people can show their perceptions of relative proportions by placing local materials such as beans or stones in piles. Pie charts, bar charts or diagrams can be drawn from these piles. In some cases, local people have made bar charts themselves (making rows instead of piles). Discussion can then be generated around reasons for differences and, if done for different periods, reasons for variations in proportions over time.

Partners: Key informants, small groups; as this is a very qui ck method, it can be repeated with several different informants for crosschecking.

Purposes: To make rough estimations of percentages of almost anything.

Comments: Proportional piling can be used to obtain rough quantitative figures, in relative terms, about, eg. relative importance of different ethnic groups using an area, relative numbers of people with different types of land rights (owners, borrowers, original settlers, immigrants), sources of income, percentage of livestock-keepers who migrate, livestock mortality in different households, changes in availability of different natural resources or in relative number of animals before and after a major event, eg. drought, construction of large dam. Livestock-keepers in Pakistan made proportional piles to show the effect of different fodder types on milk yields (Guijt & Pretty 1992). A vivid account of imaginative ways in which proportional piling can be applied in problem ranking by pastoralists - in this case, by separate groups of Samburu men and women - is given in Birch (1994). This method is a good opener to a theme, making a situation concrete and leading into discussion about why it is so.

Examples: Bagayogo et al (1994) in Mali, Birch (1994) in Kenya, Cullis (1994) in Mongolia, Guijt & Pretty (1992) in Pakistan, M Schoonmaker Freudenberger (1993) in The Gambia, M & K Schoonmaker Freudenberger (1993) in Senegal, Watson (1994) in Kenya, Young et al (1994) in Nepal.

Figure 5: Ranking and scoring of criteria for assessing fodder trees

The criteria were determined by a farmer in Zimbabwe during an interview in the field. The farmer was asked to distribute 20 beans among the criteria, according to the importance he attached to them. Source: Scoones 1994a.

Criterion	Number of beans allocated
Early shooting of leaves	13
Dry leaves can be eaten	5
Good taste/salty	1
High water content	1

Livelihood Analyses. The multiple economic activities of a household are listed or symbolised and then ranked according to their relative importance. Sources of incomes, types of expenditures and how they relate to each other can then be discussed. Relative importance of different sources of livelihood can also be shown by means of proportional piling.

Partners: Households, either individual members or as a group.

Purposes: To gain an overview of sources of livelihood; can also be used to analyse impact, eg. in northern Nigeria, the changes in relative sources of livelihood after the building of a major dam were depicted and debated (Thomas 1994).

Comments: Livelihood analyses in pastoral households can show the relative importance of livestock-keeping compared with other economic activities. If combined with wealth ranking, this method can be used to identify which means are at the disposal of different categories of households. Used as a historical method, depicting and comparing sources of livelihood in the past and present can stimulate reflection on changes in relative importance of different livelihood sources and may also lead into a discussion of coping strategies in times of shortage (see also Fig. 1).

Examples: Birch (1994) in Kenya, Devavaram (1994) in India, Leyland (1992a) in Afghanistan, K & M Schoonmaker Freudenberger (1994) in The Gambia and Senegal, Thomas (1994) in Nigeria, Watson (1994) in Kenya.

Problem-and-Solution Game. This is a particular form of ranking which was played as an analytical game for participatory planning with pastoralists in northern Kenya. Six holes were scooped in the ground, the pastoralists decided which community problems each hole would represent and then placed coins in the holes to show the relative importance of the problems. The researchers noted the reasons for choosing and ranking the problems. In a second round, each hole represented components of the most important problems identified in the previous round, and potential solutions (project activities) related to each component were discussed by the pastoralists.

Partners: Individuals and small homogenous groups.

Purposes: To facilitate identification and ranking of problems by local people, and to generate suggestions for ways of solving them.

Comments: If played with particular groups of people (eg. similar wealth groupings, groups of women) who are likely to share views of problems and solutions, differences in priorities can be identified and project activities can be better targetted.

Example: Swift & Umar (1991) in Kenya.

Wealth Ranking. After an opening discussion with local people about their understanding of wealth and poverty, individual households are ranked by key informants according to local criteria of wealth, which is often regarded in the wider sense of wellbeing. The informants list all the households in their area or group, according to their own definition of household. The name of each household head is written on a separate card. The informants sort the cards into groups according to the relative wealth status of each household. Then the differences in characteristics between the wealth groups are discussed. Grandin (1988) gives details of how the cards from several informants are tabulated to produce a list of all households in order of wealth.

Alternatively, the informants can be asked to define wealth criteria and distinct categories within the area, and then to divide the households into the different categories from "rich" to "poor" (M Schoonmaker Freudenberger 1993). Wealth ranking can be done even more simply by proportional piling (as many beans or pebbles as households) to give an idea of the characteristics of different wealth/poverty classes according to local criteria, and the proportion of households in each category, but not identifying specific households. This is similar to the approach taken by Marty (1975) when identifying wealth classes in a pastoral group in the Gao area of Mali through discussion with pastoral leaders and counsellors.

Partners: Local key informants or small focus groups.

Purposes: To gain insight into local perceptions and criteria of poverty and wealth/wellbeing; to gain an understanding of the processes involved in generating, maintaining or losing wealth; to identify groups or rank individual households within a community according to wealth/wellbeing; this permits purposive sampling in subsequent investigations and the targetting of project activities to the most needy households or groups in the area.

Comments: Wealth ranking can be an opening for discussions on livelihood sources and strategies, and vulnerability. The quality of the results of the wealth ranking exercise depends on the depth of discussion preceding it and the knowledge of the PRA team about concepts and terminology for wealth. According to Leurs (1993), it is not advisable that outsiders totally unfamiliar with a community try to apply wealth ranking. There is a danger that researchers adopt only mechanics of this technique to produce lists of average ranking scores, without making use of its real potential for revealing some of the complexity in how people think about wealth and status (Mearns et al 1992).

A wealth ranking exercise was carried out among pastoralists in Mongolia as a combined research and training method: it permitted targeting of subsequent research by purposive sampling stratified by wealth class, and also helped convince the initially sceptical researchers and policymakers that PRA methods facilitate not only quicker but also better research results than more conventional methods (Mearns et al 1992).

Examples: Braganca (1994) in Mozambique, Birch (1994) in Kenya, Cooper & Gelezhamstin (1994) in Mongolia, Grandin (1983a, 1988) in Kenya, Leyland (1992a) in Afghanistan, Mearns et al (1992) in Mongolia, M & K Schoonmaker Freudenberger (1993) in Senegal, Swift & Umar (1991) in Kenya.

7. Matrices

Matrix scoring is a tool for comparing key favourable and unfavourable characteristics, or advantages and disadvantages of different items. A group of comparable items are chosen (crop varieties, animal species, animal breeds, fodder sources, water sources, trees, soil types etc). Criteria for assessing the items are identified through discussion and listing, through pairwise comparison, or by asking what is good or bad about each. The resulting matrix (items in columns, local criteria in rows) is drawn on the ground or on paper. In scoring, seeds or other counters represent values in each box. For example, to rank fodder species, informants are asked to decide which species are the most and least palatable, nutritious, available etc. Or they are asked to score the species with stones or other counters, say, up to a maximum of 5 stones (whereby two fodder types could receive the same score). The criteria themselves can be ranked to show which are considered most important (Kirsopp-Reed 1994).

Partners: Individuals and groups, small and large.

Purposes: To provoke debate and provide a basis for discussing alternatives (matrix scoring can also be done by groups of men and women separately, followed by joint discussion to reconcile differences and decide on action to take); to help rural people decide what they would to try out and to identify the criteria according to which innovations can be assessed; to help them communicate their priorities to extensionists and researchers.

Comments: Matrix scoring has been applied to compare different types of animals and their usefulness for different purposes, or to compare characteristics of different breeds (eg. Guijt & Pretty 1992 in Pakistan). Farmers in Botswana scored the characteristics of sorghum varieties which they would like plant breeders to take into account in their scientific research (Chambers 1993a). A similar approach could be taken with animal breeds and fodder/multipurpose plant species.

Examples: Birch (1994) comparing drought-coping strategies in Kenya, Catley (1994) comparing animal diseases in Somaliland, Cooper & Gelezhamstin (1994b) comparing women's tasks in Mongolia, Leyland (1994) comparing cut-and-carry feed in Afghanistan, Mearns & Bayartsogt (1994) comparing institutions in Mongolia, Mukherjee (1994) comparing livestock species in Botswana, Reckers (1992) comparing livestock species in Kenya, Young et al (1994) comparing labour division for animal-keeping in Nepal.

Figure 6: Matrix scoring of fodder trees
Results of an interview with a farmer in Zimbabwe. The criteria and species were determined by the farmer, who was asked to distribute for each criterion 20 beans among the different species. Source: Scoones 1994a.

Criterion	Mupane	Mubhondo	Mupanda	Mususu	Mipwezha
Early shooting of leaves	7	4	5	2	2
Dry leaves can be eaten	1	-	-	19	-
Good taste/salty	7	4	5	2	2
High water content	-	-	13	-	7
Overall rank	1	4	3	2	5

Like ranking exercises, matrices can be used to compare almost anything of interest to the local people. Special forms of matrices are the Innovation Matrix to assess different actions/initiatives which could be taken. In a participatory approach, these would be assessed according to criteria established with the local people. An innovation matrix drawn in Pakistan is described by Conway et al (1987), but appears to have been done without direct participation of local people (the criteria are expressed in terms of productivity, stability, sustainability and equitability). Livestock-keepers' ranking of appropriateness of different innovations for increasing milk production is shown in Bunch (1982), but it is not clear where this was done. The Evaluation Matrix was developed from the innovation matrix, to generate discussion about advantages and disadvantages of different project activities in Sudan. It is noted that good facilitation is needed to ensure that local people identify their own criteria (Quinney 1994).

Some specific types of matrices drawn together with African pastoralists are:

Dispute Matrix: In the Gambia, district tribunal members were asked to list types of disputes presently occurring in the district, and to rank them in order of frequency (using beans). The same was repeated for pre-drought years. As disputes are very sensitive issues, this method was deliberately tried in an area known to be relatively free of intense tenure disputes. It nevertheless led to very heated discussion about settlement histories and decade-old contentious issues. The author himself notes that more in-depth and lengthier anthropological studies may be better suited to studying disputes (M Schoonmaker Freudenberger 1993).

Historical Matrix: Elderly informants distinguish time periods to be compared (divisions can be marked by major events, such as droughts or wars, or by local names for years or periods). Components of the issues being studied

(coping strategies, resource abundance, resource use etc) are listed horizontally. Beans or other counters are used to show the relative importance of each activity or resource in each historical period. Open-ended questions stimulate discussion about reasons for differences between time periods. For example, in The Gambia, village elders drew a historical ecological matrix to show changes in forest cover and area of land under cultivation. They listed the key natural resources, then indicated with piles of beans whether each resource was more abundant, less abundant or the same before the drought years, at present and - if present-day conditions prevail - in the future. This prompted them to analyse changes in their lives over time and to reflect on reasons for these changes and what this means for their present and future situation (M Schoonmaker Freudenberger 1993).

Examples: K & M Schoonmaker Freudenberger (1994) in The Gambia and Senegal, Cooper & Gelezhamtsin in (1994a) in Mongolia.

8. Diagramming

Diagrams present information and causal relationships in visual form. They help describe and explain a condition or process, serving as a basis for discussion. They can be drawn either directly on paper with a marker or on the ground, using a stick to mark lines and various local materials (leaves, stones, seeds) to symbolise other features. The diagram is then redrawn on paper for documentation and use in later discussions with the group or other groups. Also maps and transects are - strictly speaking - also diagrams, but are treated here under separate headings. Some types of diagrams useful for participatory planning and evaluation are:

Calendars, also called "Seasonal Analysis Diagrams": Local people are asked to distinguish seasons, months or other divisions of the year in their own terms, and to place symbols (eg. leaves, stones) to represent them. Counters are then placed to represent seasonally varying information, such as:
- timing of herd movements
- time use of men and women (analysed in separate groups)
- absence/presence of seasonal labour force
- forage use and availability
- water use and availability
- seasonality of animal disease
- harvesting of products from the wild
- timing of livelihood activities (cropping/herding/other)
- seasonal variation in types of foods consumed
- purchases/sales and prices of herd inputs/outputs
- seasonality of livestock births
- milk availability
- income and expenditure in relative terms throughout the year
- seasonal prices of livestock and their products and of purchased foods. Also climatic information (eg. rainfall distribution, relative temperatures or sunshine) can be obtained by asking which is the wettest month and then asking how the other months compare. A similar approach is used to obtain the seasonal patterns of other items listed above.

Partners: Key informants, individuals or small groups, also focus groups; often one member of the group, guided by the others.

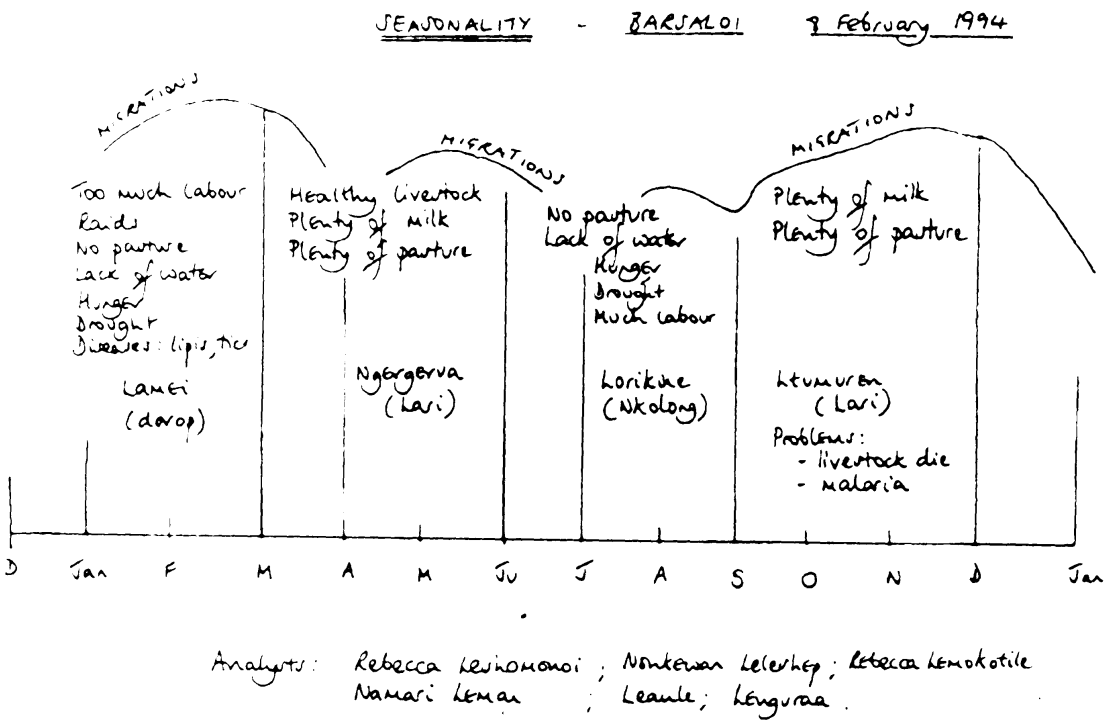
Purposes: To give an overview of what happens or is done during different periods of the year; to explore constraints to and opportunities for action in terms of time, eg. dry-season supplementary feeding; to aid in planning the timing of project activities.

Figure 7: Seasonal calendar and scoring of livestock disease incidence

Compiled on 10 October 1992 in Fadhigab village by a Somali elder, who placed stones to show the importance of disease incidence in each season. He was assisted by about 10 other people. Fadhigab is a village with small shops for tea, sugar etc in the centre of a dry-season grazing area. Source: Hadrill & Yusuf 1994b.

	Jilaal (Nov-Mar)	*Gu* (Apr-May)	*Hagar* (Jun-Aug)	*Dhair* (Sep-Oct)	Comments made by participants
Seasons *Rob* (rain)		•••		•	
Births Lambing		••••		••	
Kidding	•	•	•	••••	
Geel (camel births)		••••			
Diseases					
Shilin (ticks)	••	•	••	•	
Hulumbe (tick-borne diseases)					
Aal-adhi (helminthiasis - sheep & goats)	•	••••			affects young stock up to 1 year of age, begins in *Jilaal*
Ambar (skin disease of sheep) psoroptic mange?	••		•		
Ado (sarcoptic mange - goats & camels)	••	•			
Boog (foot rot - sheep & goats)	•	••	•	••	
Furuk (pox)	••	•	•	•	starts in *Dhair* but mainly *Jilaal*, same seasons for Geel and Adhi when sun is hot
Qud (anthrax - camel) *Jaqale* (anthrax - small ruminants)	•••	•			
Gendi (camel trypanosomiasis)	••	••			in *Hagar* in mountains; small insects cause it
Sambas (CCPP) *Oof mud* (sheep respiratory disease)	••	••	••	••	

Figure 8: Seasonal calendar
Drawn by PRA team, guided by members of Samburu community in Barsaloi, Kenya, after having made a joint transect walk. Source: Birch 1994.



Comments: The early RRA seasonal calendars tended to put many components of the systems (climate, crops, pests, diseases, labour, prices, social events, income, expenditures, food consumption etc) into one diagram. PRA diagrams tend to be simpler and more focused, but can still be compared with each other to show interrelationships.

Examples: Ba et al (1993) in Senegal, Birch (1994) in Kenya, Conway et al (1987) in Pakistan, Cooper & Gelezhamstin (1994b) in Mongolia, Devavaram (1994) in India, FARM-Africa & IIED (1991) in Ethiopia, Ghirotti (1994) in Guinea, Hadrill & Yusuf (1994b) in Somalia, Mearns et al (1994) in Mongolia, Mukherjee (1994) in Botswana, Reckers (1992) in Kenya, Scoones & McCracken (1989) in Ethiopia, Young et al (1994) in Nepal.

Daily Timeline (labour profile): A variation of the calendar method was developed to depict the use of woman's time over a day (whereby periods between prayers proved to be a useful division of time among Muslims). Symbols depict activities named by the woman, who places 10 nuts or other counters for the most time-consuming activity, one nut in the least, and estimates the relative amount of time spent on the other activities during the day. An additional 10 nuts can be given to allow her to show what she would spend more time on if she had more. This allows project staff to see what time constraints are and what (present) activities the women would prefer to do. Of course, the method is likewise applicable with men.

Partners: Individuals.

Purpose: To depict use of time over a day.

Comments: Depicting "typical" days in different times of th e year can help avoid a seasonal bias in the information. Even within one season, labour profiles can vary, eg. between marketing and non-marketing days in the case of pastoral women who sell milk products every second or third day (Waters-Bayer 1988). In such cases, two daily labour profiles give a better basis for discussion of time constraints and opportunities.

Examples: Appleton (1992) in Guinea, Birch (1994) in Kenya, Cooper & Gelezhamstin (1994b) in Mongolia, Westphal et al (1994) in Namibia.

Systems Diagram: When used to investigate livestock systems, a central circle is drawn to indicate the livestock kept by the household. From this circle, lines are drawn to depict inputs, outputs, markets and services. Lines of different colours or marked with symbols can indicate labour inputs of different household members (Kirsopp-Reed 1994).

Partners: Individuals, households, small groups.

Purposes: To illustrate components and linkages in the production system and to stimulate discussion about them, particularly inputs and outputs; to identify bottlenecks and pathways in production systems and points where improvements could be tried; to explore implications of changes in the system, such as haymaking.

Comments: In the case of pastoralism, it is important to show the links between livestock and other components in the landuse system. The system "boundaries" must be much wider than in the case of crop farming systems.

Examples: Lightfoot & Noble (1993) in Malawi, Cornwall & Joseph (1992) in Ethiopia, Guijt (1992) in Burkina Faso, Guijt & Pretty (1992) in Pakistan.

Bioresource Flow Diagram: This is a particular type of systems diagram which depicts flows of nutrients and other inputs into a production unit and between components of it. It has been used by ICLARM in a process of planning and experimenting with changes in farming systems. By drawing the diagrams, the farmers and researchers make a joint inventory and analysis of available resources. The farmers then discuss and seek (eg. through visits to research stations and other farmers) alternative ways of using the resources. The transformation of the farm system resulting from farmer experimentation is monitored in a series of diagrams over time.

