**These guidelines introduce and promote the essential elements of participatory rangeland management (PRM). Based upon the successful experiences of participatory forest management, the guidelines provide a process following three stages of investigation, negotiation and implementation. The sequential steps of this process lead to the development of a rangeland management plan and a legally binding rangeland management agreement between a local rangeland management institution and the appropriate local government office.**

**PRM supports community leadership and inclusiveness in land use planning policy and practice. It takes into account the interests, positions and needs of all rangeland users in pastoral areas and offers opportunities for negotiations to be carried out between these different stakeholders to come to agreement over the future of pastoral land use. It provides a suitable and legitimizing process of communal land and resource tenure that fits with both the priorities of pastoralists as well as government bodies.**

**This document has been developed with the assistance of many NGO and government representatives who have an interest in supporting pastoralists and their livelihood processes. It is anticipated that the *Guidelines* will help to further inform policy and decision makers whose task is to establish effective range management as a basis for the sustainable development of the rangelands.**


Save the Children USA

**Save the Children USA**
**Ethiopia Country Office**
PO Box 387
Addis Ababa
Ethiopia

Tel: + 251 (0)11 372 8455-60
Fax: + 251 (0)11 372 8045

**FAO Emergency and Rehabilitation Coordination Office**
PO Box 5536
Addis Ababa
Ethiopia

Tel: +251 (0)11 551 7233
Fax: +251 (0)11 551 5266

EUROPEAN COMMISSION
Humanitarian Aid

**European Commission Directorate General for Humanitarian Aid — ECHO**
PO Box 5570
Addis Ababa
Ethiopia

Tel: +251 (0)11 663 8616 / 618 0256
Fax: +251 (0)11 663 8611

# Introductory Guidelines to Participatory Rangeland Management in Pastoral Areas

Compiled by
**Fiona Flintan and Adrian Cullis**

with assistance from
Members of the Natural Resource Management
Technical Working Group, Ethiopia

# Introductory Guidelines to Participatory Rangeland Management in Pastoral Areas

Compiled by
**Fiona Flintan and Adrian Cullis**

with assistance from
Members of the Natural Resource Management
Technical Working Group, Ethiopia

EUROPEAN COMMISSION
Humanitarian Aid

FAO FIAT PANIS

Save the Children
USA

Published in 2010
ISBN 978-99944-847-1-3

Save the Children
USA

Save the Children is the world's leading independent child rights organization. More typically associated with education, health and HIV programming, Save the Children's Ethiopia Country Office is supporting pioneering work with pastoral children and community leaders in Ethiopia as part of a global climate change mitigation and adaptation initiative. The immediate focus is to maintain livestock productivity — in particular milk — and therefore mitigate malnutrition in children under five. In the longer-term, Save the Children seeks to:

- Arrest and reverse rangeland degradation for future generations of children
- Promote sustainable economic development in the rangelands to address poverty and reduce dependence on food aid
- Secure international payments for 'rangeland environmental services' including the subsidized sequestration of carbon

## Acknowledgements

The Guidelines were compiled by Fiona Flintan[1] and Adrian Cullis,[2] supported by Ben Irwin,[3] based on work previously carried out in Ethiopia under the Participatory Forest Management initiative which was initially led by FARM Africa, SOS Sahel and the Bureaus of Agriculture and Rural Development of the Oromia and Southern Nations and Nationalities Peoples' (SNNP) Regions. In particular the Guidelines are based on the planning steps developed in the 'Key Steps in Establishing Participatory Forest Management'".[4]

The compilers could not have completed the task without the support and encouragement of the Natural Resource Management Technical Working Group (NRM TWG) which was established as part of the USAID-funded Enhanced Livelihoods in the Mandera Triangle/Enhanced Livelihoods in Southern Ethiopia (ELMT/ELSE) and EU-funded PILLAR (Pastoral Improved Livelihoods and Resilience) programs, and has spread to include a wide range of stakeholders working in pastoralist areas throughout Ethiopia, including staff of both government and non-government agencies. Members who have been particularly active in supporting this initiative over the last two years are listed at the end of the document.