Partners: Individuals, households, small groups, representatives of different groups of resource users.

Purpose: To visualise flows of resources into and out of a production system, as basis for a discussion of ways to improve resource use.

Comments: This method has been used successfully with smallholders in Malawi, who drew flows within their own farms and then integrated fish farming. It could also be used to sketch major natural resources in a larger area and the flows between them, using the own farm or herd as the centre. This method could be tested for its suitability to make explicit the linkages between cropping, livestock-keeping, woodcutting, gathering and other ways of using natural resources, as a starting point for discussion about maintaining or improving relations between user groups so that they can benefit from complementarities between the different forms of resource use.

Examples: FARM-Africa & IIED (1991) in Ethiopia, Lightfoot & Noble (1993) in Malawi.

Causal Diagram: Another type of systems diagram was used by the Farming Systems Development Project in the Philippines to help farmers analyse causes of a central problem they had identified: cogon weed (*Imperata cylindrica*). Informal interviews and group meetings of farmers provided information on the biophysical causes and socioeconomic constraints surrounding the problem. Each cause was drawn in a separate box, with arrows leading to the central problem. The size of the boxes indicated the relative importance of each influencing factor in the farmers' eyes. The diagram focused discussion on options to solve the problem. The feasibility of each option suggested by farmers and project staff was assessed by relating it to the biophysical causes and socioeconomic constraints shown in the diagram. This helped the farmers decide what they wanted to test, in this case, shading out cogon weed with vining legumes (Lightfoot et al 1988).

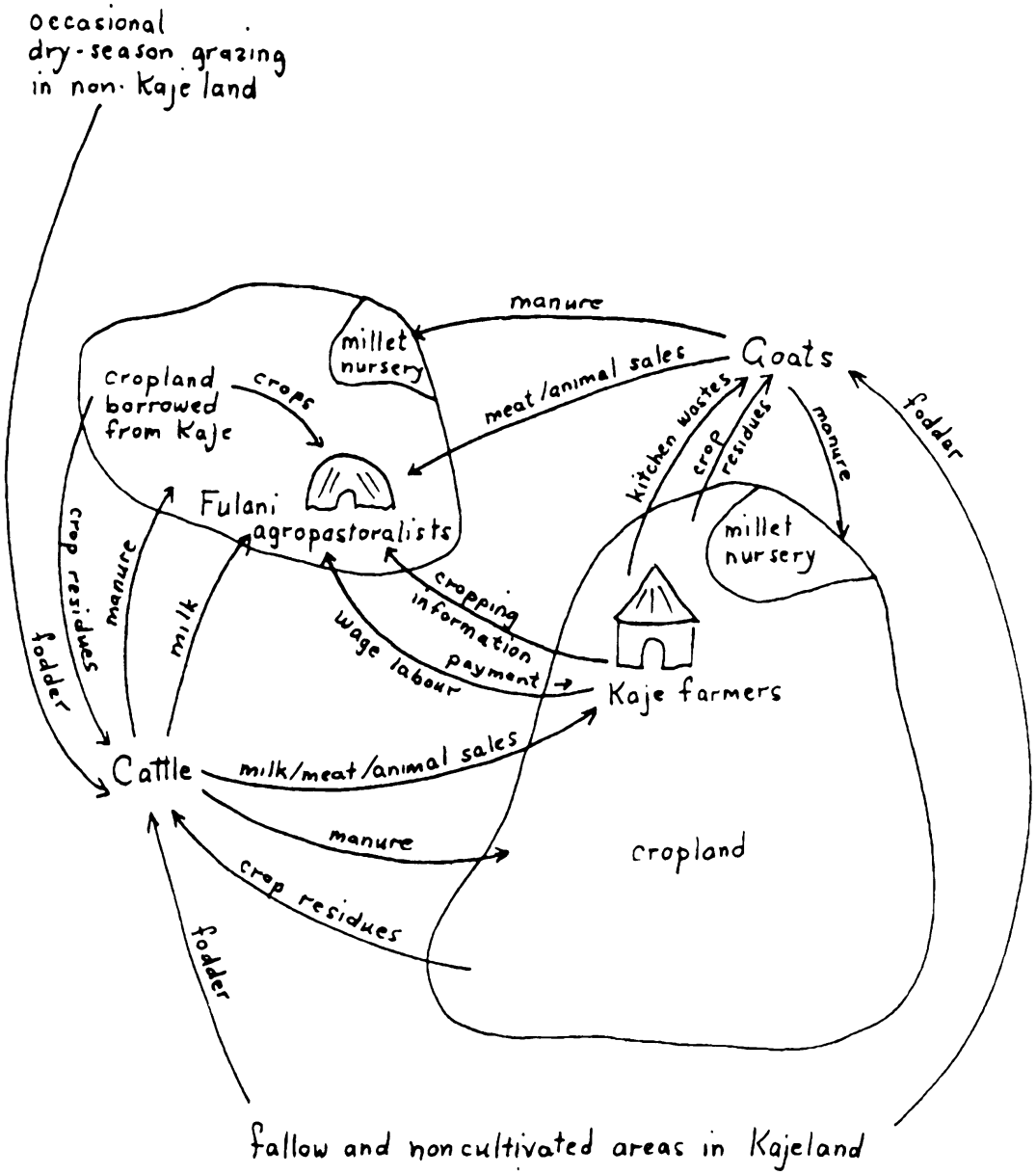
Partners: Individuals, households, small groups.

Purpose: To visualise biophysical and socioeconomic factors influencing a problem, as basis for identifying and assessing the appropriateness of potential solutions.

Comments: In a similar way, the causes of, eg. animal disease or malnutrition, could be depicted in diagrams as a starting point for discussions among livestock-keepers about potential solutions.

Example: Lightfoot et al (1988) in the Philippines.

Figure 9: Resource flow diagram
Interactions between cropping and livestock husbandry on land used jointly by Kaje farmers and Fulani herders in central Nigeria. Based on results of observations and interviews during an FSR programme; drawn by scientists. Source: Bayer & Waters-Bayer 1991, adapted.



Impact Diagram: Similar to a causal diagram, but focused on examining the effects of a major change, rather than the causes of a major problem. It can take the form of a line diagram showing effects identified by local people, such as availability of forage resources, quality of rangeland, incidence of disease, relative numbers of different livestock species or breeds, sources and levels of income, or expenditures. It can also take the form of a series of maps or calendars depicting periods before and after a natural calamity such as drought or the introduction of a technical innovation such as a dam, borehole, government grazing reserve or improved pasture. Maps are useful for comparing ecological conditions and resource use, and calendars for comparing seasonal distribution of activities or resource availability before and after a change.

Partners: Key informants, individuals, small or large groups.

Purposes: To analyse effects of natural or man-made change; for project monitoring, evaluation and redesign.

Comments: When the agency supporting the project is involved in the impact analysis, good rapport and facilitation is needed to elicit public declaration of not only positive but also negative aspects of a project-supported change (cf. Quinney 1994 in an evaluation exercise in Sudan). The more that the local people consider the change to be their own experiment, rather than something initiated or given from outside, the more open they are likely to be in evaluating it.

Examples: Birch (1994) to assess impact of food aid on pastoral groups, Leurs (1993) to assess impact of demarcating land in northern Nigeria, Conway et al (1987) to assess impact of new highway in Pakistan, Quinney (1994) to assess impact of agroforestry activities in Sudan.

Problem Tree: The trunk of the tree represents a problem which the local people consider important. The tree can be drawn on the ground, on paper or on a board by the participants, who show the causes in the roots and the effects on the branches. The potential solutions are usually shown as fruits (following a logic perhaps not obvious to all). What is important is not the specific tool (the drawing of a tree) but the principle of identifying causes, effects and potential solutions.

Partners: Small or large groups, also focus groups to show different ways of seeing a problem.

Purposes: To visualise causes and effects of a problem, so that it is easier for all participants to discuss and localise potential solutions; to reveal to project staff how the local people perceive their environment.

Comments: Drawing a problem tree can follow a brainstorming and ranking exercise during which major problems are identified and prioritised. The tree then focuses on one of these problems, usually the one given highest priority by the local people. A major difficulty is distinguishing between causes and effects; this requires considerable skills in facilitating the discussions between the participants.

Examples: Ba et al (1993) in Senegal, Fall (1994) in Senegal, Neefjes (1993) in Cambodia.

Process Diagram: Steps in a production process (eg. activities involved in milk production, milking, processing and marketing; see Figure 10) are

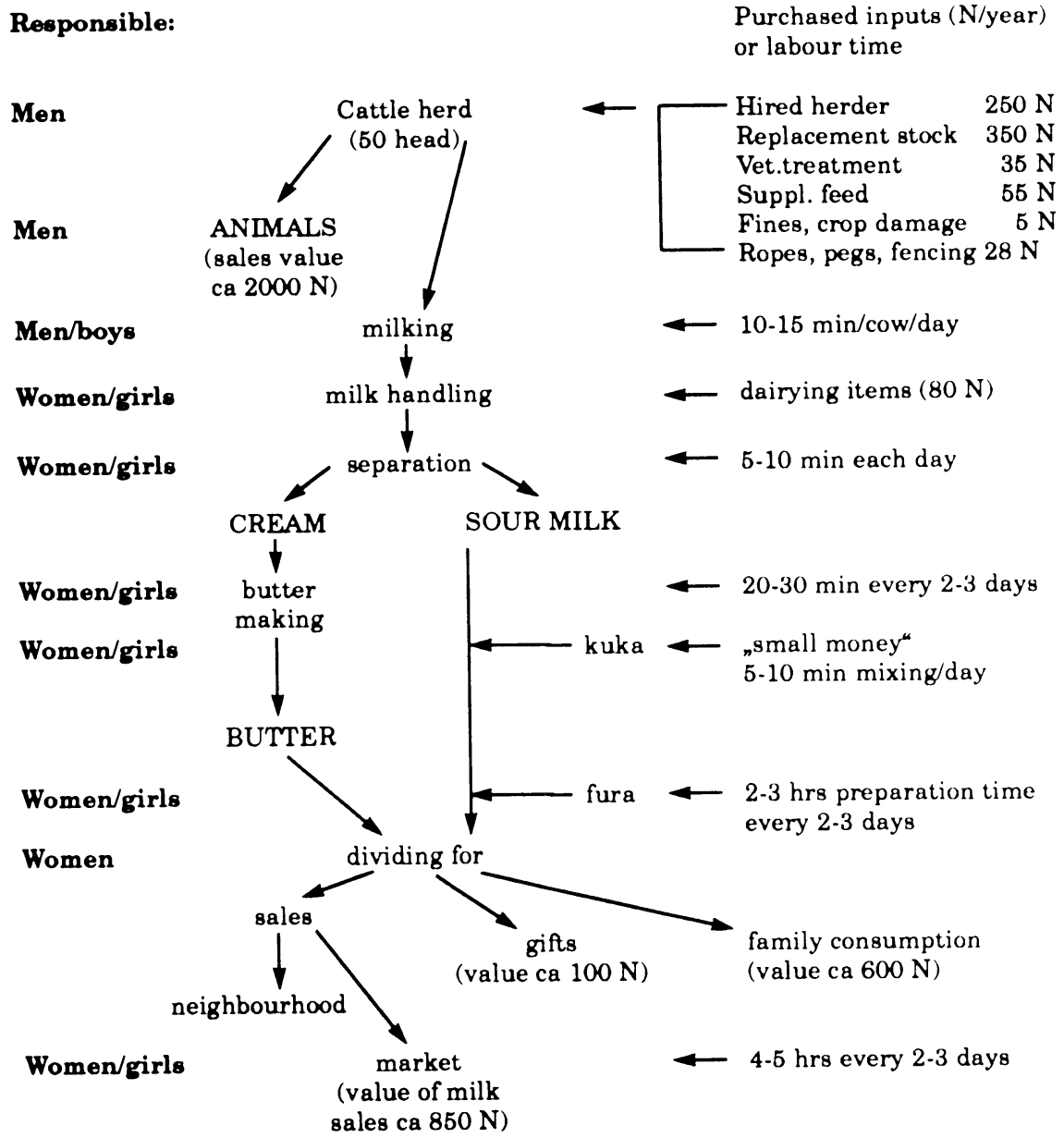
Partners: Key informants, small groups; can also be drawn by PRA team members on the basis of information from chain interviews and then discussed in a group meeting of different persons involved in the production chain in order to consider implications for project planning.

Purposes: To visualise the many steps in a production process and to examine division of labour, responsibilities and benefits throughout the process; to make simple cost-benefit analyses.

Comments: Process diagrams such as in Figure 10 show that cost-benefit analyses may have to be made for different subgroups or even individuals within a production unit. Difficulties may be encountered in groups where persons who play a role in the process are not keen that others know how much they earn, eg. women who would prefer that their husbands not know what they gain from selling milk products (Waters-Bayer 1988), or market intermediaries who do not want their profits to be made public. In such cases, the exercise may have to be confined to division of labour throughout the process.

Example: Conway et al (1987) for crop production in Pakistan.

Figure 10: Process diagram of dairy production
Based on results of measurements by Fulani agropastoral women plus observations and interviews by FSR team in central Nigeria; drawn by scientists. Source: Waters-Bayer 1988, adapted.



Key: products in CAPITAL LETTERS; inputs in *italics*; N = Naira (local currency) per year; *kuka* = pith from baobab pods; *fura* = millet dumplings
listed vertically, indicating who does what, costs and returns at each stage, and who incurs or gains them.

Venn Diagram: Individuals or groups are asked to identify key institutions or individuals important for the group. Different-sized circles are drawn to represent the relative importance of each, with differing degrees of contact and overlap in decision-making. Numbering the circles in the order in which the institutions were identified can serve as a crosscheck on relative importance. It is also useful to note who mentions what institution. Group discussion can then be generated about the function of each.

Another method is to draw lines between a circle representing a household or group and other circles representing other individuals, groups and organisations important to them, with the thickness of the line representing the strength of the relationship. The symbols "+" and "-" or smiling face and frowning face can also be drawn to indicate the positive or negative nature of the relationship (eg. herders may have intense but conflictual relations with guards in a forest reserve).

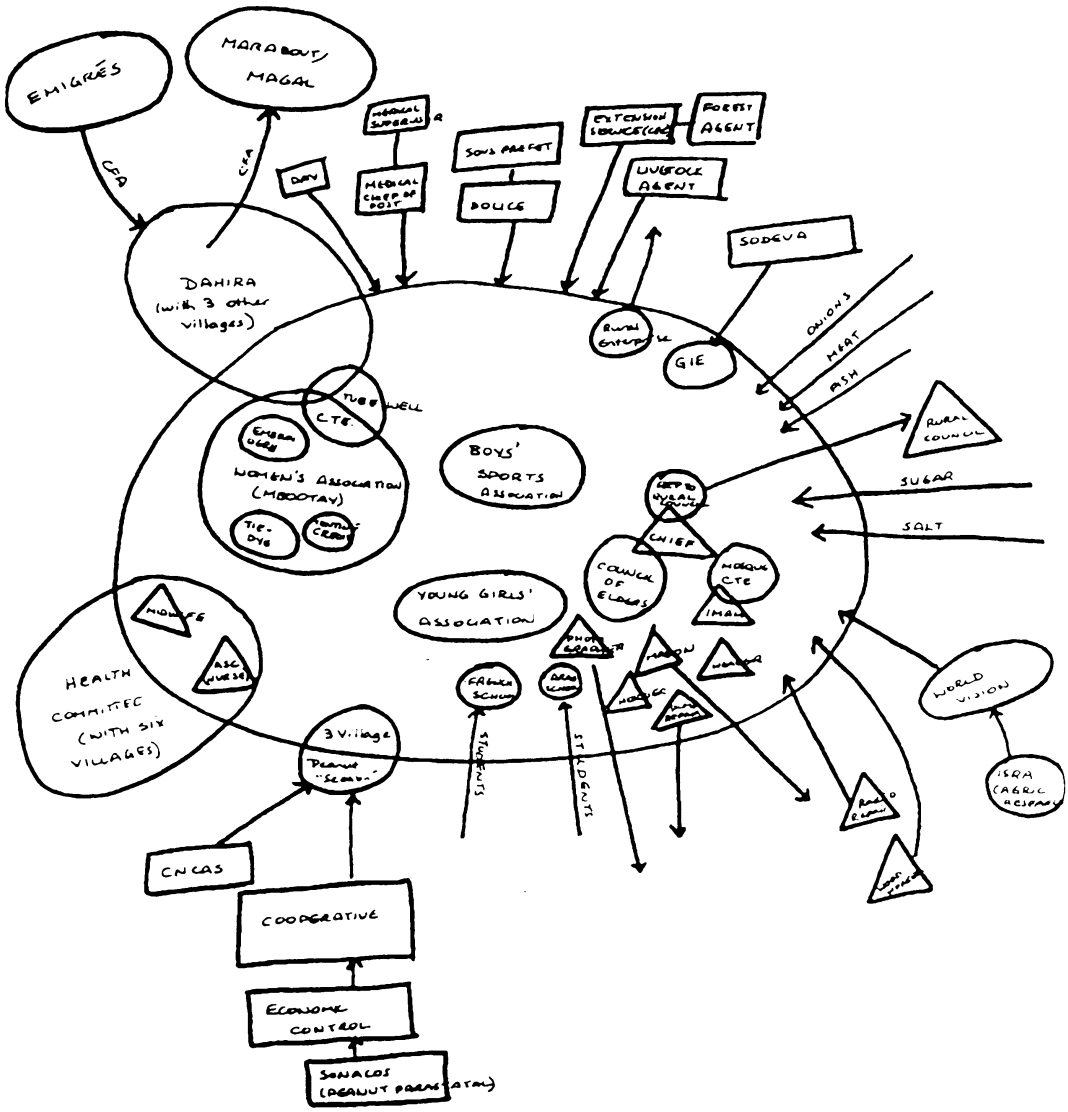
Partners: Individuals, households or groups; can be done with separate age, gender or ethnic groups.

Purposes: To investigate local perceptions of the relative importance of the different institutions and the relationships between them, to discern the interdependency of various organisations, eg. for delivery and maintenance of facilities and services; to identify weak or lacking interactions, where linkages need to be established or improved; where positive and negative relations are noted, to identify alliances and conflicts.

Comments: If drawn by a household or individual, a Venn diagram can indicate the social links, eg, animal-sharing relationships or regular customers for animal products. Venn diagrams can also be used to identify conflicts and institu-tions involved in resolving them.

Examples: Ba et al (1993) in Senegal, Birch (1994) in Kenya, Braganca (1994) in Mozambique, Dia et al (1991) in Senegal, Guijt (1992) in Burkina Faso, M Schoonmaker Freudenberger(1993) in The Gambia, M & K Schoonmaker Freudenberger (1993) in Senegal, Westphal et al (1994) in Namibia.

Figure 11: Venn diagram
Compiled with a large group of men in the central square of Ndam Mor Fademba village, Senegal. A large circle was drawn on a sheet of flipchart laid flat on the ground. Coloured papers of various shapes and sizes were then superimposed on the circle to represent village organisations and services. When women were later shown the diagram, they added some women's groups that had been missed. Source: M & K Schoonmaker Freudenberger 1993.



9. Workshops and Meetings

Analytical Workshops are open-ended public discussions to explore issues and analyse problems jointly. They usually involve discussions in smaller groups, followed by feedback and discussion in the plenum. Situation analysis in such workshops often follows the sequence of comparing past with present, examining present problems and what has been tried to overcome them, evaluating these experiences and planning further action. This is described well by Gubbels (1988), refering to a farming community in Mali.

Partners: Focus groups, community meetings, possibly involving also external specialists.

Purpose: To analyse local problems and reach consensus about priorities for action.

Comments: This method was applied in the mid-1970s in the Gao area of Mali where, after the 1972-73 drought, a working group of 12 pastoralists (chiefs and counsellors), three local development agents and an external consultant delved into the causes of problems in pastoral production and planned experiments to solve them (Marty 1975). A variation, also in Mali but with nonpastoralists, consisted of "reflection" meetings, during which local people identified potentially useful innovations they knew of but were not applying because of various constraints. Workshop discussion of the constraints and the potentials they blocked led to identification of solutions which could be applied without external aid (Gnägi 1992).

There is a danger that such local analytical workshops are too inward-looking. The presence of outside specialists can also bring new information, which the local people can include in their consideration of potentially useful innovations to try out.

Examples: With reference to livestock-keepers, Barrow (several papers) in Kenya, Marty (1975) in Mali, Mlenge & Johansson (1992) in Tanzania.

Feedback and Planning Meetings, also called "Verification" or "Validation Meetings", are occasions for checking and discussing PRA findings presented in the form of maps, models, diagrams, drawings etc. Such meetings are important at the end of concerted PRA exercises, when the team presents "best bets" for action suggested on the basis of information obtained during the exercise. The moderator of the meeting elicits evaluation of the team's suggestions and further suggestions of what to do about the identified problems. In the case of "they-do-it", the presentations can be made by local analysts to a larger local group (Chambers 1993a).

Partners: Focus groups, groups of community representatives, community assemblies.

Purposes: To review, analyse and evaluate results with local people; through public discussion of contradictions and differing interests between subgroups (women, minorities, landless etc), to enhance awareness and stimulate the reduction of injustices.

Comments: Ideally, the feedback meeting leads into a planning process to decide who can and should do what. For example, in Wollo, Ethiopia, the feedback meeting was attended by representatives of each focus group which had been involved in discussions throughout fieldwork. The assembled group reviewed each "best-bet" option presented by the PRA team, criticised and altered the proposals, ranked them, set priorities and recommended plans for future action (Scoones & McCracken 1989). Not only RRA/PRA exercises but also questionnaire surveys can increase local participation in planning by feeding the results back to the local people in group meetings so that the data and analyses can be verified or corrected in open discussion.

A novel form of feedback meeting was organised among goat-keepers in Zaire to allow farmer groups to share the results of their own experimentation and gain new ideas to try out (Mapatano 1994).

Examples: Mapatano (1994) in Zaire, Scoones & McCracken (1989) in Ethiopia, Young (1993) in Kenya.

Field Hearings (Technology Evaluation Meetings): In a resettlement area in northeastern Brazil, where all farmers had the same amount of land with similar mixed crop and livestock enterprises, an adaptive research team worked with groups of livestock-keepers to evaluate and screen new technologies. At one site, the researchers monitored the growth of livestock without any other intervention. At a second, they provided a "package" of veterinary interventions but did not hold meetings or promote any group activities. At a third site, the same "package" was accompanied by discussions between extensionists and farmers at Regular Research Field Hearings (RRFH), during which the extension and some research staff listened to farmers' comments and requests for further information, and offered training in animal health, breeding or management. Livestock gained weight more quickly in the third area, farmers showed greater willingness to pay for veterinary services, and they helped identify production constraints which needed further attention. Further details about RRFH can

be found in Baker et al (1988) and Knipscheer & Suradisastra (1986, involving livestock-keepers in Indonesia). A similar approach was taken by Norman et al (1988) with livestock-keepers in Botswana.

Brainstorming. This is a useful technique to use in meetings to encourage wide participation. On a topic such as local problems or possible solutions, all people present are asked to express any ideas that come to mind. The facilitator accepts all contributions without comment or judgement, and lists (or asks participants to symbolise) them, eg. on large sheets of newsprint taped to a wall. The facilitator then helps the participants organise the ideas: similar ones are grouped together and repetitions eliminated. Relationships between ideas are discussed. The main ideas are then listed on another sheet. Alternatively, each idea can be written or depicted on a card and the cards grouped by the participants with the facilitator's help.

Partners: Small or large groups, whereby both local people and outsiders can contribute ideas, all of which are accepted as being of equal value.

Purposes: To generate as many ideas as possible and to give everybody present a chance to contribute.

Comments: This is a particularly useful tool at the beginning of a ranking or matrix exercise.

Example: Bunch (1982) in Guatemala, Michael Butler & Winrock (1994) in Lesotho.

10. Local PRA Practitioners (or as Robert Chambers puts it: "They do it")

Local people become the researchers. Group leaders, school teachers, students, local specialists etc walk transects, make observations, interview other villagers, analyse data and present results for local discussion. Such a team of local researchers in Tanzania was able to revive an indigenous institution for natural resource management, involving identification of cattle paths and protection of cropland from grazing animals (Mlenge & Johansson 1992).

Partners: External PRA practitioners stimulating local people.

Purposes: To strengthen local capacity to do own research, present their cases to others and draw on services they require to further their own development; to provide basis for further local-level action in planning, experimentation, implementation and evaluation activities.

Comments: In India, AKRSP has given village volunteers the opportunity to develop expertise in appraisal, planning, implementation, management and monitoring of activities and has assisted them in building functional links between the government, NGOs, cooperatives and financial institutions in the area. In this way, the local people become the analysts, managers and agents of institutional change, instead of outside professionals analysing and deciding for them (Shah & Shah 1994). Not only are local planning and management capacities strengthened, PRA by community members is also likely to yield more reliable data as these PRA practitioners understand the culture and language and already have rapport with the community. Nevertheless, the presence of an outsider who makes observations during the PRA exercise and poses questions during the analyses of findings can be useful for drawing attention to local biases or "blind spots".

Just as AKRSP has familiarised village volunteers (including illiterates) in PRA, who now conduct their own PRAs, an NGO in Senegal (ARED) plans to train Fulani pastoralists to facilitate PRAs among their own people. A French-language PRA manual is now being translated into Pulaar, and initial workshops to familiarise the pastoralists with PRA methods have already been held. PRA training is also being planned for paravets in Afghanistan (Leyland 1994).

This approach creates particularly high expectations on the part of the local people: if they are given the responsibility to plan their own projects, they expect to receive the authority to implement their plans and the support of the government or an aid agency in doing so. As an example, women in a community in Indonesia carried out a "community self-survey", with the help of their children in tabulating the data and making the report. After discussing the report, the community planned to carry out public works themselves, but were sorely disappointed when the government hired outside contractors to do it in a different way (Gaymans & Maskoen 1993).

Examples: Berger (1993) in Kenya, CARR (1993) in Australia, Mlenge & Johansson (1992) in Tanzania, Shah & Shah (1994) in India; for address of ARED, see Annex A.

PART III

Annotated bibliography

III. Annotated bibliography

If the address of unpublished documents is not given under the name of the institution or author in the Annex, it is added to the reference here. Keywords are given in italics before each abstract.

1. Some general works on PRA methods

(Introductory texts and manuals on RRA/PRA, plus a small selection of key papers which critically analyse PRA methods)

1

Chambers, Robert. 1992. **Rural appraisal: rapid, relaxed and participatory.** *Discussion Paper* 311. Brighton: IDS. 90 pp.

RRA/PRA methods

Summing up of PRA by one of its main protagonists. Traces sources of and parallels to PRA. Explains differences and similarities between PRA and RRA. Argues that the validity, reliability and depth of information gathered during PRA compares favourably with conventional surveys. Draws attention to dangers of PRA (faddism, rushing, formalism). Discusses the frontiers, challenges and potentials of PRA.

2

Chambers, Robert. 1993. **Methods for analysis by farmers: the professional challenge.** *Journal for Farming Systems Research-Extension* 4 (1): 87-101.

diagramming, direct observation, research methods, RRA/PRA methods, semistructured interviews, situation analysis

Compares two streams of innovation in methods for farmers to analyse their situation: Farmer Participatory Research (FPR) and Participatory Rural Appraisal (PRA). FPR methods are more verbal (interviews, observations), PRA methods more visual (making and discussing diagrams). Argues that the visual approach empowers the nonliterate and is more useful for collecting spatial, temporal and causal information and for planning and monitoring. PRA also encourages farmers to facilitate village-level analysis of problems and opportunities themselves.

3

Davis-Case, D'Arcy. 1989. **Community forestry: participatory assessment, monitoring and evaluation.** *Community Forestry Note* 2. Rome: FAO. 150 pp.

evaluation, monitoring, RRA/PRA methods, situation analysis

Presents concept, methods and tools of Participatory Assessment, Monitoring and Evaluation (PAME) and gives sources of further information. Although written for community forestry, this book gives useful hints for work with pastoralists.

4

Ellsworth, Lynn; Diamé, Fadel; Diop, Soukeyna; Thieba, Daniel. 1992. **Comment faire un atelier d'initiation en Diagnostic Participatif ou "Participatory Rural Appraisal"**. Dakar-Fann: FRAO/WARF. ca 200 pp.

planning, RRA/PRA methods, situation analysis, training

French guide for introductory PRA training course. Contains handouts and overheads which can be used directly by trainers. Describes each technique, its purpose, how to apply it and useful hints. Includes exercises in prioritising actions and experimentation to be done after the PRA, and in planning the activities (when, who, how, costs). Mainly oriented to work with crop farmers rather than pastoralists, but a useful reference about basic PRA methods (mainly translated from IIED publications).

5

Freudenthal, Solveig; Narrowe, Judith. 1981. **Focus on people and trees: a guide to designing and conducting community baseline studies for community forestry**. *Working Paper* 178. Uppsala: International Rural Development Centre, Swedish University of Agricultural Sciences. 51 pp + annex.

RRA/PRA methods, situation analysis

PRA methods presented in step-by-step guide to entire process of making a baseline study. Does not deal with planning of activities based on analysis of collected data.

6

Grandin, Barbara. 1988. **Wealth ranking in smallholder communities: a field manual**. London: Intermediate Technology Publications. 50 pp.

RRA/PRA methods, wealth ranking

Guide to carrying out a wealth-ranking exercise and analysing the results. Based partly on experience in pastoral communities.

7
Gueye, Bara; Schoonmaker Freudenberger, Karen. 1991. **Introduction à la Méthode Accélérée de Recherche Participative (MARP): quelques notes pour appuyer une formation pratique**. London: IIED. 70 pp.
RRA/PRA methods, situation analysis
Handbook based on experience with PRA in francophone West Africa. Explains the principles behind PRA, describes the main methods and discusses practical aspects of organising a PRA.

8
Inglis, Andrew. 1992. **A tale of two approaches: conventional questionnaire surveys vs PRA.** *Rural Development Forestry Paper* 14c. London: ODI. 36 pp.
RRA/PRA methods, semistructured interviews, situation analysis
A play in three acts, showing the traps a conventional questionnaire survey can fall into (278 questions, 4 hours per interview, poorly focused, 12 months analysis) and contrasting this with a well-focused discussion (on quality of different species for firewood) which yields almost instantly usable results. An easily understandable comparison of methodologies, relevant also for work in pastoral systems.

9
Leurs, Robert. 1993. **A resource manual for trainers and practitioners of Participatory Rural Appraisal (PRA)**. *Papers in the Administration of Development* 49. Development Administration Group, School of Public Policy, University of Birmingham, Birmingham B15 2TT, UK. 138 pp.
Nigeria, diagramming, ranking, RRA/PRA methods, semistructured interviews, situation analysis, training
Summary of experiences in RRA/PRA training in Nigeria. Separate chapters devoted to philosophy and principles of RRA/PRA; checklist approach; semistructured interviews; diagramming; ranking wealth and preferences; tips for fieldwork; and training issues. Well structured and easy to read.

10
Lightfoot, Clive; Noble, Reg; Morales, R. 1991. **Training resource book on a participatory method for modelling bioresource flows.** *ICLARM Educational Series* 14. Manila: International Center for Living Aquatic Resources Management. 30 pp.
modelling, training
Step-by-step training guide for applying the bioresource modelling technique described in Li ghtfoot & Noble (1993; see below).

11
Mascarenhas, James et al (eds). 1991. **Participatory Rural Appraisal: proceedings of the February 1991 Bangalore PRA Trainers Workshop.** *RRA Notes* 13. London: IIED. 143 pp.
India, evaluation, monitoring, planning, RRA/PRA methods, situation analysis, training
Collection of experiences in field-based PRAs and related training in India, relevant for PRA work worldwide. Gives excellent overview of PRA methods and innovations, training questions and methods, the usefulness of PRA in government services, the role of villagers as analysts, quality assurance, attitudes and behaviour, documentation, the role of PRA in monitoring and evaluation, dangers and weaknesses, challenges and implications. Includes articles on participatory learning, planning and impact monitoring. Parts appear in French in the first issue of *Rélais MARP* (see Annex).

12
McCracken, Jennifer; Pretty, Jules; Conway, Gordon. 1988. **An introduction to Rapid Rural Appraisal for agricultural development.** London: IIED. 96 pp.
monitoring, RRA/PRA methods, situation analysis
Outlines the philosophy and scope of RRA, main methods and their purposes, and how they fit into project design and implementation. Deliberately not set up as a "cookbook" but rather as a source of ideas for fieldworkers, with sample diagrams. Little reference to livestock but introduces many methods also applicable in pastoral systems. A more "honest" presentation of PRA than in many later publications: PRA involving villagers and local officials in decisions about further actions based on joint appraisal is one class of RRA, the others being Exploratory, Topical and Monitoring.

13
Mosse, David. 1993. **Authority, gender and knowledge: theoretical reflections on the practice of Participatory Rural Appraisal.** *Agricultural Administration (Research and Extension) Network Paper* 44. London: ODI. 31 pp.
natural resource management, planning, RRA/PRA methods, situation analysis, women
Good analysis of an experience in India, where PRA was used in planning a natural resource management project. In one village the villagers did not cooperate, as they were not used to participatory approaches and were not sure what they would gain. Elsewhere, the PRA at whole-village level made it difficult to discuss problems of minorities. Influential groups and individuals tried to manipulate the planning process in their favour. Women were disadvantaged, as the PRA coincided with a weeding labour peak. They had more difficulty than men in expressing themselves during village meetings and in handling mapping and other visualisation exercises. Many problems of women (eg. conflicts with husbands and co-wives) are difficult to visualise. The emphasis on visualisation also disadvantaged women members of the PRA team, as the results of their informal interviews were more difficult to present than maps and diagrams.

14
National Environmental Secretariat; Egerton University; Clark University; World Resources Institute. 1991. **Participatory Rural Appraisal handbook: conducting PRAs in Kenya**. World Resources Institute, 1709 New York Ave NW, Washington DC 20006, USA. 84 pp.
Kenya, natural resource management, planning, RRA/PRA methods, situation analysis
A manual meant to introduce PRA for preparing village resource plans in Kenya. Could easily be mistaken for a recipe book. In some sections, eg. on social data, the guidelines and examples look like conventional questionnaires, which may lead back to "survey slavery". However, if critically used, the book gives a useful description of numerous methods, eg. transect walks (although presented in a way more suited for farming than pastoral areas), mapping, timelines.

15
Pretty, Jules; Guijt, Irene; Thompson, John; Scoones, Ian. 1994. **A trainer's guide for participatory approaches.** London: IIED.
diagramming, mapping, matrix scoring, ranking, RRA/PRA methods, semistructured intervi ews, training, workshops
Presents the basics of interactive training, the implications of managing groups dynamics and interdisciplinary teams, and the principles of participatory inquiry. Explains the context for using training exercises in semistructured interviewing, visualisation methods, and ranking and scoring methods. Provides guidelines for preparing training in participatory methods, and includes details of 100 games and exercises for use in workshop and classroom settings and in the field.

16
Schönhuth, Michael; Kievelitz, Uwe. 1993. **Partizipative Erhebungs- und Planungsmethoden in der Entwicklungszusammenarbeit: Rapid Rural Appraisal, Participatory Appraisal - eine kommentierte Einführung.** *Schriftenreihe der GTZ* 231. Eschborn: GTZ. 137 pp. English version (1994): **Participatory learning approaches in development cooperation: Rapid Rural Appraisal, Participatory Appraisal - an introductory guide**.
mapping, matrix scoring, ranking, RRA/PRA methods, transect
Handbook for staff of German bilateral development projects but also of interest to a wider public. Gives good overview of the main concepts of RRA, PRA and related participatory approaches derived from applied anthropology. Assesses the potentials and limits of RRA/PRA methods and indicates where they can be used in a project cycle. Describes the main RRA/PRA tools, such as transects, mapping, ranking and matrix scoring. Contains useful addresses and names of contact persons for training and exchange of experience. Well illustrated with clear layout, including guidelines for different types of readers. Also available in French and Spanish.

17
Schoonmaker Freudenberger, Karen. 1994. **Challenges in the collection and use of information on livelihood strategies and natural resource management.** In: Scoones I; Thompson J (eds), *Beyond farmer first: rural people's knowledge, agricultural research and extension practice* (London: Intermediate Technology Publications), pp 124-133.
indigenous knowledge, natural resource management, planning, RRA/PRA methods
Stresses need to go beyond describing rural people's technical skills and knowledge in order to gain a deeper understanding of their economic and political strategies in resource use. Discusses biases that jeopardise the collection of valid information on natural resource management, such as exclusion of herders who are present

only seasonally. Information collected using participatory methods, while potentially valuable in project planning, is not effectively used because of differences in values between local people and donors/governments, conflicting timeframes, pre-specified focus of project activities, and conflict between local practices and state policy. These issues need to be addressed in open discussion and solutions sought. Suggests systematic inclusion in field studies of decision-makers with influence needed to make policy-level changes. Insists that information be collected and analysed so that it is immediately accessible to the local people.

18
Schoonmaker Freudenberger, Karen. 1994. **Tree and land tenure: rapid appraisal tools.** *Community Forestry Manual* 4. Rome: FAO.
natural resource management, RRA/PRA methods, trees
Offers guidelines for applying methods designed to encourage participation of local communities in collecting and using information to improve their livelihood. Gives brief introduction to tenure and rapid appraisal, outlines preparations needed to do a tenure study, presents tools for gathering information about tenure issues in the field and methods for analysing the information, and discusses issues related to using the information. The approach helps to provide an understanding of how villages and households use tree and forest resources in private holdings, commons and reserves, also in sylvopastoral systems.

19
Theis, Joachim; Grady, Heather. 1991. **Participatory Rapid Appraisal for community development: a training manual based on experiences in the Middle East and North Africa**. London: Save the Children Foundation & IIED. 150 pp.
Middle East, North Africa, RRA/PRA methods, training
Practical guide for conducting a PRA training, based on work in Sudan, Gaza, Tunisia and Egypt. Intended primarily for NGOs with a wider focus than agriculture. Includes many examples and practical exercises. Also available in Arabic.

2. Participatory planning with pastoralists: experience and potential

Numerous reports along the lines of Drijver (1990) document the lack of participation of pastoralists, particularly mobile ones, in project planning. Such critical analyses are extremely important, but including all of them would make this bibliography several times longer than it already is. We have limited the selection mainly to reports on positive or promising approaches and methods in planning with pastoralists, with emphasis on concrete cases of doing something rather than on recommendations how to do it. However, also some works referring to methods applied in nonpastoral systems are included. The different types of experiences are distinguished by the following letters at the beginning of the key words:

EP = experience in pastoral livestock-keeping system
EL = experience in livestock-keeping system
PP = experience with potential for pastoral livestock-keeping system.

20
Akabwai, Darlington. 1992. **Extension and livestock development: experience from among the Turkana pastoralists of Kenya.** *Pastoral Development Network Paper* 33b. London: ODI. 14 pp.
EP, Kenya, Turkana, communication, DELTA methods, extension, planning, social organisation
Describes efforts to stimulate local involvement in livestock extension by improving communication between pastoralists and extension workers. Mobile extension teams of the Turkana Rehabilitation Project in northern Kenya used the DELTA approach (cf. *Training for Transformation* by A Hope & S Timmel, 1984), in which problems are posed by using codes such as posters, songs or stories to enable pastoralists to describe their experiences, share ideas, analyse, decide and plan what to do about their problems. It is important to find the organisational structures among pastoralists that can be used as channels of communication between them and extensionists. Such a structure is offered by the *adakar* groups among the Turkana: nomadic households who have agreed to move in secure groups, with a recognised leader, in search of pasture and water. These groups are easiest to meet at wells when they water their animals. Pastoralists' decisions to vaccinate cattle on a large scale are made at this level. During the "parliament" or "tree of men" of each *adakar*, extension workers can discuss such issues as parasite control, range management or dam construction. Decisions are not always made immediately; the pastoralists like to "sleep on" some problems [and discuss them with family members?] and

return later with a decision about taking action. The Camel Development Project and the Paraveterinary Training Project have used the *adakar* groups as extension entry points.