The compilers wish also to thank Corinna Riginos, Siva Sundaresan and Jeff Herrick for helping to develop the sections on rangeland resource assessment and monitoring and evaluation.

Thanks to Kelley Lynch who prepared the document for printing and provided the photographs and to Helen de Jode who provided technical editing services. Thanks also to Alison Judd for the photograph on page 12 and Craig Leggett for the photograph on page 24.

The compilers recognize that pastoral leaders, in particular customary leaders, have played the central role in guiding rangeland management experts in clarifying centuries long rangeland management institutions and systems, and in identifying contemporary challenges and opportunities. This dialogue carried out in the main with local government and agency field staff has enabled components of the process to be tested, refined and developed within local rangeland management systems.

The compilers hope that with the continued support of all stakeholders that it will be possible to further develop this work and start the process of mainstreaming PRM within zonal, regional and federal government policies, legislation and practice, with a view to arresting and reversing rangeland degradation and laying the foundation for more sustainable livelihoods of pastoral communities. It is therefore planned that this introductory volume will be followed by a series of guidelines on practical applications of participatory rangeland management.

The NRM TWG would be pleased to hear more about activities, projects and programs that are using participatory rangeland management approaches. Please contact Fiona Flintan (fionaflintan@gmail.com, fionaflintan@yahoo.co.uk) or Adrian Cullis (acullis@savechildren.org.et)

This publication has been produced with the assistance of FAO, with funding from ECHO's Regional Drought Decision. The contents of this publication are the sole responsibility of the authors and do not reflect the views of FAO or ECHO.

# Contents

## Boxes, Figures and Tables



## Acronyms and Abbreviations

| | |
|---|---|
| GIS | Geographical information systems |
| M&E | Monitoring and evaluation |
| NRM | Natural resource management |
| PFM | Participatory forest management |
| PRM | Participatory rangeland management |
| PTD | Participatory technology development |
| TWG | Technical working group |

## The structure of these guidelines

The purpose of these Guidelines is to introduce and promote the essential elements of participatory rangeland management (PRM). It is hoped that the Guidelines will help further inform government policy and decision makers whose task is to establish effective range management as a basis for the sustainable development of the rangelands.

The book is structured to enable easy reference. After introducing participatory rangeland management and explaining why it is now important for Ethiopia, the Guidelines set out the sequential steps involved in PRM, divided into three stages of investigation, negotiation and implementation. In the main section (negotiation), the reader can make quick reference to the specific steps in the process and its main outcome — a participatory rangeland management agreement.

The long-term implementation of PRM requires that new partnerships be established between government and communities, that new negative threats to rangelands be addressed, and that rangelands are effectively monitored. The book concludes with clear guidance on what is needed within each of these final steps in the process.

**'Rangeland productivity hotspots' need to be protected for pastoralists to ensure the viability and growth of the pastoral production system as a whole.**

# Introduction to participatory rangeland management

## Rangeland management in Ethiopia

There is growing concern in the Horn of Africa that global climate change and the increasing incidence of drought are undermining livelihood systems in the rangelands. Whilst the increasing incidence of drought does seem to be true, it is also clear that the lack of a coherent approach to decision-making in the rangelands has done more to undermine former levels of rangeland productivity than cyclical droughts could ever achieve. The reckless development of water in former 'wet season' grazing areas, for example, has resulted in spontaneous settlement and year-round grazing. Unless grazing is better managed in the rangelands, and grass given the opportunity to recover, highly palatable species are effectively grazed out and the species mix potentially irrevocably changed.

The rangelands have historically been managed according to customary governance systems, which has worked well until recent times. The rangelands include diverse ecological zones, which the extensive livestock production systems that form the mainstay of pastoralist economies depend upon to access 'key' grazing resources — in particular to survive droughts. However unless these key grazing resources can be identified and protected for future generations, extensive livestock keeping will become increasingly challenging, and the ranks of households depending on food aid will grow as there are few proven and viable alternative livelihood options.