21
Aronson, Dan. 1985. **Implementing local participation: the Niger Range and Livestock Project.** *Nomadic Peoples* 18: 67-76.
EP, Niger, Fulani, Tuareg, cultural aspects, natural resource management, planning
A critical assessment of the practice of participatory development in a joint project of the Government of Niger and USAID, implemented from 1978 to 1983. During project design, two consultant anthropologists traveled separately among the pastoralists (WoDaaBe Fulani and Tuareg) to elicit their perceived needs and ideas as to how a project could aid them. During implementation, a fulltime anthropologist supervised 4 field anthropologists and other project staff in studying pastoral production patterns and building pilot actions for change after thorough discussion with those who would be involved. It is concluded that the needs expressed by the local people depended greatly on the experience, interests, culture and, therefore, questions asked by the outsiders. The concept of wide participation in development decisions reflects western values of individuality and democracy, and may not fit with other value systems. It also assumes that all information is public, whereas concepts of privacy in other cultures may create barriers to communication. Finally, governments and "beneficiaries" often see different problems and needs, leading to different interpretations of participation. Anthropologists in development settings must be sensitive to the cultural variation and (mis)interpretation of "local participation" by all parties involved.

22
Ba, Abdoulaye; Balde, Demba; Ka, Aliou; Kone, Oumy Khaïry; Toure, Oussouby. 1993. **Etude socio-économique de la zone de Mbegge.** Dakar: Conseil des Organisations Non-Gouvernmentales d'Appui au Développement/Comité de Soutien aux Eleveurs de Khelcom. 67 pp. (Source: ARED, BP 5270 Dakar-Fann, Senegal)
EP, Senegal, Fulani, historical analysis, institutional analysis, land tenure, mapping, marketing, natural resource management, RRA/PRA results, situation analysis, water, women
Report on a study partly based on RRA/PRA methods to gain an overview of Fulani pastoralists' perceptions of their situation and future perspectives after a large part of the woodland reserve they used was "declassified" and granted by the Senegal Government to a Moslem brotherhood for groundnut production. One section is devoted to the situation of the Fulani women.
In order to identify important institutions in the remaining part of reserve, Venn diagrams were made. A mapping exercise gave an overview of water sources in and near the reserve; most were in the declassified area to which the pastoralists no longer have access. Calendars of change in use of natural resources reveal the drastic reduction in forage resources available to the herds. Diagrams were drawn to indicate the timing of and distance to markets for various crop and livestock products. Problem trees and ideas for action are presented, but it is not clear whether these were drawn up together with pastoralists. The report does not discuss the methodology and the experiences with it, but gives a clear picture of how "de-classification" of the reserve has greatly confined pastoral possibilities.

23
Barrow, Edmund. 1987. **Extension and learning: examples from the Pokot and Turkana, pastoralists in Kenya.** Paper prepared for IDS Workshop "Farmers and Agricultural Research: Complementary Methods", 26-31 July 1987, University of Sussex, Brighton, UK. 26 pp.
EP, Kenya, Pokot, Turkana, evaluation, extension, DELTA methods, indigenous knowledge, natural resource management, trees, workshops
Extension methodologies based on indigenous knowledge of pastoralists in arid and semiarid areas of Kenya. Two examples of a participatory problem-solving approach using local knowledge to solve natural resource management problems and guide official policy: 1) range management project with the Pokot in Baringo District, where DELTA methods were applied in workshops involving elders and leaders to look at issues affecting range management, examine the benefits and possible pitfalls in group ranching, and seek ways of avoiding or reducing the dangers of these pitfalls; 2) social forestry project among the Turkana (fuller and more recent account given below).

24
Barrow, Edmund. 1991. **The challenge for social forestry extension work in pastoral Africa**. *Social Forestry Network Paper* 12e. London: ODI. 36 pp.
EP, Kenya, Turkana, extension, indigenous knowledge, institutional analysis, natural resource management, process approach, social organisation, trees, workshops

In a forestry project with Turkana herders in northern Kenya, a greater feeling of local responsibility for natural resource management could be achieved through action-oriented dialogue. The project staff first held informal discussions with different target groups in order to gain a broad grasp of local knowledge and issues and to establish rapport. At one-week District workshops involving various target groups and levels (chiefs, assistant chiefs, elders, women's group leaders, teachers, extension staff), the following topics were then discussed: government and traditional rules about trees, fuelwood and charcoal production, use of timber, clearing woodland, tree planting and management. Discussions were organised first in small groups, also during field visits, and then in plenary sessions where a consensus was reached about specific problems and possible solutions. The discussions built on the Turkana's own knowledge of woody vegetation and were designed to raise their awareness of problems facing these resources and to identify potentials for action. Local leaders were trained to facilitate similar, location-specific discussions at several one-day workshops in the villages, where foresters documented the observations and recommendations of the villagers. More details about workshop and training methods are not given. The village discussions revealed the existence of indigenous strategies as well as institutions for natural resource management, which could take on responsibility for implementing development activities. On the basis of this experience, it is argued that reinforcing local control and social organisation is much more important for development in arid and semiarid lands than technical interventions and infrastructure.

25

Barrow, Edmund. 1991. **Evaluating the effectiveness of participatory agroforestry extension programmes in a pastoral system, based on existing traditional values: a case study of the Turkana in Kenya.** *Agroforestry Systems* 14: 1-21.

EP, Kenya, Turkana, aerial photographs, evaluation, extension, indigenous knowledge, natural resource management, trees, workshops

Shows the possibilities and difficulties of data gathering for evaluating a participatory extension programme involving over 6000 pastoral people in Kenya, in the light of their mobility, lack of a sampling frame and large distances in a dry environment. Quick annual surveys with 6 pre-coded questions put in an open-ended manner by Turkana-speaking enumerators, combined with other informal data-gathering methods (discussions with key informants, assessment of aerial photographs and survey results from other departments), revealed that change is occurring particularly in attitudes, reflected in such action as the protection of naturally regenerating trees.

26

Bayer, Wolfgang. 1988. **Ranking of browse species by cattlekeepers in Nigeria.** *RRA Notes* 3: 4-10.

EP, Nigeria, Fulani, ranking, RRA/PRA methods, trees

Report from a livestock systems research programme carried out by ILCA (International Livestock Centre for Africa) among Fulani agropastoralists in the subhumid zone. Outlines the procedure by which the Fulani identified and ranked browse species important for their cattle, and the methods of making a rapid survey of the browse on offer in different vegetation/landuse types (upland range, fallow land, cultivated fields, riverine areas, shrubland). Possible ways of improving the ranking exercise are discussed. In a later comment (*RRA Notes* 5, p 5) Barbara Grandin suggests that the pastoralists be given the freedom to decide on the number of categories into which to divide the species, as this results in logical groupings according to the pastoralists' own criteria.

27

Bollig, Michael. 1994. **The application of PRA methods to the study of conflict management in a pastoral society.** *RRA Notes* 20: 151-153.

EP, Kenya, Pokot, conflict management, research methods, social organisation

On the use of case studies to investigate conflicts. Diagramming exercises can reportedly be used to explore issues of authority, norms and sanctions, but it is not made clear if and how this was actually done.

28

Bourbouze, Alain. 1993. **Bilan des expériences de gestion des terroirs et des ressources naturelles au nord de l'Afrique (Mauritanie, Maroc, Algerie, Tunisie, Egypte): rapport de synthèse.** Montpellier: Centre International de Hautes Etudes Agronomiques Méditerranéennes. 28 pp.

EP, Algeria, Egypt, Mauritania, Morocco, Tunisia, communication, land tenure, natural resource management, social organisation

Overview of experiences in landuse planning in North Africa based on studies in 5 countries. Outlines the historical importance of traditional land-management systems, causes of their disintegration and present natural resource management (NRM) projects in the region. Strong participation of pastoralists was found only in Mauritania, where women played a decisive role in dune-fixation activities and where local management committees and agreements to assume responsibility in combatting desertification were reportedly successful. Some projects in Morocco involved pastoralists in a "consultation" role. On the whole, however, the author notes

a lack of interest by State administrators in relinquishing decision-making powers to local people. He recommends the following approach: study indigenous NRM institutions; define project zones small enough to allow effective participation by local people; identify stakeholders; use Metaplan workshop methods to facilitate communication between all parties concerned; stimulate parallel dialogues with subgroups (young/old, men/women, dominant/dominated) with visual aids to animate discussion about proposed activities; train local facilitators to keep up this communication process; commence simple short-term activities as soon as possible to improve rapport and situation diagnosis; establish contractual agreements between the communities and State services for longer-term activities such as range protection, reforestation and runoff control.

29

Braganca, Anabela. 1994. **Livestock rehabilitation programme in Mozambique.** *RRA Notes* 20: 157-162.
EL, Mozambique, diagramming, historical analysis, institutional analysis, restocking, RRA/PRA methods, semistructured interviews, wealth ranking
A 10-day PRA in one village was the research team's first experience with these methods. Wealth ranking, informal interviews, matrix ranking, Venn diagrams and a historical transect provided useful information for the team, including insights into how the population regarded VETAID's pre-war activities. This stimulated VETAID to review its policy. The report indicates the difficulties of working in a community disrupted by civil war, where many men had returned only recently and where women were mostly still absent. This made it particularly difficult to investigate gender-related activities (eg. goat and poultry keeping).

30

Catley, Andy. 1994. **Report on ActionAid-Somaliland Animal Health Programme, Sanaag Region, March 1993-February 1994.** Midlothian: VETAID. 24 pp.
EP, Somaliland, animal health, economic aspects, indigenous knowledge, monitoring, paravets, ranking, RRA/PRA results
Annual report which refers to experiences in using PRA tools with herders in Somaliland. Direct matrix ranking of animal diseases gave some idea about their symptoms, effects and the relative importance of the economic losses felt by pastoralists, particularly in the case of animals that are weakened but do not die. Mention is made of a topical PRA to improve understanding of tick ecology, tick infestation and tick-borne diseases, but it is reported in a separate paper which could not be obtained for this review. The project also plans to use PRA tools such as disease ranking to monitor the animal health programme.

31

Conway, Gordon; Husain, Tariq; Alam, Zahur; Alim Mian, M. 1987. **Rapid Rural Appraisal for sustainable development: experiences from the northern areas of Pakistan.** Paper presented at IIED Conference on Sustainable Development, 28-30 April 1987, London. 30 pp.
EL, Pakistan, diagramming, direct observation, forage, labour, mapping, RRA/PRA methods, secondary data review, semistructured interviews, situation analysis, women, workshops
A suite of RRA methods (secondary data review, direct observation, conceptual tools such as maps and diagrams, semistructured interviews and analytical workshops) were applied within an existing project of the Aga Khan Rural Support Programme. Analysis was done by the multidisciplinary team of project workers. Also a topical RRA into livestock feeding is described, which revealed the strong interdependence between grain farming and livestock (feeding of crop thinnings, weeds, straw and grain) and gender-differentiated labour constraints. Good example of involving project staff in systematic analytical studies to revise their misconceptions about the production system and to allow them to draw hypotheses about innovations likely to be of interest to the animal-keepers (who thus participate only indirectly in the planning).

32

Cooper, Louise; Gelezhamstin, Narangerel. 1994. **Historical matrices: a method for monitoring changes in seasonal consumption patterns in Mongolia.** *RRA Notes* 20: 124-126.
EP, Mongolia, food consumption, historical analysis, matrix scoring, monitoring, RRA/PRA methods
Reports on the use of seasonal consumption matrices to evaluate the impact of economic liberation on consumption patterns among Mongolian pastoralists. Informants from wealthy and poorer households were asked to name foods consumed in the past year and to give each food item a score against each month. This was repeated for a 12-month period 5 years ago, and the patterns were compared. It is not clear whether the informants were involved in discussing the comparison and drawing their own conclusions.

33

Cooper, Louise; Gelezhamstin, Narangerel. 1994. **Pastoral production in Mongolia from a gender perspective.** *RRA Notes* 20: 115-123.

EP, Mongolia, labour, mapping, matrix scoring, RRA/PRA methods, semistructured interviews, wealth ranking, women
Explains the use of matrices and mobility mapping for gathering information on seasonal labour allocation, daily time use and mobility. These methods were applied after wealth ranking and semistructured interviews, mainly with women. The matrices revealed how the women viewed their various tasks (easy, time-consuming, enjoyable etc) and how capable they felt to perform them. Mobility mapping of where, why and how often people travel from their home bases revealed the great differences between destination, distance, frequency and seasonality of men's and women's movements.

34
Cornwall, Andrea. 1993. **PRA methods for livestock issues: adaptations from PRA in health and agriculture.** 7 pp. (Source: VETAID, Centre for Tropical Veterinary Medicine, Easter Bush, Roslin, Midlothian EH25 9RG, UK)
EP/EL/PP, animal health, animal husbandry, RRA/PRA methods
Brief description of how PRA methods used in investigating other issues can also be used in livestock systems. Covers semistructured interviewing, mapping, institutional analysis (Venn diagrams), investigating changes over time (calendars, timelines, individual histories etc), and finding out preferences and proportions (matrix scoring, ranking, proportional piling). Much of this manuscript has been incorporated into Kirsopp-Reed (1994).

35
Cullis, Adrian. 1994. **Ranking with *shagaa* in Mongolia.** *RRA Notes* 20: 87-88.
EP, Mongolia, analytical game, animal husbandry, historical analysis, ranking, RRA/PRA methods
A combination of the time-trend and proportional-piling methods, using animal bones commonly used by Mongolian pastoralists in games. Proved useful in illustrating trends in winter livestock losses over the last 10 years and providing a basis for discussion with and among the pastoralists.

36
Cullis, Adrian; Pacey, Arnold. 1992. **A development dialogue: rainwater harvesting in Turkana.** London: Intermediate Technology Publications. 126 pp.
EP, Kenya, Turkana, animal traction, institutional analysis, natural resource management, process approach, social organisation, water
Frank account of the history of development projects in the Turkana region of northwest Kenya. In 1979/80 livestock numbers were drastically reduced by drought and disease, causing severe famine. The subsequent "food-for-work" programmes were partly successful but various attempts to improve the situation by offering alternatives (fishing and farming) were not. Fishing boomed for several years, but because of overexploitation induced by using "improved" catching techniques, catches dropped to levels lower than before the project started. Water harvesting looked promising, but the imported technology proved to be poorly adapted to the local situation.
Project staff with long experience in the area observed that sorghum gardens to supplement animal produce were mainly at sites of natural "water-harvesting". Intensive dialogue with the Turkana led to modifications in the water-harvesting techniques to suit their situation. Perhaps more important than the technical success was the institutional success: the local people organised themselves to identify problems, derive solutions and implement joint action. Rather than creating artificial social groupings, the project sought to understand and strengthen existing institutions. The approach did not involve rapid methods but rather unhurried dialogue, resisting donor pressure for tangible results by fixed target dates and depending on good relations of project staff with the pastoral community.

37
Devavaram, John. 1994. **Evaluation of a community-based buffalo project in Tamil Nadu.** *RRA Notes* 20: 133-137.
EL, India, animal husbandry, calendar, evaluation, livelihood analysis, mapping, restocking, RRA/PRA methods, semistructured interviews
PRA methods were incorporated into a mid-term evaluation of a buffalo restocking project in India. Semistructured interviews provided the most information about the project's weak points. Seasonal calendars revealed the high employment potential, leaving little time for livestock care. Livelihood analyses revealed sources of income and their relative importance. In a second evaluation of the same project, villagers were no longer willing to "play PRA games" (draw resource maps), feeling it was a waste of time because the recommendations of the first PRA had not been acted upon.

38
Devavaram, John; Nalini; Vimalnathan J; Abdul Sukkur; Krishnan; Mayandi AP; Karunanidhi. 1991. **PRA for rural resource management.** *RRA Notes* 13: 102-11.
EL, India, forage, natural resource management, RRA/PRA methods, training, trees
Highlights of a PRA training workshop conducted by SPEECH (Society of Peoples' Education and Economic Change) in Tamil Nadu, describing interactions with villagers while using various PRA methods. Includes making a chart of fodder for different animals, with collection of fodder samples. A diagram was made of the seasonal availability of fodder, leading to discussions of fodder storage and preservation. Various trees were ranked according to their importance for feeding livestock and for other purposes.

39
Dia Y; Ba O; Cisse Y; Dione M; Kane CT; Diagne MI; Magassa H; Camara A. 1991. **Etude d'un plan d'aménagement et de gestion de la zone agro-pastorale de M'Baniou.** Dakar: Projet SEN 87/027, Direction de l'Environnement, Ministère du Tourisme et de l'Environnement, République du Sénégal. 151 pp.
EP, Senegal, calendar, historical analysis, institutional analysis, mapping, natural resource management, ranking, RRA/PRA results, semistructured interviews, transect
Report on study using RRA methods to work out a plan for the development and integrated management of natural resources at village level in an agropastoral area of Senegal. Main methods used were village mapping, historical village profiles, Venn diagrams, labour calendars, matrix ranking, wealth ranking, transects and semistructured interviews. The results taken from various villages are presented. Numerous hypotheses for development are listed by the interdisciplinary team, and four areas for further work are identified: hydrogeological studies, water management for fauna conservation, establishing a botanical garden for endangered plant species, and regeneration of denuded soils. There is no description of how the RRA methods were applied or assessment of experience with them.

40
Drijver, Carel. 1990. **People's participation in environmental projects in developing countries.** *Dryland Networks Programme Issues Paper* 17. London: IIED. 17 pp.
EP, Cameroon, Kenya, Niger, Fulani, Maasai, Mousgoum, Tuareg, nature conservation
In participatory environmental projects, local people have a decisive say in the project's objectives, design and implementation. Three environmental projects are classified according to social and functional reach of participation, decision-making power of participants, direction of participation (including opposition) and motivation of participants. All the case studies involve livestock-keepers: Mousgoum agropastoralists in Waza National Park in Cameroon, Maasai herders in Amboseli National Park in Kenya, and transhumant Fulani and Tuareg in Guesselbodi, Niger. Waza is an example of centralised, nonparticipatory planning. Ambolesi was based heavily on promises of financial advantages for the Maasai, not honoured by the Government, and on negotiation with local elites rather than the actual users of the grazing and water resources. Guesselbodi involved only settled male villagers in planning, but with little decisive power, and excluded women and transhumant herders. It is concluded that environmental scientists must develop "social skills" and learn to do participatory field research together with the local resource users.

41
Ejigu Jonfa; Haile Mariam Tebeje; Tadesse Dessalegn; Hailu Halala; Cornwall, Andrea. 1991. **Participatory modelling in North Omo, Ethiopia: investigating the perceptions of different groups through models.** *RRA Notes* 14: 24-25.
EL, Ethiopia, mapping, modelling, natural resource management, RRA/PRA methods, water, women, youth
When separate groups of men, women and children made maps of the area used by the village, the results differed according to the emphases and areas for intervention the groups wanted to point out to outsiders. The men depicted only farmland and discussed the lack of grazing land; the children, unaware of the agendas of their elders, showed the grazing areas; the women focused on concerns of water availability. PRA maps are "motivated representations" of reality, and give different age and gender groups the opportunity to express their concerns.

42
FARM-Africa; IIED. 1991. **Farmer participatory research in North Omo: report of a training course in Rapid Rural Appraisal.** London: FARM-Africa / IIED. 102 pp.
EP, Ethiopia, animal husbandry, calendar, diagramming, erosion control, forage, labour, land tenure, mapping, natural resource management, progeny history, ranking, RRA/PRA methods, training, transect, water
First in a series of RRA reports from FARM-Africa's Farmer Participatory Research Project in southern Ethiopia. RRA methods were applied to gain an overview of land use, land tenure, human settlement,

infrastructure and services, crop production, livestock production, human diet, marketing, income sources, soil and water conservation, forestry and role of women. The main emphasis of this and FARM-Africa's subsequent RRA reports is on arable farming, but the methods applied in investigating livestock components (maps, transects, ranking, forage and disease calendars, nutrient flow diagrams) provide some ideas for work in more extensive pastoral systems to find out about proportions of animal species in herds, livestock diseases and mortality, grazing areas, feed and water supply, grass sales, enclosure, functions and products of livestock (including manure), livestock prices, migration and labour inputs in livestock-keeping and other agricultural activities. Exploring progeny history to obtain data on herd productivity is described here as "interviewing cows" (see Kassaye et al 1992).

43

Fernandez, Maria. 1986. **Participatory-action-research and the farming systems approach with highland peasants**. *Technical Report* 75. Columbia: CRSP-SR, University of Missouri. 33 pp.

EL, Peru, animal health, animal husbandry, indigenous knowledge, labour, research methods, technology development, women

Although dealing with animal-keeping peasants in Peru, the approach and methodology may be of use for planning with pastoralists. Participatory Action Research is based on the premise that, if the people affected by problems define them and study their causes, they can design coherent strategies to solve them. The 8 examples of project activities show the difficulties in gaining the peasants' confidence (here the key person was the animal scientist, who could show how malnutrition increases parasite load in sheep), how local knowledge of treatment against ectoparasites was discovered, and how women brought other issues such as human nutrition and birth control into the livestock-oriented project. Also the limitations to traditional knowledge became obvious, as in the case of liverfluke, where the peasants did not understand how it was transmitted.

44

Fernandez, Maria. No date. **Women's agricultural production committees and the participative-research-action-approach.** Columbia: CRSP-SR, University of Missouri. 8 pp. (Source: CRSP-SR, University of California, Davis CA 95616-8700)

EL, Peru, animal health, animal husbandry, indigenous knowledge, research methods, social organisation, technology development, women

Report on research in collaboration with the Peruvian National Institute for Agricultural Research and Extension and the Grupo Yanapai. Describes how women's groups in Mantaro Valley identified problems in small ruminant production, proposed and tested solutions (eg. for tick control), evaluated the results of their trials and incorporated the innovation into their animal husbandry practices. However, the methods by which the women collected and analysed data about the situation, prioritised their problems and planned their activities are not specified.

45

Fortmann, Louise. 1985. **Range management at the grassroots: some hows and whys of local participation.** In: White LD; Tiedemann JA (eds), *Proceedings of the 1985 International Rangeland Resources Development Symposium, Salt Lake City* (Pullman: Washington State University), pp 1-10.

EP, Botswana, Kenya, Tanzania, historical analysis, natural resource management, research methods, secondary data review, social organisation

Based on experience in south and east Africa, this paper illustrates how research into three important factors led to the design of range management advice: the historical and seasonal aspects of range use, the social organisation of space and property, and the social organisation of production. A basic assumption is that the way animal-keepers use the range is a form of management. "Management consists not of a grand and imposing plan but of myriad little acts which may combine to maintain a resource." The author then considers the kind of behaviour of range advisors in the field that can elicit local participation in project planning and implementation. Pastoralists must be recognised as colleagues whose expertise is crucial for identifying problems and formulating acceptable range management advice. Emphasises the time needed to achieve project success: time to read both academic research and government documents; time to listen to people (not just government officials, extensionists, local leaders and wealthier stock-owners, but also poor households, herders, women etc); and as much time as possible living where the pastoralists are. "Unhurried and repeated field time must be budgeted into the project."

46

Gentil, D; Marty, André. 1979. **Intensification de l'élevage pastoral sahélien: les expériences de Tchintabaraben (Niger) et de la 6ème Région du Mali.** In: Billaz R; Dufumier M (éds), *La Recherche-Développement appliquée à l'agriculture tropicale et méditerranéenne semi-aride: objectifs, conditions et*

méthodes: analyses à la lumière de cinq expériences. Montpellier: DGRST Comité Lutte contre l'Aridité Tropicale. pp 173-200.
EP, Mali, Niger, Tuareg, conflict management, experimentation, monitoring, natural resource management, pasture improvement, process approach, restocking, situation analysis, social organisation
In two projects with mainly Tuareg pastoralists, after improvements in animal health and water availability, the focus was directed to improving animal nutrition through better range management and use of pastoral space.

The Nigerien pastoralists suggested harvesting good pasture species in underexploited areas and resowing them in degraded areas put under protection. After numerous meetings, they eventually formed a territorial association to manage the improved area. The results of the experiment with enclosure were discussed by pastoralists and technicians to make improvements and define new activities. Relations between pastoralists and technicians gradually changed from informal discussions to (verbal) contractual agreements to divide tasks and responsibilities. Group discussions were dominated by the leaders; other groups, eg. women, even if interviewed separately, did not contradict the "official" view.

The approach in Mali is described in Marty (1975). The process of reviving the cooperative was accompanied by numerous discussions between pastoral leaders and project staff to monitor progress and correct course. Parallel to this, the staff monitored how loans for herd reconstitution given by the cooperative were used, collected proverbs and sayings which revealed pastoralists' attitudes, and recorded various socioeconomic indicators such as participation in meetings and decision-making. The project consisted of a continuous process of negotiation between pastoralists and fieldworkers in repeated cycles of situation analysis, planning actions or simple experiments, implementing them and evaluating the results.

47
Ghirotti, M. 1994. **Rapid appraisal techniques: a tool for planning and managing animal health and production development programmes.** *RRA Notes* 20: 78-86.
EP, Ethiopia, Guatemala, Namibia, Zambia, animal health, animal husbandry, planning, RRA/PRA methods, workshops
Describes steps taken in a rapid appraisal to provide a quick, systematic and cost-effective picture of livestock conditions and veterinary problems, especially in agropastoral systems. Largely in the RRA mode (ie. pastoralists participate by providing information to outsiders) but does include a feedback session with the community to discuss and confirm the results and possible solutions interpreted by the appraisal team. A longer version of this paper appeared in *World Animal Review* 77 (1993) 4: 26-37.

48
Grandin, Barbara. 1983. **The importance of wealth effects on pastoral production: a rapid method for wealth ranking.** In: *Pastoral systems research in sub-saharan Africa* (Addis Ababa: ILCA), pp 237-256.
EP, Kenya, Maasai, RRA/PRA methods, wealth ranking
Discusses the effect of wealth differences among pastoralists on their production strategies, and describes a quick way to determine the relative wealth of producers within a community. This is an important tool for stratifying a population and targetting further research and development activities. It can also be used at a later stage to assess the representativeness of pastoralists involved in a development programme. Includes a case example of application in Maasailand.

49
Grandin, Barbara. 1992. **Consultancy report on PRA/RRA training undertaken as part of the Community Natural Resources Management Project.** *Technical Assistance Report* 1. Ministry of Agriculture, Coops & Marketing, Government of Lesotho and USAID. 39pp + appendices. (Source: F Johnston, see Annex C)
EP, Lesotho, forage, planning, natural resource management, ranking, RRA/PRA methods, training
Report on short-term consultancy focused on applying PRA/RRA methods in community-based planning and development. The training workshop involved staff of the Lesotho Community Natural Resources Management Project and the Ministry of Agriculture Range Management Division, who did practical fieldwork in four Range Management Associations. Outlines the preparations for the workshop, the methods used to define information needs, the training methods used and the field activities undertaken. Includes a brief presentation of the fieldwork findings and a review of the lessons learned from the workshop and fieldwork. Recommendations are made for future use of PRA/RRA methods within the project. The importance of flexibility in applying the methods is underlined by examples of how they were adjusted during fieldwork to fit the interests and skills of the villagers and the PRA trainees. Useful insight is given into important variations in "standard" PRA methods, eg. the subdivision of forage ranking according to cattle's preference in different seasons.

50
Grandin, Barbara; Young, John. 1994. **Collection and use of ethnoveterinary data in community-based animal health programs.** In: McCorkle C; Mathias-Mundy E; Schillhorn van Veen TW (eds), *Ethnoveterinary research and development* (in press). 24 pp.
EP, Kenya, Pokot, Samburu, animal health, indigenous knowledge, paravets, RRA/PRA methods
Focuses on the collection and use of ethnoveterinary data in the context of community-based animal healthcare programmes in Kenya in pastoral and settled farming areas (Samburu, Pokot, Meru, Machakos). Step-by-step guide to collecting background information, eliciting disease names, and asking informants a list of questions about the individual diseases. Also indicates how the data were used in selecting and training animal health assistants. A shorter version of this was published under the title "Ethnoveterinary question list" in *RRA Notes* 20: 39-46 (1994).

51
Guijt, Irene. 1992. **Diagrams for village land use planning: how MARP can help to understand local resource use.** *Haramata* 18: 18-20.
PP, Burkina Faso, diagramming, erosion control, institutional analysis, land tenure, mapping, matrix scoring, natural resource management, planning, RRA/PRA methods
Brief note on course for participants from government and nongovernmental organisations to learn how PRA methods can be used as a basis for village landuse planning (*gestion des terroirs*). Mapping by men and women villagers showed areas of fallow, reforestation, grazing and enclosure. The maps served as a basis for discussing reasons for the location of grazing and erosion-control measures and the potential of different land types for degradation or regeneration. Social maps and Venn diagrams were used to identify land-borrowing families, local groups and committees, and foci of authority. The course participants judged mapping, matrix scoring, systems diagrams and Venn diagrams to be the most useful methods for learning about local resources, both natural and institutional, and for helping villagers plan how to manage their land.

52
Hadrill, David; Yusuf, Haroon. 1994. **Mapping of seasonal migrations in the Sanaag Region of Somaliland.** *RRA Notes* 20: 106-112.
EP, Somaliland, animal health, herd movements, historical analysis, mapping, paravets, RRA/PRA methods, semistructured interviews
PRA methods were used on an informal basis throughout the development programme during routine meetings with herders rather than during a planned structured appraisal. To find out about seasonal migration patterns of different groups of pastoralists in the area, the main methods used were semistructured interviews and individual case histories. Maps were drawn by project workers to summarise the results. One herder was asked to recall movements of his animals over the last 3 years. Another was asked first about general movement of herders and then where his own herd had been in the recent past. Herd movements differed according to type of animal (small ruminants, camels). The authors reflect that the research was more informative than participatory, as the herders were not given a chance to join in designing the development programme. However, the PRA methods did give project staff a more realistic basis on which to plan their work.

53
Hadrill, David; Yusuf, Haroon. 1994. **Seasonal disease incidence in the Sanaag Region of Somaliland.** *RRA Notes* 20: 52-53.
EP, Somaliland, animal health, calendar, paravets, RRA/PRA methods
As one of several means to collect information, the management team of an ActionAid/VETAID programme drew a seasonal disease calendar with a village elder and a group of interested herders, based on the local calendar. The information was used to plan a Primary Veterinary Assistant training programme. Both articles by Hadrill & Yusuf were drawn from Hadrill's end-of-contract report on the Sanaag Livestock Health Programme (21 pp + 28 pp annex, available from VETAID).

54
Heffernan, Claire. 1994. **Livestock healthcare for Tibetan agropastoralists: application of Rapid Rural Appraisal techniques.** *RRA Notes* 20: 54-57.
EP, Tibet, animal health, cultural aspects, indigenous knowledge, ranking, RRA/PRA methods, semistructured interviews
The RRA focused on knowledge of livestock diseases and healing among agropastoralists in the Himalayas. Most information was derived from open-ended interviews with individual herders and key informants with specialist knowledge of livestock care. Disease ranking was meant to give insight into herder perception of the importance of different diseases, but household informants gave priority to a disease which was most common at

the season of the study and which they felt most comfortable talking to strangers about, as it has no spiritual associations. Key informants ranked diseases very differently. This indicated that disease ranking data cannot always be taken at face value, and cultural reasons for mentioning certain diseases may have to be sought.

55
Holden, Sara J; Tanner JC; Dampha K; Jallow A. 1992. **Seeking innovation in the Gambia: an opportunist approach to change.** In: Daniels PW; Holden S; Lewin E; Sri Dadi (eds), *Livestock services for smallholders: a critical evaluation of the delivery of animal health and production services to the small-scale farmers in the developing world*. Proceedings of an International Seminar held in Yogyakarta, Indonesia, 15-21 November 1992. pp 146-149.
EL, Gambia, animal traction, direct observation, forage, indigenous knowledge, innovation, research methods, semistructured interviews
A team of scientists (socioeconomist, animal nutritionist, veterinarian) with the International Trypanotolerance Centre used semistructured interviews and observations during the wet, post-harvest and dry seasons to seek local innovations in livestock management. They discovered innovations in crop-residue storage and sale, strategic feeding to minimise stock mortality, and strategies of draft-animal replacement. This helped identify viable locally-adapted innovations which could be extended to other farmers. This "opportunist" approach stresses capitalising on strengths of local farmers rather than the problem-oriented approach of minimising weaknesses in livestock production. It is an indirect method of involving innovative livestock-keepers in guiding research and extension content.

56
IIED; Oxfam; VETAID; Intermediate Technology. 1994. **Special issue on livestock**. *RRA Notes* 20. London: IIED. 172 pp.
EP/EL, animal health, animal husbandry, land tenure, natural resource management, RRA/PRA methods, situation analysis, social organisation
Includes 24 papers: 2 of a general nature; 5 each from Kenya and Mongolia; 2 from Somaliland; 1 each from Afghanistan, India, Nepal, Tibet, Botswana, Mozambique, Senegal, Zimbabwe and Mexico; 1 based on experience in Ethiopia, Guatemala, Namibia and Zambia; thus covering livestock RRA/PRAs from a wide geographical and sociocultural range. The case studies are grouped in 5 sections: animal health; animal production; natural resource management; socioeconomic dimensions; land tenure, conflict and institutions; showing the wide range of domains which can be studied with RRA/PRA methods.
Most of the papers deal with situation analysis and problem diagnosis. In the editorial, Cathy Watson and Adrian Cullis stress that PRA data collection potentially gives local communities greater access to and control over the process of analysis in which development workers are engaged. However, "PRA is only as participative as the remainder of the process into which it fits." Several projects used RRA/PRA methods to involve pastoralists in providing information, but did not involve them directly in analysing the results and planning action. PRA theory encourages flexibility and adaptability, but Watson & Cullis point to the danger of a "new orthodoxy" leading to rigid application of predefined methods. (Individual papers in this issue of *RRA Notes* are abstracted separately in this bibliography.)

57
Iles, Karen. 1994. **The progeny history data collection technique: a case study from Samburu District, Kenya.** *RRA Notes* 20: 71-77.
EP, Kenya, Samburu, extension, progeny history, RRA/PRA methods
Outlines how to record progeny history, including background information required and question list, and gives an example of a progeny history done by extension workers in Samburu District. This is a quick way to collect information on livestock productivity and help project planners to pinpoint potential problems. However, the data is taken away and analysed with the aid of a computer, not together with the pastoralists.

58
Kassaye Hadgu; Mohammed Yisehak; Girmey Tekle. 1992. **Interviewing cows.** *RRA Notes* 15: 52-53.
EP, Ethiopia, animal husbandry, progeny history, RRA/PRA methods
Very brief excerpt from a report on an RRA exercise in southern Ethiopia, suggesting how information on fertility and mortality rates, disease incidence and livestock management practices in an extensive livestock production system can be gathered by asking livestock owners about the calving history of cows and the fate of their calves.

59
Kerkhof, Paul. 1990. **Agroforestry in Africa: a survey of project experience.** London: Panos. 216 pp.

EP, Burkina Faso, Kenya, Niger, Zimbabwe, Fulani, Turkana, GRAAP methods, natural resource management, planning, semistructured interviews, situation analysis, trees, workshops
Survey of 21 agroforestry projects in Africa, some of which involve pastoralists. Participatory approaches to planning include: Community workers in Zimbabwe interviewed 30-40 people in a village to learn how they perceive woody resources, presented the findings at a village meeting for discussion and drew up a woodland management plan together with the villagers. In Burkina Faso, GRAAP methods were applied, first in small groups according to sex and age, then in village meetings, to stimulate discussion about environmental problems. Where villagers recognised a need for tree growing, they chose someone to be trained in relevant techniques to help the other villagers. In Kenya, in a series of workshops at district and divisional level, Turkana chiefs, local officials and the Forest Department agreed on action to protect the natural vegetation, including new legislation integrating traditional Turkana rules and modern laws (see also the various articles by Barrow). In Niger, villagers around the Guesselbodi Forest became interested in the forest project only after a village cooperative was given rights to sell wood and hay from the forest.

Kerkhof concludes that projects which started with focused diagnostic surveys, using informal interviewing methods to seek peoples' attitudes and priorities, were better able to design useful projects relatively quickly than those which did more conventional socioeconomic baseline surveys or the many projects which did no initial survey at all. With a view to project success and sustainability, it was favorable to involve extension staff in situation analysis and project design as an integral part of the project, rather than having this work done as a separate exercise, often by external consultants.

60
Kirsopp-Reed, Kate. 1994. **A review of PRA methods for livestock research and development.** *RRA Notes* 20: 11-36.
EP/EL, diagramming, direct observation, indigenous knowledge, institutional analysis, livelihood analysis, mapping, matrix scoring, progeny history, ranking, RRA/PRA methods, semistructured interviews, transect
Good overview of selected PRA methods that are either used or potentially applicable with livestock keepers: direct observations, semistructured interviews (including "interviewing cows"), animal case histories, ethnoveterinary questions, models, resource and mobility mapping, transects, diagrams (including system analysis, flow, Venn, network, problem and solution, decision trees, livelihood analysis), investigation of change over time (calendars, activity profiles, timelines, time trends, historical maps and matrices), wealth ranking, preference ranking, matrix scoring and proportional piling. Summarises the wide range of livestock production data that can be gathered using these methods, as well as information on the wider economic and social systems of which livestock-keepers are a part.

61
Leyland, Tim. 1992. **Participatory Rural Appraisal in Afghanistan.** In: Daniels PW; Holden S; Lewin E; Sri Dadi (eds), *Livestock services for smallholders: a critical evaluation of the delivery of animal health and production services to the small-scale farmers in the developing world.* Proceedings of an International Seminar held in Yogyakarta, Indonesia, 15-21 November 1992. pp 140-143.
EP, Afghanistan, animal health, paravets, planning, RRA/PRA results, situation analysis
Condensed version of the report below, with emphasis on wealth ranking and investigation of livestock disease problems. The understanding of the local situation and the good working relationship built up with the community gained through PRA helped design paravet training courses which incorporate traditional veterinary practices and the use of ranking methods by illiterate village animal health workers to discover locally felt problems.

62
Leyland, Tim. 1992. **VETAID / Health Unlimited Animal Health Care Project, Afghanistan.** In: Young, John (ed), *ITDG Village Animal Healthcare Workshop: the case studies* (Rugby: ITDG), Appendix 4, pp 13-18.
EP, Afghanistan, animal health, livelihood analysis, paravets, planning, RRA/PRA methods, semistructured interviews, situation analysis, wealth ranking
A 3-month PRA to explore indigenous knowledge and agricultural problems in Daye Chopan district in southeast Afghanistan brought to light a severe animal health problem, affecting the poorest members of the community (transhumant camel- and goat-keepers) most seriously. PRA tools were used to discover decision-making processes, problems of different wealth groups, and physical and cultural constraints. Semistructured interviews formed the crux of the survey. Wealth ranking helped identify how problems and production priorities were related to wealth, and provided useful background information for follow-up discussions on livelihoods, vulnerability and available options. Diagrams were not useful, as the people found it much more difficult to express themselves graphically than verbally. The community was encouraged to analyse their problems and

plan activities but, because of the civil war and the breakdown of traditional decision-making bodies, the ultimate decisions were nearly always made by the Mujihedeen commander. Farmers and shopkeepers (selected by the community) will be trained in the use of basic animal medicines for the most serious diseases. Pictograms will be used by illiterate Basic Veterinary Workers to record medicines used and cases seen.