The pastoralist system's dependence on key resources at certain times of the year includes many dry season grazing areas and watering points — the 'rangeland productivity hotspots'. At the same time the system also makes use of secondary value land and resources that are often poor in quality. Unless there is secure access to the 'hotspots' these poor value resources cannot otherwise be used for livestock, or other production systems, without a high level of technical and chemical input and a risk of serious environmental damage and degradation.[5]

Today competition over resources and land in pastoral areas of Ethiopia has grown. Populations have increased due to natural growth, as well as from an influx of settlers and commercial enterprises into pastoral areas; keen to acquire land in those areas where agricultural production is perceived to be viable. Invariably, areas of higher agricultural productivity are those pockets that are also 'rangeland productivity hotspots' — the areas that provide essential grazing in times of drought and are therefore central to the health of pastoral production systems.

## Participatory rangeland management as a land use planning and management tool for pastoral areas

Recognizing the changes Ethiopia now faces, pastoral leaders, local government and other stakeholders have accepted the importance in finding a more comprehensive approach to land use planning policy and practice, that takes into account the interests, positions and needs of all rangeland users in pastoral areas. Land use planning and management tools need to be developed for pastoral areas and be included within relevant policies, future legislation, and other guiding or decision-making processes.

Several regional governments in Ethiopia are currently actively developing land use policies and it is anticipated this process will be scaled-up to other pastoral areas in the future.[8] Whilst positive, there appears to be a lack of pastoral specific experience to guide decision makers in firstly, the inclusion of the interests, positions and needs of pastoralists specifically; and secondly, in developing a suitable and legitimizing process of communal land and resource tenure that fits with both the priorities of pastoralists as well as government administrative bodies.

Based upon the success of participatory forest management (PFM) in Ethiopia, efforts are being made to develop participatory rangeland management as a tool for policy and decision makers in order to address the challenges highlighted above. As with its forestry management counter-part, PRM promotes inclusivity and participation of all stakeholders in land use planning processes, including pastoralists, with a view to ensure improved rangeland management and hence livelihoods, through the establishment of a government certified rangeland management agreement.

## Summary of the participatory rangeland management process

The process of PRM is a series of sequential steps in which the elements are put in place to produce a participatory rangeland management agreement. The objective is to have an agreement that is endorsed by all relevant stakeholders, which is legally binding and can be effectively monitored. The PRM process can be divided into three distinct stages (see Figure 1), which are summarized briefly here:

**1. Investigating PRM**

The first stage in the PRM process is the gathering of information about the different resources found in the rangelands, their uses (including at different times of the year), and the stakeholders and users (including their institutions and groups that have a role in rangeland resource management). This is achieved through the use of different tools including resource mapping and stakeholder analysis.

**2. Negotiating PRM**

The second stage is focused on negotiation. The initial task is to identify the most appropriate community-led group or institution to manage the process — the rangeland management institution. In the majority of pastoral areas in Ethiopia customary institutions still play a central role in the management of rangeland resources and their access, and have evolved sophisticated management systems that allow the utilization of rangelands for the benefits of a variety of stakeholders. PRM can be based upon these long standing indigenous knowledge systems, though adjustments to new challenges and developments may need to be made.

The second task is for the rangeland management unit, or area that the institution will be responsible for, to be fully negotiated. This is done via a participatory rangeland resource assessment, and then by facilitating a negotiation process between the different stakeholders to clarify the boundaries of the rangeland management unit. The outcome of the negotiation should be a consensus between all parties as to how to access resources, how the resources should be managed and by whom.