63
Leyland, Tim. 1994. **Planning a community animal health care programme in Afghanistan.** *RRA Notes* 20: 47-51.
EP, Afghanistan, animal health, forage, paravets, planning, ranking, RRA/PRA results
Same project as above. The diseases ranked as most important by settled and transhumant livestock-keepers were included in the curriculum for training paravets. Fodder ranking helped identify advantages and disadvantages of different wild plants collected for winter-feeding goats. Although community decision-making is still largely dominated by Mujihadeen leaders, the interaction with farmers during the PRA helped establish rapport between project and farmers. The Afghan paravets will now be given PRA training so that they can use these methods to monitor and evaluate their work.

64
Lightfoot, Clive; Noble, Reg. 1993. **A participatory experiment in sustainable agriculture.** *Journal for Farming Systems Research-Extension* 4 (1): 11-34.
PP, Malawi, diagramming, experimentation, mapping, natural resource management, research methods
Farmer mapping and modelling of bioresource flows between different enterprises in their farms, followed by exposure to another resource-use option (integrated fishponds) led to spontaneous farmer experimentation with this innovation and to transformation of their farm systems (more nutrient cycling, higher net incomes). Bioresource modelling was done in this case by smallholder farmers in Malawi, but may also be a useful tool for analysis by different resource-user groups, eg. crop farmers and pastoralists, of their interdependencies and complementarities. This would facilitate joint planning of mutually beneficial resource management.

65
Maranga, Stella. 1992. **Participatory information collection in Kenya and Zimbabwe.** In: Daniels PW; Holden S; Lewin E; Sri Dadi (eds), *Livestock services for smallholders: a critical evaluation of the delivery of animal health and production services to the small-scale farmers in the developing world.* Proceedings of an International Seminar held in Yogyakarta, Indonesia, 15-21 November 1992. pp 137-139.
EP, Kenya, Zimbabwe, animal health, evaluation, ranking, restocking, RRA/PRA methods, wealth ranking
Describes application of wealth ranking in the communal lands of Zimbabwe, livestock disease ranking in eastern Kenya, and success ranking of a pastoral restocking project in northern Kenya (see below).

66
Maranga, Stella. 1994. **Success ranking in Garba Tulla, Kenya.** *RRA Notes* 20: 142-143.
EP, Kenya, evaluation, ranking, restocking, RRA/PRA methods
Success ranking, an adaptation of wealth ranking, was used during evaluation of a restocking project in Isiolo District in northern Kenya. The aim was to determine individual households' level of success after restocking and to elicit local perceptions of success. The evaluation team could thus find out how many livestock the restocked pastoralists still had - the criterion most commonly used by local informants for success.

67
Marty, André. 1975. **Contribution à la relance des coopératives d'éleveurs en 6ème région (République du Mali).** Rapport de mission: mars-mai 1975 à MISEREOR. 125 pp + annexes.
EP, Mali, herd movements, labour, mapping, marketing, natural resource management, planning, process approach, social organisation, situation analysis, water
Report on a mission to plan the revival of pastoral cooperatives in the Gao area of Mali after the 1972-73 drought. The consultant acted as facilitator in a process of situation analysis by the pastoralists themselves, encouraging them to delve into the causes of problems and plan experiments to solve them. After making a map of waterpoints and principles routes of herd movement, a working group consisting of 3 local development agents, 12 pastoralists (chiefs and their counsellors) and the consultant investigated the functioning of the pastoral production system, the circulation of goods, the effects of the drought and the functioning of the cooperative. They made an inventory of present needs and drew up a plan for improving the cooperative to help meet these needs. A brief questionnaire survey was made of 15 "ordinary" pastoralists (ie. not leaders) to see whether their views and needs differed, but this did not appear to be the case. No effort was made to discover pastoral women's needs; indeed, in the description of the production system and organisation of labour, women do not seem to exist. A participatory planning approach of almost 20 years ago.

68
Marty, André. 1985. **La gestion des pâturages en zone pastorale (Région de Gao, Mali).** *Les Cahiers de la Recherche-Développement* 6: 22-24.
EP, Mali, Tuareg, experimentation, natural resource management, pasture improvement, process approach, social organisation
Report on an experiment in pasture management conducted with settled and nomadic pastoralists in northeast Mali since 1975. Through a long process of patient dialogue, it was possible for pastoral organisations and government services to jointly observe pasture conditions over the year, analyse constraints, plan activities, implement and evaluate them, and make appropriate readjustments. Older pastoralists could remember how pastures not grazed in the wet season could be used in the dry season. Also *Panicum laetum* areas, where fonio was collected in times of need, were disappearing. The pastoralists then started experimenting with a pasture management system based on twice-yearly meetings: one at the start of the rains to identify reserve areas of pasture and *Panicum laetum* , and one at the end of the rains to assess vegetation availability and needs and to decide whether and when to open up protected areas.

69
Marty, André. 1990. **Les organisations coopératives en milieu pastoral: héritage et enjeux.** *Cahiers Sciences Humaines* 26 (1-2): 121-135.
EP, Mali, Niger, Tuareg, process approach, social organisation, women, youth
Review of experience in promoting pastoral cooperatives in francophone West Africa, with groups based on either kinship or territory. The cooperatives are most effective in managing cereal banks and distributing food aid. In hierarchical societies such as the Tuareg, democratic decision-making is difficult to attain, although some evidence of youth and women exercising countervailing power is emerging. Pastoral organisations are in a good position to negotiate with government bodies and representatives of external markets, and are partners for development agents in analysing, planning, implementing, evaluating and replanning. This process approach to pastoral development demands firm but flexible commitment by donors, over a period of at least a decade and without quantitative objectives fixed in advance.

70
Marty, André. 1993. **La gestion des terroirs et les éleveurs: un outil d'exclusion ou de négociation?** *Revue Tiers Monde* XXXIV (No. 134): 327-344.
EP, Cameroon, Mali, Niger, conflict management, mapping, marketing, monitoring, natural resource management, planning, process approach, social organisation
Starts with a brief history of the marginalisation of mobile pastoralists as a result of State interventions, expansion of cropping and livestock-keeping by nonpastoralists, repeated droughts and greater linkage with international markets. The *"gestion des terroirs*" approach has generally led to further marginalisation, as a "terroir" is normally equated with a village of crop farmers. Doubt is cast on the usefulness of mapping and marking village boundaries in a Sahelian context where multiple and superimposed rights of use apply to the same area and where a group (not only of pastoralists) may make temporary use of several areas. Marty brings examples of exclusion of mobile pastoralists in projects in Cameroon and Niger, but also examples from Mali where clusters of farming villages and pastoral groups jointly manage the natural resources. Key aspects are recognition that pastural use confers legitimate rights to land, and recognition of interdependencies between crop farmers and pastoralists by jointly analysing the complementarities between their production systems. In the Kaarta area of Mali, commissions of farmers and pastoralists began by negotiating consensus, which led not to a fixed landuse plan but rather to frequent monitoring and re-negotiation in response to changing conditions. These commissions play an important role in settling disputes, and have gradually developed new activities, such as establishing drug depots and building vaccination areas. Marty concludes that rehabilitation of pastoralism depends not on making a plan but rather on strengthening institutions for decentralised negotiation.

71
Mearns, Robin; Bayartsogt, D. 1994. **Institution ranking and social mapping in rural Mongolia.** *RRA Notes* 20: 154-156.
EP, Mongolia, historical analysis, institutional analysis, mapping, ranking, RRA/PRA methods, social organisation
PRA methods were used to try to understand pastoralists' perceptions of the various formal and informal institutions which affect their lives. Social mapping of local institutions, an adaptation of the wealth-ranking method, identified pastoral organisations at different levels before, during and after the collectivisation period. Matrix ranking revealed how and why the different institutions are important to the pastoralists. This showed a

greater continuity of pastoral organisation at local level than expected, and helped planners recognise what institutions could take or are taking over functions of the former collectives.

72
Mearns, Robin; Shombodon D; Narangerel G; Turul U; Enkhamgalan A; Myagmarzhav B; Bayanjargal A; Bekhsuren B. 1992. **Direct and indirect uses of wealth ranking in Mongolia.** *RRA Notes* 15: 29-38.
EP, Mongolia, RRA/PRA methods, training, wealth ranking
Describes why and how wealth ranking was used in early stages of the research and training project "Policy Alternatives for Livestock Development" in Mongolia. Wealth ranking by card sorting served to 1) identify local criteria for distinguishing households according to wealth, status and power; 2) stratify the population so that subsequent research could be targeted by means of purposive sampling according to wealth class; and 3) train the research team. Wealth ranking was the most suitable method for convincing initially sceptical researchers of the value of PRA to deal with questions relevant for important economic policy decisions, as it yields quicker and better results than more conventional survey methods.

73
Mearns, Robin; Shombodon D; Narangerel G; Turul U; Enkhamgalan A; Myagmarzhav B; Bayanjargal A; Bekhsuren B. 1994. **Natural resource mapping and seasonal variations and stresses in Mongolia.** *RRA Notes* 20: 95-105.
EP, Mongolia, calendar, diagramming, historical analysis, mapping, ranking, RRA/PRA results, semistructured interviews, transect
Reports on case studies of two former brigades in mountain steppe and desert steppe areas, based primarily on semistructured interviews but also using wealth ranking, participatory mapping and transects, labour diagrams, preference ranking, production calendars, historical analysis and basic income/expenditures estimates. The emphasis of the paper is on the results obtained rather than a critical assessment of the methods used.

74
Michael Butler, Lorna; Winrock International Institute for International Development. 1994. **The training-of-trainers in Participatory Rural Appraisal (PRA) for community management of natural resources.** *Technical Assistance Report* 9. Dept of Livestock Services, Ministry of Agriculture, Government of Lesotho & USAID. 129 pp. (Source: F Johnston, see Annex C)
EP, Lesotho, focus groups, natural resource management, planning, RRA/PRA methods, semistructured interviews, training
Report on design and implementation of course for range management advisors in PRA methods for use with Grazing Associations (GA). The participants were expected to train GA committee members, thus promoting wider use of participatory planning methods by the local (primarily agropastoral) communities. The main methods taught were brainstorming, focus-group interviews, nominal group process and consensus (participants write cards with their ideas, which are then explained, merged and rated in importance by the entire group) and sensing interviews (semistructured interviews to "sense" individuals' needs, perceptions, attitudes, experience, or ideas). Details about these methods and how to apply them are given in appendices.

75
Mlenge, Wendelin; Johansson, Lars. 1992. **Empowering customary community institutions to manage natural resources in Tanzania.** Paper presented at SAREC workshop on People's Participation in Management of Natural Resources, 5 October 1992, Stockholm. Published under Johansson L & Mlenge W in *Forests, Trees and People Newsletter* 22 (November 1993): 36-42.
EP, Tanzania, indigenous knowledge, institutional analysis, natural resource management, RRA/PRA results, social organisation, women
A Tanzanian forest officer, inspired by methods learned in India, initiated a 6-week study using PRA methods in some villages in Bariadi District. The research team comprised local people (former chief, schoolteacher, youth leader, woman shopowner, community development woman). During their study of indigenous knowledge and practices, they identified a community assembly, the *dagashida*, which used to regulate access to natural resources but has lost authority since colonisation. The team requested that such assemblies be held to discuss environmental issues and that - contrary to custom - women be allowed to participate. During these meetings, villagers decided to place sanctions on blocking cattle tracks and drew up rules for collaboration in digging and maintaining shallow wells and regulating access to them. This action research led to the recognition and perhaps revival of a local institution for managing natural resources which is important, among other things, for livestock-keeping.

76
Mukherjee, Neela. 1994. **Livestock, livelihood and drought: a PRA exercise in Botswana.** *RRA Notes* 20: 127-130.
EP, Botswana, calendar, food consumption, forage, matrix scoring, ranking, RRA/PRA methods, semistructured interviews, training, trees
Note on PRA training conducted by the FAO Farming Systems Programme in northeast Botswana. Preferences for different types of livestock were expressed by means of matrix scoring. Semistructured interviews revealed the role of livestock in the farming system, particularly for manure and draft power. A food calendar showed the importance of animal products at times when the staple crops are scarce. Trees were ranked according to their suitability as fodder. The visual PRA methods helped in probing issues important to the villagers.

77
Niamir, Maryam. 1990. **Herders' decision-making in natural resources management in arid and semi-arid Africa.** *FTPP Community Forestry Note* 4. Rome: FAO. 126 pp.
EP, forage, indigenous knowledge, natural resource management, research methods, social organisation, trees
Although it has only a small section on methodology to investigate Local Knowledge and Management Systems (LKMS), this book is important for participatory approaches in livestock development. It summarises reports on pastoralists' indigenous knowledge in managing livestock and natural resources in Africa and shows the potential of LKMS for maintaining productivity of the range and of livestock. It helps to defuse many old prejudices about "irrational" pastoralists and, thus, to create more respect for their knowledge and skills - a prerequisite for participatory planning.

78
Njiforti H; Schrader T; Toornstra F. 1989. **LEARN: a methodological challenge for rapid environmental assessment.** In: Marchand M; Udo de Haes HA (eds), *The people's role in wetland management* (Leiden: Centre for Environmental Studies), pp 797-807.
EP, Cameroon, Kotoko, Mousgoum, Fulani, natural resource management, nature conservation, research methods, RRA/PRA methods, situation analysis
Introduces a research approach LEARN (Local Environmental Analysis and the Assessment of Rural Needs) designed to elicit local people's priorities and identify environmental problems and possible solutions in a cost-effective way. A deliberate distinction is made between how rural people perceive their environment, development constraints and opportunities, and how researchers perceive them. Gives example of how this approach was applied in a floodplain and a savanna village in the Waza Logone region of North Cameroon among semisettled pastoralists. A form of RRA focused on natural resource management, LEARN is primarily an example of data collection by outside researchers to allow them to make a better-founded analysis of local problems. However, it also recognises the ability of local people to made recommendations to solve problems identified during joint analysis.

79
Norman D; Baker D; Heinrich G; Jonas C; Maskiara S; Worman F. 1989. **Farmer groups for technology development: experience in Botswana.** In: Chambers R; Pacey A; Thrupp LA (eds), *Farmer first: farmer innovation and agricultural research* (London: Intermediate Technology Publications), pp 136-146.
EL, Botswana, animal traction, experimentation, extension, focus groups, social organisation, technology development
The Agricultural Technology Improvement Project set up different types of farmer groups to increase the participation of cattle-keeping farmers in identifying, testing and assessing new technologies. Design and focus-testing groups served as vehicles for organising researcher-designed trials to be implemented by selected farmers and for assessing the technologies during regular discussions by farmers. In the less formally structured options-testing groups, volunteer farmers chose from a range of options to test. In extension-oriented groups, village extension agents rather than scientists worked with farmers trying out new technologies and organised regular meetings to allow the farmers to present their work to each other. The trials involved primarily new tillage techniques with draft animals.

80
Perezgrovas, Raul; Peralta, Marisela; Pedraza, Pastor. 1994. **Sheep husbandry among Tzotzil Indians: who learns from whom?** *RRA Notes* 20: 69-70.
EL, Mexico, animal health, indigenous knowledge, research methods, women
Scientists learned about the efficiency of the indigenous sheep production system in the Chiapas, by living with the shepherdesses and helping them with their daily work in livestock care. This gave opportunities to ask

relevant questions and encouraged the scientists to respect indigenous knowledge. Such an experience is a prerequisite for partnership with pastoralists in planning development.

81
Prior, Julian. 1994. **Pastoral development planning.** *Oxfam Development Guidelines* 9. Oxford: Oxfam Publications. 150 pp.
EP, Somaliland, erosion control, natural resource management, planning, process approach, water
Report on a range management and erosion control project in Somaliland. Analyses participatory action rather than describing specific methods. Shows that pastoralists have their own agenda, including elements which should be supported and those which are more problematic, such as group egoism. For example, by instrumentalising a project supported by an outside NGO, one pastoral group tried to secure exclusive rights over land to which a number of groups have traditional claims. Similarly, women's rights and poverty alleviation may be of high priority for an NGO, but not for the powerful among the pastoralists. Indicates the importance of reducing vulnerability of pastoral communities, increasing the security of pastoralists' access to pasture and water, creating alternative employment, and developing adaptive social and political strategies rather than technological solutions. Whereas a small NGO project can have positive influence on a local level, replication of many small projects by NGOs which form a coalition appears necessary to have wide impact and influence government policy.

82
Quinney, Suzanne. 1994. **Applying PRA methods to participatory monitoring and evaluation: report on a course held in El Obeid, Sudan.** *RRA Notes* 19: 85-87 + 4 pp diagrams.
PP, Sudan, diagramming, evaluation, matrix scoring, monitoring, RRA/PRA methods, training
Report on a course for foresters in applying PRA tools in participatory monitoring and evaluation. It proved difficult to encourage development of a "PRA attitude" and to encourage the use of symbols rather than written words for visualisation (eg. in matrix drawn on the ground). The PRA tools most useful for evaluation were impact diagrams showing chains of effects of improved stoves, impact matrices to score different types of stoves according to local criteria, and evaluation matrices to generate discussion about the advantages and disadvantages of different forestry activities. With some imagination, adaptations of these tools could be used in participatory evaluation with pastoralists.

83
Roche, Chris. 1991. **ACORD's experience in local planning in Mali and Burkina Faso.** *RRA Notes* 11: 33-41.
EP, Burkina Faso, Mali, evaluation, extension, forage, GRAAP methods, monitoring, natural resource management, planning
Report on ACORD support to informal and formal groups of villagers, primarily agropastoralists, to strengthen their participation in local planning. In Mali this involved creating an "auto-evaluation" mechanism. GRAAP animation methods were applied to help villagers prepare a "fiche" or file for baseline data, a "fiche-action" with details of activities planned by the villagers, an agreement for dividing responsibilities between them and ACORD, and a "fiche de suivi" with indicators for joint monitoring and evaluation. An example is given of local criteria for evaluating riverine fodder-crop (*Panicum bourgou*) regeneration along the Niger River. Strengths and weaknesses of the planning approach are frankly discussed. In Burkina Faso, ACORD supports training of government extension workers and officials of rural organisations in applying GRAAP methods to help villagers identify problems, opportunities, misunderstandings and activities. Animation focuses on discussing solutions which villagers themselves can apply and aspects for which they think they need some support. ACORD assists villagers in project formulation, presentation and fund-raising.

84
Schoonmaker Freudenberger, Karen & Mark. 1994. **Livelihoods, livestock and change: the versatility and richness of historical matrices.** *RRA Notes* 20: 144-148.
EP, Gambia, Senegal, historical analysis, livelihood analysis, matrix scoring, natural resource management, RRA/PRA methods
Historical matrices used in The Gambia and Senegal showed the relative importance of livestock in families' livelihood strategies and changes in these strategies over more than 25 years. The matrices were based on time periods defined by the local people. It provided them with a way of "writing" the history of how they make their living, as well as a concrete basis for discussing why things have changed and what this means for them.

85
Schoonmaker Freudenberger, Mark. 1993. **Institutions and natural resource management in The Gambia: a case study of the Foni Jarrol District.** *LTC Research Paper* 114. Madison: Land Tenure Center. 112 pp.

EP, Gambia, Fulani, conflict management, forage, historical analysis, institutional analysis, land tenure, natural resource management, planning, RRA/PRA results, situation analysis, social organisation, transect, trees, water
Discussion of customary land tenure in The Gambia, followed by report on RRA in 3 villages, documenting villagers' views of past, current and future use of natural resources. The RRA team discovered local institutions that control resource use, identified conflicts and assessed how these affect resource use. In village meetings, Venn diagrams helped identify important village institutions and individuals and outside entities interacting with them. In a disputes matrix, district tribunal members listed types of local disputes, ranked them (using beans) in order of frequency and then did the same for the pre-1970 drought years. This opened up discussion about tensions over resource use. Elderly men similarly constructed ecological matrices to indicate the relative abundance of different natural resources in the pre-70s, at present and expected in the future. Ecological transects gave a detailed picture of landuse and history. Fulani livestock-keepers identified and ranked important fodder grasses according to reasons for their use and relative availability now and pre-drought. Using proportional piling of beans, percentage of families owning and borrowing cropland, percentage of youth migrated and percentage of migrants sending remittances were determined. This study illustrates the possibility of using RRA methods at the outset of a project in order to identify the existence and dynamics of local disputes, so that conflict resolution mechanisms can be identified or set up. Although the disputes matrix uncovered important trends and issues in resource use, the author suggests that deeper and lengthier anthropological studies may be needed to gain a clear and accurate understanding of disputes. Many of the methods used for this study could be adapted for investigating resource use and conflicts by pastoral and nonpastoral groups, also for application by the groups themselves in working out resource use agreements.

86
Schoonmaker Freudenberger, Mark & Karen. 1993. **Fields, fallow, and flexibility: natural resource management in Ndam Mor Fademba, Senegal: results of a Rapid Rural Appraisal.** *Drylands Paper* 5. London: IIED. 53 pp.
EL/EP, Senegal, Fulani, Wolof, experimentation, historical analysis, indigenous knowledge, innovation, institutional analysis, livelihood analysis, mapping, natural resource management, planning, process approach, RRA/PRA results, social organisation, transect, trees
Results of an RRA in northern Senegal which showed the importance of larger territorial units than a single village in natural resource planning, the growing importance of livestock in livelihood strategies of the Wolof, the continued strength of local institutions for natural resource management, the innovative local responses to deterioration of natural resources, and the importance of flexibility (and non-enforcement of national land laws) for the survival strategy of the local people. Methods included transect by pick-up truck with villagers, maps, Venn diagram, wealth ranking and matrices to encourage reflection on changing resource-use patterns and coping strategies in times of crisis. A priority concern of the Wolof was to improve the quality of grazing lands. They were particularly interested in more information about cultivating grasses, agroforestry with "rath" (*Combretum glutinosum*) and recommended trimming practices for local tree species (a practice of the Fulbe who herd their cattle). The RRA team recommended that the commissioning NGO, World Vision, continue the process of participatory planning by strengthening and extending local techniques to conserve/regenerate natural resources and providing information to support villagers' current experimentation.

87
Scoones, Ian. 1994. **Browse ranking in Zimbabwe.** *RRA Notes* 20: 91-94.
EP, Zimbabwe, forage, ranking, RRA/PRA methods, trees
Report on use of ranking exercises to gain information from livestock keepers about trees highly favoured by cattle and the local availability, and exploring the criteria according to which browse species are valued. Ranking of fodder quality by livestock owners was highly correlated with indicators of fodder quality derived from chemical analysis. It is concluded that ranking can be a useful tool in helping to design fodder improvement programmes with herd owners.

88
Scoones, Ian; McCracken, Jennifer (eds). 1989. **Participatory Rapid Rural Appraisal in Wollo, Ethiopia: Peasant Association planning for natural resource management.** London: Ethiopian Red Cross Society & IIED. 93 pp.
EP, Ethiopia, diagramming, focus groups, forage, natural resource management, planning, RRA/PRA methods, semistructured interviews, training, workshops
Report on a training exercise carried out in two Peasant Associations to test RRA methods for participatory planning of natural resource management projects and to train local government and NGO staff in using the methods. Special attention was given to issues of hillside enclosure and woodland management. Subgroups

within the communities (eg. cooperative members, youth, women, immigrants) were involved in focus-group discussions. Informal interviews and seasonal diagrams of feed resources, milk and meat output, and disease incidence revealed the serious effect of hillside closures on livestock welfare. Browse ranking showed cattle preferences and overall availability, but seemed to bring no new insights to the villagers, who had already tried in vain to obtain seed for preferred species from government nurseries. After analysis of problems and opportunities by the RRA team, "best bets" were suggested to a meeting of representatives of all focus groups involved, who altered some suggestions, prioritised them and outlined actions required to realise them.

89

Shah, Parmesh; Bharadwaj, Girish; Ambastha, Ranjit. 1991. **Farmers as analysts and facilitators in Participatory Rural Appraisal & Planning.** *RRA Notes* 13: 84-94.

PP, India, communication, conflict management, economic aspects, evaluation, experimentation, innovation, mapping, monitoring, natural resource management, planning, RRA/PRA methods, situation analysis

In the framework of watershed management activities supported by the Aga Khan Rural Support Programme (AKRSP), villagers themselves identify local innovations, examine their potential to solve problems also of other farmers, collaborate in experimentation and evaluate the results. The farmers and AKRSP staff use mainly sketches and diagrams for description and analysis. Members of different groups in the population make diagrams showing how innovations have affected them (technical, economic and social impact). Emphasis is on mapping resources and socioeconomic aspects (eg. lenders and borrowers) and in making a series of maps at various stages of a village project for monitoring purposes. Such maps show changes in access to natural resources or productivity, marked by the villagers with symbols. Maps were effective in breaking barriers to communication and in giving a common framework for discussion and planning in group meetings, for resolving conflicts and for analysing impacts over time. The method description has been generalised from experiences with various village groups in Gujarat. Not livestock-oriented, but describes planning and monitoring methods based primarily on mapping, also suitable for work in pastoral systems.

90

Shah, Parmesh; Shah, Meera Kaul. 1994. **Training village analysts: from PRA methods to process.** *RRA Notes* 19: 88-93.

PP, India, communication, evaluation, mapping, monitoring, natural resource management, planning, process approach, RRA/PRA methods, situation analysis, training

Discusses the experience of AKRSP in training villagers in Gujurat how to facilitate participatory appraisal and planning in their home villages. Local expertise in appraisal, planning, implementation and monitoring is thus developed. The village analysts also serve as a link with the State, NGOs, cooperatives and financial institutions in the area. The process of village-level PRA training involves a series of exercises in information collection and analysis in the villages, alternated with training sessions during which the village analysts present and discuss their results. They feed back information from these sessions (and, thus, also from other villages) to their home villages. A strong argument is made for investing more in training local analysts as opposed to developing external professionals who tend to dominate problem analysis and decision-making at the local level. A similar approach could be applied in training members of pastoral groups to stimulate a process of analysis and planning by their own groups and presenting their cases to higher-level planners.

91

Simonazzi, Angelo. 1993. **Participatory evaluation: theory, methods and experience: PRA, GRAAP and the Kenyan case.** University of London. 15 pp.

EP, Kenya, Maasai, evaluation, GRAAP methods, mapping, RRA/PRA methods, wealth ranking, workshops

Gives a brief history of participatory evaluation and compares RRA/PRA and GRAAP. Describes experience with participatory evaluation of development projects in Maasailand and Kitui by an NGO with financial support from ODA. Local NGO staff were involved in deciding which community and who should be visited. The project "beneficiaries" were treated not as respondents but as participants, ie. their values and opinions were sought rather than answers to pre-set questions. The information gathered by the evaluation team was shared and jointly analysed with the project staff and local people. Mapping and role-play proved to be useful tools, but wealth ranking was not, mainly because of the Maasai's reluctance to openly classify their neighbours, misunderstandings about the concepts of "family" and "clan", and lack of time. GRAAP methods were also successfully used, particularly during meetings for sharing and jointly analysing information. It is concluded that further research into participatory evaluation is needed. A network of British NGOs called Remap is conducting an intensive dialogue with ODA about methods of participatory evaluation.

92
Sollod, Albert; Wolfgang, Katherine; Knight, James. 1984. **Veterinary anthropology: interdisciplinary methods in pastoral systems research.** In: Simpson JR; Evangelou P (eds), *Livestock development in subsaharan Africa: constraints, prospects, policy* (Boulder: Westview), pp 285-302.
EP, Burkina Faso, Niger, animal health, animal husbandry, communication, direct observation, experimentation, indigenous knowledge, research methods, semistructured interviews, women
Two examples of how veterinarians were involved in interdisciplinary field-based research and planning for development of pastoral systems. Methods described include: participation of veterinarians in daily activities of pastoralists and direct observation of their husbandry practices; analysis through manipulation of situations, ie. trials in pastoral herds with "best-bet" health interventions and recording herders' perceptions of the effects; semistructured interviews with herders, pastoral women, private and government veterinary agents at wells, camps, markets etc; examination of herds and individual animals for general condition, nutritional status, signs of disease and obtaining thorough accounts from herders of disease patterns in their herds (without laboratory analysis, for "Under pastoral conditions, where herders are acutely aware of health related problems, both the quantity and quality of information can be superior to that obtained from laboratory studies.") The importance of each disease was estimated by the researchers according to 1) pastoralists' own perceptions, 2) consideration of herders' subsistence imperatives, 3) effects on marketable animals and cash income. Examination of herd management and environmental factors which influence animal health also allowed identification of non-medical approaches to improving the situation. Particular attention is given to exploring the role of pastoral women in maintaining animal health, and trying to understand pastoralists' knowledge and concepts in order to find common ground for communication.

93
Swift, Jeremy. 1981. **Rapid appraisal and cost-effective participatory research in dry pastoral areas of West Africa.** *Agricultural Administration* 8: 485-492.
EP, Mali, Fulani, Tuareg, indigenous knowledge, progeny history, RRA/PRA methods
An early paper, stressing the limitations of "quick and dirty" methods (but not rejecting them) and arguing for a research coalition with pastoralists, including using their terminology (eg. for animals, animal classification, land) and inducing them to record life histories of animals. This could be combined with other methods, eg. low-level aerial surveys, to gain a better understanding of pastoral production. Some statements, such as the lack of life-history recording, are now out of date, but others, such as poor integration of pastoralists in the research process, still apply today.

94
Swift, Jeremy; Umar, Abdi Noor. 1991. **Participatory pastoral development in Isiolo District: socio-economic research in the Isiolo Livestock Development Project.** Isiolo: Isiolo Livestock Development Project. 241 pp.
EP, Kenya, Boran, analytical game, institutional analysis, land tenure, natural resource management, planning, process approach, RRA/PRA methods, social organisation, wealth ranking
Describes livestock-keeping systems in Isiolo District in northern Kenya (where two pastoral groups and one agropastoral group share the use of the natural resources), the social and territorial organisation of the Boran group, tenure and management of the natural resources, economic differentiation of the groups, and local perception of problems and solutions. Two main principles for participatory planning are 1) a process approach rather than a blueprint which defines actions for several years and 2) greater reliance on local institutions to manage change. In the process approach taken, the main steps were:
- identifying main units for action (here, the traditional neighbourhood)
- wealth ranking to analyse and quantify differentiation within each group
- playing the problem-and-solution game in small groups, homogenous in wealth status, to identify their perceptions of problems and solutions.
The results were written up as "dossiers" for each group. Further steps planned were discussion with technical services for comments and additions, second round of discussion with the groups, starting interventions, evaluation 9-12 months later by the neighbourhood committees plus external evaluation of a sample of interventions, proposal of a new set of interventions by the project in consultation with the groups, and parallel consultation with development committees on local, division and district levels. Dossiers for 11 neighbourhoods are presented, and the methodology of wealth ranking and the problem-and-solution game is described in some detail.

95
Swift, Jeremy; Umar, Abdi Noor. 1994. **The problem and solution game.** *RRA Notes* 20: 138-141.
EP, Kenya, Boran, analytical game, planning, RRA/PRA methods, wealth ranking

A PRA tool based on an African board game and designed explicitly for participatory planning, best applied after wealth ranking. Different groups of farmers within a community, classified according to wealth and/or sex, are asked to place coins in holes scooped in the ground, in order to rank problems they have themselves identified. When applied among pastoralists in Isiolo District, it was found that priority problems differed greatly according to wealth group, and that poor women's problems were similar to those of other poor people.

96

Thomas-Slayter, Barbara. 1992. **Implementing effective local management of natural resources: new roles for NGOs in Africa.** *Human Organisation* 51 (2): 136-143.

PP, Kenya, Zimbabwe, extension, natural resource management, RRA/PRA results, social organisation, water

Two cases of NGO development activities from Zimbabwe and Kenya. The latter focuses on a PRA approach involving international and national NGOs and the Kenyan Government. Multisectoral teams of community leaders, extensionists, NGO staff and PRA facilitators assess resource management and help communities identify problems, rank solutions and create a local resource management plan. Collection of data using PRA tools (eg. calendars, trend lines) is followed by several community meetings. An example is given of a community in semiarid Machakos District which first tackled problems with water and identified priorities for siting waterpoints according to various criteria, above all, cost. The author suggests that NGOs can be more effective in reducing poverty and encouraging development if they move from a project orientation to an "enabling" orientation using PRA.

97

Watson, Cathy. 1994. **Proportional piling in Turkana: a case study.** *RRA Notes* 20: 131-132.

EP, Kenya, Turkana, livelihood analysis, ranking, RRA/PRA methods

As part of a study into the socioeconomic context of pastoralists involved in a project promoting fishing and gardening, interviewees were asked to put pebbles in piles to show the relative contribution which the family's various economic activities made to household food supply. This was done for the wet and the dry season, allowing seasonal differences to be assessed and discussed with the pastoral families.

98

Westphal, Ute; Bergmeier, Uwe; von Gemmingen, Gottfried; Hanke, Martina; Hinrichs, Angela; Holthusen, Beate; Schneider, Monika; Schwanz, Veronika. 1994. **Participatory methods for situation analysis and planning of project activities: experiences with women and youth in the communal areas of Namibia.** Berlin: Centre for Advanced Training in Agricultural Development, Humboldt University. 186 pp.

EP, Namibia, calendar, diagramming, economic aspects, indigenous knowledge, institutional analysis, labour, mapping, natural resource management, planning, ranking, RRA/PRA methods, semistructured interviews, situation analysis, training, transect, women, workshops, youth

Report on a 3-month study by a group of postgraduate students. Chapter 1 brings the results of the study. In both communal areas (Namaland and Hereroland), livestock alone cannot sustain the families.

Chapter 2 describes the holistic PRA approach applied, encompassing environment, economy, culture and politics. It is seen as a cost-effective way of collecting data and a means of activating the local population. The dangers of PRA are also mentioned. If participation is not taken seriously, it is worse than conventional data collection, as it raises people's expectations. Proposed solutions should not be confined to reports; serious efforts must be made to encourage and enable people to try them out. PRA is not suitable for predefined projects. The major problems in a livestock-producing area may not concern livestock and, if the project must restrict itself to this, it cannot help solve more important problems. Participation is not understood as letting the local people decide on everything; it is a partnership between them and project staff. Skills in negotiating and the need for commitment by the project staff are stressed.

Chapter 3 briefly describes 20 PRA methods such as mapping (social and landuse maps), wealth and other ranking, Venn diagram, daily work calendars, planning the village future, assessing and planning income-generating activities. Their suitability for smaller and larger groups as well as the difficulties in applying them are assessed. Although some of these assessments may be arguable (wealth ranking being classified as easy, calendars and transects as difficult), they give some useful hints.

99

Young, John (ed). 1992. **A report on a village animal health care workshop, Kenya.** Rugby: ITDG. 51 pp + several appendices.

EL/EP, Afghanistan, Chad, Ethiopia, India, Indonesia, Kenya, Mexico, Mozambique, Nepal, Peru, Sri Lanka, Sudan, Uganda, Zambia, animal health, diagramming, evaluation, paravets, planning, progeny history, mapping, ranking, RRA/PRA methods, semistructured interviews

The main report summarises the case studies presented at the workshop, fieldtrip reports and results of group discussions about village animal healthcare and the social, technical, institutional and environmental factors influencing its long-term sustainability. The appendix on the "mini-workshops" includes simple and useful hints about interviewing methods, wealth ranking, collecting and using ethnoveterinary information, rapid appraisal methods for livestock projects (progeny histories, ranking and piling, mapping and diagramming), and participatory planning and evaluation of livestock projects.

100
Young, John. 1993. **Alternative approaches to the identification of smallholder problems and opportunities.** In: Daniels PW; Holden S; Lewin E; Sri Dadi (eds), *Livestock services for smallholders: a critical evaluation of the delivery of animal health and production services to the small-scale farmers in the developing world.* Proceedings of an International Seminar held in Yogyakarta, Indonesia, 15-21 November 1992. pp 123-130.
EL/EP, India, Kenya, Nepal, animal health, animal husbandry, diagramming, direct observation, mapping, ranking, RRA/PRA methods, secondary data review, semistructured interviews, workshops
Short and useful summary of PRA, drawn from practical experience. Gives background of PRA and brief descriptions of tools: secondary data review, direct observation, mapping, wealth and other ranking, discussions and interviews, diagrams, and workshops. Pitfalls are pointed out and particular emphasis is laid on the responsibility to support problem-solving action after having initiated a PRA to identify problems. Some statements like "PRA is a method of learning from local people" may suggest a one-way information flow, but do little to diminish the value of this review.

101
Young, John; Dijkema, Henk-Peter; Stoufer, Karen; Ojha, Narayan; Shrestha, Goma; Thapa, Lava. 1994. **Evaluation of an animal health improvement programme in Nepal.** *RRA Notes* 20: 58-66.
EL, Nepal, animal health, calendar, evaluation, labour, mapping, paravets, progeny history, ranking, RRA/PRA methods, semistructured interviews, transect
In evaluating an animal healthcare programme in Nepal, RRA methods were used: mapping, wealth ranking, labour diagram, proportional piling regarding livestock problems, animal disease calendar, transect walks, progeny history and semistructured interviews with farmers and paravets. Data could be combined to assess, eg. how division of labour is affected by health, or how wealth affects people's perceptions of livestock-related problems. The final analysis and assessment appears to have been done by the evaluation team without participation or verification by the farmers or paravets.

3. Additional titles

Since completion of the first draft of this review in August 1994, various people have sent more reports. These are added here without changing the index numbers of the previous titles, and are also included in the index.

102
Bagayogo, Siaka; Bosma, Roel; Defoer, Toon; Diarra, Souleymane. 1994. **Participation paysanne dans la classification et la gestion des pâturages naturels.** Equipe Systèmes de Production et Gestion des Ressources Naturelles, Centre Régionale de Recherche Agricole, Sikasso, Mali. 15 pp.
EP, Mali, indigenous knowledge, mapping, natural resource management, ranking, RRA/PRA results, transect
To improve communication between sylvopastoralists and scientists, PRA and GRAAP methods were applied to study how the local people classify natural pasture and how each pasture type is used. PRA tools included territorial maps, transect walks, individual landuse maps and proportional piling. It is intended to use this classification as a basis for landuse planning.

103
Berger, Dhyani. 1993. **Wildlife extension: participatory conservation by the Maasai of Kenya.** Nairobi: ACTS Press. 193 pp.
EP, Kenya, Maasai, extension, natural resource management, nature conservation
Documents and evaluates an approach taken to encourage community planning for conservation on Maasai group ranches. The "wildlife extension" process consisted of a planned series of action-research and educative activities meant to empower the Maasai to build local institutions for natural resource management. Includes example of community survey conducted by a Maasai group to decide on initiatives to take in livestock and

wildlife management. It is noteworthy that the project was able to enter this stage of community action-research only after 3.5 years of activities in confidence-building and local organisational development.

104
Birch, Izzy (rapporteur). 1994. **"The whole big world is here": PRA training workshop, Baragoi, 2-10 February 1994.** Nairobi: Oxfam. 60 pp.
EP, Kenya, RRA/PRA methods, calendar, diagramming, mapping, matrix scoring, ranking, training, transect, wealth ranking
Report on a 9-day PRA training workshop for Oxfam staff, project partners in Kenya and other NGO staff working in Samburu District. Covers each step in the workshop, including preparation for fieldwork and lessons learnt from the training experience. Describes the various methods used: mapping, transects, change analysis, seasonal calendar, time-use activity, wellbeing ranking, problem ranking, impact analysis, institutional diagramming, matrices. It is stressed that sequencing of methods depends on circumstances and the progress of interaction between the PRA team and the villagers. Useful hints are highlighted in text boxes: timing interviews, identifying local time concepts for calendars, noticing when people are tired, etc. The report can serve as practical guidelines for conducting diagnostic PRAs.