In the next step the rangeland management plan is drawn up, specifying: the roles and responsibilities of the rangeland management institution; its rangeland management unit including information on resources and their condition; and an outline of the rangeland manage-

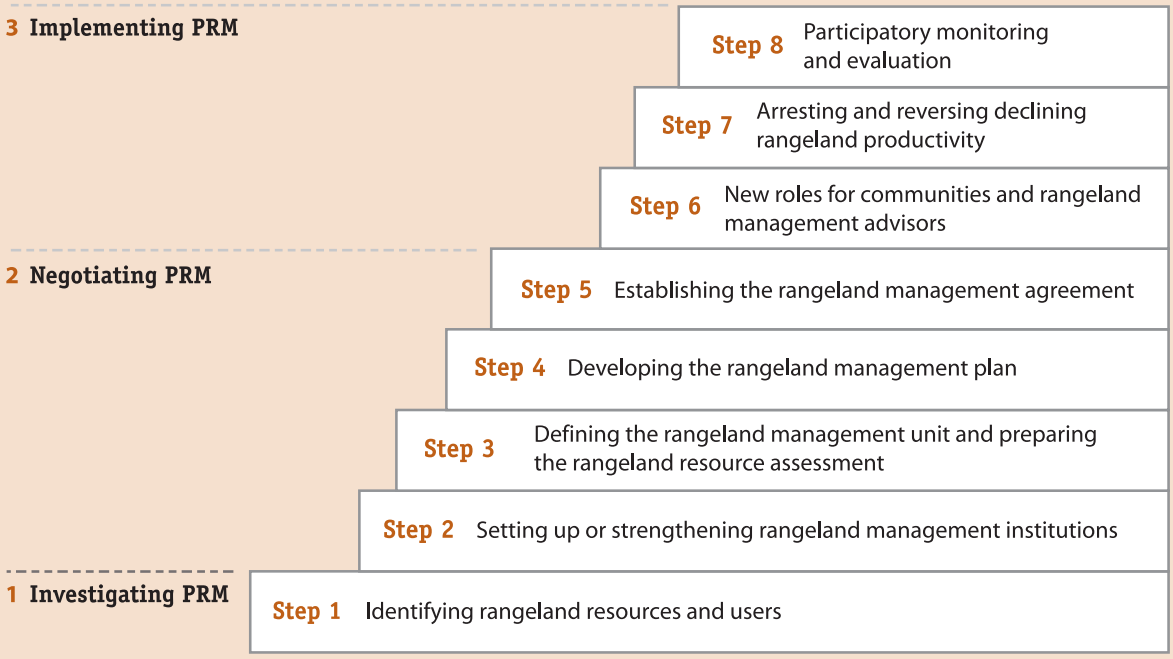
### Box 1 Pastoralism as a mainstay of the economy

**Extensive livestock keeping, or pastoralism, is an efficient and productive livelihood system that has been developed and refined by pastoralists over several centuries to enable pastoral households to survive and thrive in semi-arid and arid rangelands. In addition to meeting household subsistence needs, pastoralism also contributes substantially to the Ethiopian economy. Not only does pastoralism provide a high output livelihood for the majority of rangeland inhabitants, but it is also a very environmentally sound use of the available resources, contributing to rangeland biodiversity and providing a range of other environmental services including carbon sequestration.**

**In 2008 the direct financial value of pastoralism was estimated to be 1.22 billion USD per annum. In addition, livestock production, particularly pastoral production, provided a large number of indirect economic values (including draught power, manure, tourism and rangeland products such as gums and resins), which are estimated to exceed 458 million USD. This gave a total estimated economic value for pastoralism in Ethiopia of at least 1.68 billion USD per annum.**

*Source: SOS Sahel 2008[6] ; EEA 2004/2005[7]*

Figure 1 **The stages of the PRM process**




ment processes that will be followed, including monitoring and evaluation and adaptive management.

The rangeland management plan forms the basis of the rangeland management agreement — the final step in the negotiation stage. This is drawn up, approved, and signed by the rangeland management institution and the appropriate local government body. This rangeland management agreement must be recognized by government as providing lawful authority for the rangeland management institution to manage the resources in the rangeland management unit, according to the agreed rangeland management plan.