105
Capezzuoli, Sylvia. 1994. **The development of the auto-evaluation process in the Gao and Timbuktu regions in northern Mali: final report for the ODA.** London: ACORD. 49 pp + annexes.
EP, Mali, Tuareg, evaluation, GRAAP methods, modelling, monitoring, restocking
Describes the use and adaptation of tools and strategies for self-evaluation by Tuareg and other communities supported by ACORD, also during periods of political unrest. Visual methods using images of local problems, although useful in triggering verbal analysis, proved time-consuming and difficult to apply by local people themselves. "Maquettes" helped solve community conflicts that could be represented by physical models, and to experiment with possible solutions, eg. to avoid dirty pools of water around a pastoral well. An impact-flow exercise elicited local perceptions of an ACORD-supported activity that herders chose to assess: an irrigated area. Written and spoken (also recorded) messages seemed to be the most suitable monitoring and evaluation tools for nomadic groups. Inter-community meetings of group representatives to assess and plan activities also provided opportunity to exchange information. Monitoring notebooks were kept by trained animators from the groups themselves, as well as by members of local management committees, such as for herd reconstitution. The communities themselves demanded a shift from visual to written records for assessment and planning. The author suggests that PRA tools be applied to generate criteria and indicators for assessment that are widely accepted by the group.

106
CARR. 1993. **Marketing of middle micron wool: researching with people on issues that make a difference.** Paterson: Community Approaches to Rangelands Research (CARR) Project. 44 pp. (Source: Continuing Education, CB Alexander Agricultural College, Paterson NSW 2421, Australia)
EP, Australia, marketing, process approach, research methods, RRA/PRA results, workshops
Report of a participatory research project in a wool-growing area of New South Wales, Australia. Graziers (pastoralists) were asked by CARR staff to formulate their own research project. They decided to study the marketing of "middle micron wool", their major product, with CARR support. During the study, the researching graziers and the staff of the parastatal Research and Development (R&D) bodies, which are co-funded by the graziers, learnt to appreciate each other better. Both the graziers and R&D bodies benefitted from the approach because: the context of the graziers, their language and the ways they learn were better understood; it drew on the enthusiasm of a wider range of people than currently available in the formal R&D sector; it enabled the participants to learn from the process of being involved and led to the local ownership of outcomes. This shows that participatory research in pastoral societies is valuable not only in "developing" but also in industrialised countries.

107
Mapatano, Mulume. 1994. **Fair to share farmers' findings.** *ILEIA Newsletter* 10 (1): 15.
EL, Zaire, animal health, animal husbandry, experimentation, extension, indigenous knowledge, workshops
Example of workshop in form of an agricultural fair to give experimenting farmers an opportunity to share their knowledge and innovations with other farmers and researchers. The NGO ADI-Kivu supports farmer groups ("brigades") to plan and implement their own research to improve goat-keeping. The article is derived from more detailed French manuscripts "Le savoir paysan", "La foire agricole d'Ikoma" and "Recherche-action paysanne au Kivu: les brigades agricoles", obtainable from the author (see Annex C).

108
McEwan, Margaret. 1991. **ACORD's experience with participatory techniques and annotated bibliography.** Vol. I. Research and Policy Programme (RAPP) Document 3. London: ACORD. 55 pp.
EP, Burkina Faso, Mali, Sudan, Uganda, evaluation, GRAAP methods, research methods, RRA/PRA methods, training
Briefly reviews literature on participatory approaches and gives four examples of ACORD's experiences in this line: GRAAP in Burkina Faso and self-evaluation in Mali (cf Roche 1991, Capezzuoli 1994), change-agent approach to self-reliant participatory development in Uganda and participatory programme identification in Sudan. The last-mentioned started not with a defined methodology but rather with principles and commitment to develop participatory working methods with Beja pastoralists. This involved building up a dialogue with Beja communities, experimental microprojects and baseline data collection. Methods included participant observation, semistructured interviews with key informants, sketch mapping, games, ranking, and training of local development committees in participatory needs identification, analysis and project planning. According to ACORD's analysis, methods of investigation were determined by staff rather than pastoralists, local participation was limited mainly to giving information and responding to problem analysis by ACORD, and there was little success in involving pastoral women. A frank document which provides a good basis for learning by development agencies.

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Scheuermeier, Ueli; Sen. 1994. **Starting up participatory technology development for animal husbandry in Andhra Pradesh**. Dept of Extension and Transfer of Technology, Rajendranagar, Hyderabad, India / Landwirtschaftliche Beratungszentrale Lindau (LBL), CH-8315 Lindau, Switzerland. 92 pp.
EL, India, animal husbandry, experimentation, training, workshops
Report on series of workshops to initiate joint experimentation by farmers and extension agents in improving animal husbandry. Detailed description and critical analysis of the training process, which could provide ideas for similar action-learning workshops in pastoral areas.

110
Webber, Lynn; Ison, Ray. 1994. **Participatory Rural Appraisal: conceptual and process issues.** *Agricultural Systems* (in press).
EP, Australia, process approach, RRA/PRA methods
Discusses theoretical or conceptual underpinnings to process design, using a PRA experience with pastoralists in Kyemba Valley, New South Wales. The PRA not only yielded new insights into rural life for outsiders, but also started a process of change in the valley. Questions about the nature and quality of change which might result from the conduct of PRA are raised.

4. Index to annotated bibliography

Annex A: Contact organisations for further information on participatory planning methods related to livestock-keeping

Arid Lands Information Network (ALIN) / Réseau d'Information des Terres Arides (RITA) , CP 3, Dakar-Fann, Senegal. Contact: Ced Hesse, fax +221-254521.
information exchange, publications, training
Facilitates networking among development workers in dryland Africa by publishing the journal *Baobab* three times a year in English and French, plus other documents and a training video. Also supports the organisation of exchange visits and workshops.

Associates in Research and Education for Development (ARED) / Groupe d'Initiative pour la Promotion du Livre en Langues Nationales (GIPLLN), BP 5270, Dakar-Fann, Senegal. Contact: Sonja Fagerberg-Diallo, fax +221-254521.
consultancy, publications Pulaar (Fulfulde), research, training in villages
Researches and writes, and/or translates, materials of interest to Pulaar (Fulfulde) speakers. Produces participatory training materials on PRA, natural resource management, land tenure issues, the Senegalese judicial system and general herding issues, in the Pulaar language.

Centre for Advanced Training in Agricultural and Rural Development (CATAD) / Seminar für ländliche Entwicklung (SLE), Podbielskiallee 66, D-14195 Berlin, Germany. Contact: Karin Fiege, fax +49-30-314-71409.
publications, research, training
Offers 12-month postgraduate course including field research and training in RRA/PRA methods. Publishes research reports and training materials.

FARM-Africa Farmers' Research Project, Box 5476, Addis Ababa, Ethiopia. Contact: Simon Adebo, fax +251-1-652566.
publications, research, training
Uses RRA/PRA methods to analyse research and development needs in farming (including livestock) systems in southern Ethiopia. Provides training in RRA/PRA together with the Awassa College of Agriculture.

Forests, Trees and People Programme (FTPP), International Rural Development Centre, Swedish University of Agricultural Sciences, Box 7005, S-75007 Uppsala, Sweden. Contact: Daphne Thuvesson, fax +46-18-673420.
information exchange, method development, publications
Together with Community Forestry Unit of FAO, supports the development and spread of participatory research and planning methods with partn ers in the South (in West Africa: Bernard Dabiré, IPD/AC, BP 4078, Douala, Cameroon, fax +237-424335). Publishes numerous conceptual and working papers, manuals, case studies and videos, and the *Forests, Trees and People Newsletter* (English, French, Spanish), which often contains articles on participatory processes in livestock development and natural resource management. Further information about the programme can be obtained from Marilyn Hoskins, Forestry Dept, FAO, Via della Terme di Caracalla, I-00100 Rome, Italy.

Heifer Project International (HPI), PO Box 808, Little Rock, Arkansas 72203, USA. Contact: Jerry Aaker, fax +1-501-3768906.
publications, development projects
Publishes practically-oriented bimonthly newsletter on animal husbandry *Heifer Project Exchange*, with insert on Women in Livestock Development.

Information Centre for Low-External-Input and Sustainable Agriculture (ILEIA), ETC Foundation, PO Box 64, NL-3830 AB Leusden, Netherlands. Contact: Laurens van Veldhuizen, fax +31-33-940791.
consultancy, information exchange, method development, publications, training
Produces a quarterly newsletter with numerous articles on Participatory Technology Development (PTD) in agriculture, including livestock husbandry. Has published several books on PTD, including a training guide, and offers "tailor-made" training in PTD.

Institute of Development Anthropology (IDA), PO Box 2207, Binghamton, New York 13902-2207, USA. Contact: Michael Horowitz, fax +1-607-7738993.
consultancy, publications, research

Involved in various research projects on pastoralists, including gender aspects. Publishes numerous books and working papers, including several on animal-keepers and natural resource management, and the twice-yearly bulletin *Development Anthropology Network*.

Institute of Development Studies (IDS), University of Sussex, Brighton BN1 9RE, UK. Contacts: Robert Chambers, Robin Mearns, Jeremy Swift, fax +44-273-621202.
consultancy, publications, research, training
One of the leading institutes, together with IIED, in developing and disseminating RRA/PRA methods. In the livestock line, currently working with the Mongolian Research Institute of Animal Husbandry in research and training for pastoral development; recent work also on RRA/PRA among pastoralists in Kenya, Kazakhstan, Kyrgyzstan and Iran.

International Center for Living Aquatic Resources Management (ICLARM), MCC PO Box 2631, Makati, Metro Manila 0718, Philippines. Contact: Roger Pullin, fax +63-2-8163183.
publications, research
Conducts research in aquaculture with farming systems perspective. Has produced video films and pictorial training guide for modelling bioresource flows within farms, including nutrient flows to and from aquatic and other animals.

Intermediate Technology Development Group (ITDG), Myson House, Railway Terrace, Rugby CV21 3HT, UK. Contact: Cathy Watson, fax +44-788-540270. Africa office: IT-Kenya, PO Box 39493, Nairobi, Kenya; contact RAPP (Rural Agricultural and Pastoral Programme) Manager, fax +254-2-445166.
consultancy, development projects, information service, publications
Considerable experience in pastoral development and village animal health care, particularly in East Africa. Issues quarterly journal *Appropriate Technology* which includes articles related to livestock-keeping.

International Centre for Research in Agroforestry (ICRAF), PO Box 30677, Nairobi, Kenya. Contact: Fred Olembo, fax +254-2-521001.
method development, publications, research
Mainly focused on trees and farmers, but also works on the use of woody species in livestock-keeping. Has developed the "Diagnostic and Design" (D&D) methodology to facilitate researcher-farmer interaction in research planning. Publishes the quarterly *Agroforestry Today* in English and French.

International Institute for Environment and Development (IIED), 3 Endsleigh St, London WC1H 0DD, UK. Contact Sustainable Agriculture Programme: Ginni Tym; Drylands Programme: Camilla Toulmin, London, fax +44-171-3882826; Bara Guèye, Dakar, fax +221-244413.
consultancy, method development, publications, research, training
Many years' experience in applying participatory research and development approaches. Facilitates PRA training and gives long-term support to selected government institutions and NGOs to develop new methodologies and build up a cadre of effective trainers. Sustainable Agriculture Programme produces informal journal *RRA Notes*, training materials (eg. *Trainers' Guide on Participatory Learning and Interaction*, multilingual package *Questions of Difference: PRA, Gender and the Environment*) and wide range of RRA/PRA reports with detailed descriptions of methods applied in the field, lessons learned, and variations according to institution and ecosystem. Drylands Programme publishes quarterly bulletin *Haramata* (French and English) with *Issues Papers*, mainly on African drylands, French bulletin *Relais MARP* and reports on MARP workshops held in francophone Africa.

Land Tenure Center (LTC), University of Wisconsin-Madison, 1357 University Avenue, Madison, WI 53715, USA. Contact: Mark and Karen Schoonmaker Freudenberger, fax +1-608-2622141.
consultancy, publications, research, training
Applies PRA methods in conducting land tenure studies, often involving pastoral systems. Produces various publications on this research and offers short courses.

Landwirtschaftliche Beratungszentrale Lindau (LBL), Dept of Development Cooperation, CH-8315 Lindau, Switzerland. Contacts: Sylvia Brunold, Ueli Scheuermeier.
consultancy, publications, training
Participatory approaches are central to LBL's concept of agricultural extension. Applies PRA and PTD methods in training and advisory missions, recently including also work with livestock extensionists in India.

Oxfam, 274 Banbury Road, Oxford OX2 7DZ, UK. Contacts: John Rowley, Ros David, fax +44-865-312600.

development projects, publications
Field programmes in Africa include pastoral development and decentralised animal healthcare in dryland areas. Issues journal *Development in Practice*.

Parcours, Centre International de Hautes Etudes Agronomiques Méditerranéennes (CIHEAM), Institut Agronomique Méditerranéen de Montpellier (IAM-M), 3191 route de Mende, BP 5056, F-34033 Montpellier Cedex 1, France. Contact: Alain Bourbouze, fax +33-67-542527.
information exchange, publications, research
Network promoting closer relations between pastoral scientists and extension services in the northern half of Africa and beginning to address issues of participatory research and planning. Issues quarterly newsletter *Parcours Demain*.

Pastoral Development Network (PDN), Overseas Development Institute (ODI), Regent's College, Inner Circle, Regent's Park, London NW1 4NS, UK. Contact: Roy Behnke, fax +44-71-4877590.
consultancies, information exchange, publications
Produces network papers on pastoral issues, including participatory research and extension. Excellent collection of literature and source of information on pastoral development.

Pastoral and Environmental Network in the Horn of Africa (PENHA), PO Box 494, 1 Laney House, Portpool Lane, London EC1 N7FP, UK; Regional Office: College of Social Sciences, Addis Ababa University, PO Box 1176, Addis Ababa, Ethiopia. Contact: Zeremariam Fre, fax UK +44-71-4046778, fax Ethiopia +251-1-551399.
consultancy, information exchange, research
Research and development group with focus on indigenous pastoral knowledge and institutions of resource management, herder-farmer interaction and participatory planning of pastoral development.

Pastoral Information Network Programme (PINEP), Dept of Range Management, University of Nairobi, PO Box 29053, Nairobi, Kenya. Contacts: Kassim Farah, Nairobi, fax +254-2-631226; Anders Hjort-af-Ornäs, Uppsala, fax +46-18-182732.
information exchange, publications, research, training
Provides pastoralist-based training and disseminates research results (via African Pastoral Forum) to link modern and traditional pastoral knowledge in Djibouti, Eritrea, Ethiopia, Kenya, Sudan, Tanzania and Uganda. Linked to Research Programme on Environmental Policy and Society (EPOS), Uppsala.

Rodale Institute, PO Box 323, Kutztown, Pennsylvania 19530, USA. Contact: Jonathon Landeck, fax +1-215-6838548.
publications, research, training
Educational and research organisation which promotes regenerative agriculture, including animal-keeping. Organises courses and publishes bimonthly newsletter *International Ag-Sieve*; French version *Entre Nous* by Rodale Senegal, BP A237, Thiès, Senegal.

United Nations Sudano-Sahelian Office (UNSO), 305 East 45th St, New York NY 10017, USA. Contact: Etienne Kaisin, UNSO Room FF-938 in New York, fax +1-212-9066345; also Maryam Niamir-Fuller, UNSO c/o FAO, Box 2, Dar es Salaam, Tanzania, fax +255-51-32979.
development projects, publications, research
Involved in projects in pastoral areas of Africa; active in supporting policy changes in this area. Currently preparing a manual on PRA methods.

VETAID, Centre for Tropical Veterinary Medicine, Easter Bush, Roslin, Midlothian, Scotland. Contact: Jeremy Davies, fax +44-31-4453129.
consultancy, development projects, research, training
Implements numerous paraveterinary, restocking and livestock development projects, and is adapting RRA/PRA methods for application in animal health.

West Africa Rural Foundation (WARF) / Fondation Rurale de l'Afrique de l'Ouest (FRAO), Rue 1 x D Point E, CP 13, Dakar-Fann, Senegal. Contact: Fadel Diamé, fax +221-245755.
consultancy, method development, publications, training
Promotes methods of participatory technology development and natural resource management in Senegal, Gambia, Guinea Bissau, Guinea and Mali. Publishes multilingual (French, English, Portuguese) newsletter

L'Atelier, as well as manuals, reports and audiovisual materials. Gives training courses and advises rural organisations.

World Neighbors, 4127 NW 122 St, Oklahoma City, OK 73120-8869, USA (fax +1-405-7529393). Contact in West Africa: Peter Gubbels, Voisins Mondiaux, Burkina Faso, fax +226-303146.
development projects, publications, training
Aims at strengthening local capacities for community development in Asia, Africa and Latin America. Has considerable experience in participatory approaches to development, including farmer-led experimentation. Publishes training materials suitable for use by village-level leaders, and biannual newsletter *World Neighbors in Action* in English, French and Spanish.

Annex B: Periodicals on PRA and other forms of participatory planning

L'Atelier. Recently launched bulletin on PRA and PTD experiences and methods, including training methods. WARF/FRAO, Rue 1 x D Point E, CP 13, Dakar-Fann, Senegal (fax +221-245755).

Forests, Trees and People Newsletter. Quarterly bulletin on community forestry and natural resource management; frequent accounts of participatory approaches. Free of charge. FTPP, Box 7005, S-75007 Uppsala, Sweden (fax +46-18-673420).

Haramata. Bulletin of the drylands: people, policies, programmes. Quarterly newsletter concerned with drlyand development, more focused on issues than methods. Two *Issue Papers* included per quarter, treating subjects in more depth. Available in English and French. Free to institutions and individuals from South. IIED Drylands Programme, 3 Endsleigh St, London WC1H 0DD, UK (fax +44-171-3882826).

ILEIA Newsletter. Quarterly journal focused on low-extern al-input and sustainable agriculture, with integrated animal husbandry; emphasises participatory methods of technology development. Free of charge to South. ILEIA, PO Box 64, NL-3830 AB Leusden, Netherlands (fax +31-33-940791).

ODI Agricultural Administration (Research and Extension) Network Papers. Twice-yearly newsletter plus several network papers with frequent attention to Farmer Participatory Research. Similar approaches also treated in papers of ODI Rural Development Forestry Network and Pastoral Development Network**.** ODI, Regent's College, Inner Circle, Regent's Park, London NW1 4NS, UK (fax +44-71-4877590).

PTD Circular. Six-monthly newsletter informing about recent publications and ongoing activities in Participatory Technology Development in sustainable agriculture, including animal husbandry. Free of charge. ILEIA, PO Box 64, NL-3830 AB Leusden, Netherlands (fax +31-33-940791).

Relais MARP: Bulletin de liaison et d'échanges d'informations sur la Méthode Active de Recherche et de Planification Participatives. French version of *RRA Notes*, started in late 1993 with translation of selected articles from English version, but intended in future for exchange of francophone experiences in PRA/MARP. Free to institutions or individuals from South. IIED Drylands Programme, 3 Endsleigh St, London WC1H 0DD, UK (fax +44-171-3882826).

RRA Notes. Informal journal which enables PRA practitioners throughout the world to share their field experiences and methodological innovations. *RRA Notes* 20 focuses on livestock. Free of charge. IIED Sustainable Agriculture Programme, 3 Endsleigh St, London WC1H 0DD, UK (fax +44-171-3882826).

World Neighbors in Action. Practically-oriented quarterly on rural development and small-scale farming, which reflects the WN approach of farmer-led experimentation. Free of charge to South. World Neighbors, 4127 NW 122 St, Oklahoma City, OK 73120-8869, USA (fax +1-405-7529393).

Annex C: Acknowledgements

We thank the following people for responding to our request for documents, information and further contacts. Many are themselves involved in developing and practising participatory approaches in pastoral development. All of them have shown an interest in this topic by taking the time to respond.

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Ute WESTPHAL, Forddamm 16, D-12107 Berlin, Germany
John YOUNG, Intermediate Technology Development Group (ITDG), PO Box 39493, Nairobi, Kenya (fax +254-2-445166)

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Number in italics and parentheses after a citation refers to the number of the reference in the annotated bibliography (Part III).

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