**3. Implementing PRM**

The final stage of the PRM process is the implementation of the rangeland management plan, and adherence to the rangeland management agreement by the rangeland users. Adherence is the responsibility of the rangeland management institution, supported by the appropriate government office providing necessary technical advice and legal backing. Regular monitoring and evaluation of the PRM process is vital to ensure the implementation of the management plan and agreement, with appropriate changes being made based on a system of adaptive management. The rangeland management institution and the appropriate government office, should work together to ensure implementation occurs. This new partnership will require people to take on new roles and new ways of working.

## Outcome of the participatory rangeland management process

With the establishment of PRM, the relevant and agreed upon customary institution(s) and/or defined community rangeland management group is legally enabled to oversee the sustainable management of the natural resources found in the defined rangeland area. Though customary institutions have been managing rangeland resources for centuries, the difference with this process is that the agreed upon institutions/groups are provided with the legal authority to do so. This is enabled by, and dependent upon, a negotiated and documented legally binding rangeland management agreement.

A Hamar man waters his cattle. Access to water is becoming increasingly difficult as access to water sources is cut off by agricultural expansion, settlements and fencing of 'the commons.'

1

# Investigating PRM

## Step 1 **Identifying rangeland resources and users**

The basis of a rangeland management agreement is the rangeland's resources and resource users. Before negotiations can get underway it is essential that everyone involved in the process has a clear understanding of what the resources are and who the users are. Local government staff and NGO representatives can facilitate the collection of information on rangeland resources and assist communities to carry out a stakeholder analysis.

### Understanding rangeland resources

Users of the rangeland rely on a large number of resources to enable them to support viable livelihoods. These resources are spatially and temporally distributed across a 'landscape' or a pastoral 'resource unit'. In the past, different levels of customary institutions have managed access to these resources, in terms of who can graze and water their animals, when and for how long. Such access and user rights are not fixed however: reciprocal arrangements are common as a means to ensure that each user group has access to rangeland resources at all times, including during times of drought. For this reason rights to rangeland resources might not be immediately clear to an outsider, but instead appear vague, with shifting assertions and continuous contestation and negotiation of access rules.

Resource rights can also be described as non-exclusive, multiple, asymmetric (priority given to certain users) and in some cases time-bound. They are associated with certain unique conditions relevant to pastoral economies namely: the seasonal mobility of animals and herds; the uneven distribution of resources over a grazing territory; the variability of rainfall; the existence of more than one

**Rights of access to use rangeland resources are defined and protected by pastoral customary institutions such as the *Gada*.**

user group; and the effective institutional mechanisms for regulating the use of resources and for preventing and resolving violent conflict arising from competition over resources.

A general understanding of rangeland resources can be gained through a series of consultations and discussions with community and government representatives, and other interested parties. A number of participatory tools can be used including:

- Mapping of resources;
- Seasonal calendars;
- Rangeland species matrix; and
- Rangeland condition/health historical trend analysis.

The most powerful and information generating of these tools is likely to be the mapping of resources. Community maps drawn of resources found in a specific area, and resulting discussions about their use, condition, access etc. have proved to be a highly useful land-use planning tool.

Resources can be re-mapped at different scales for a given area e.g. at landscape level or at district level. Ideally the map will display important information, such as dry and wet season grazing reserves, water sources, forest boundaries, physical features (such as rivers, roads, paths), and other key resources such as fuel-wood and non-timber dryland products, botanical resources and minerals. Information on different grazing, water, forage and forest areas, and their condition/health can also be added to the map.

**In Afar as in other pastoralist areas, livestock and pastoralists (men, women, young, old, rich and poor) use resources in different ways and at different times of the year.**

The directions that resource users and their livestock move to use resources (mobility) can also be shown on the map. Community drawn rangeland maps can be related to topographic maps fairly easily and/or be converted to GIS maps or considered next to satellite images. A community drawn resource map is the basis for developing a rangeland area map to be included in the rangeland management plan.

As it is likely that men and women will view resources and their use differently, it is preferable to carry out mapping and other information gathering exercises with men and women separately. It may also be necessary to take into account other social/cultural divisions in the society and take actions to ensure that all views and perspectives are included.

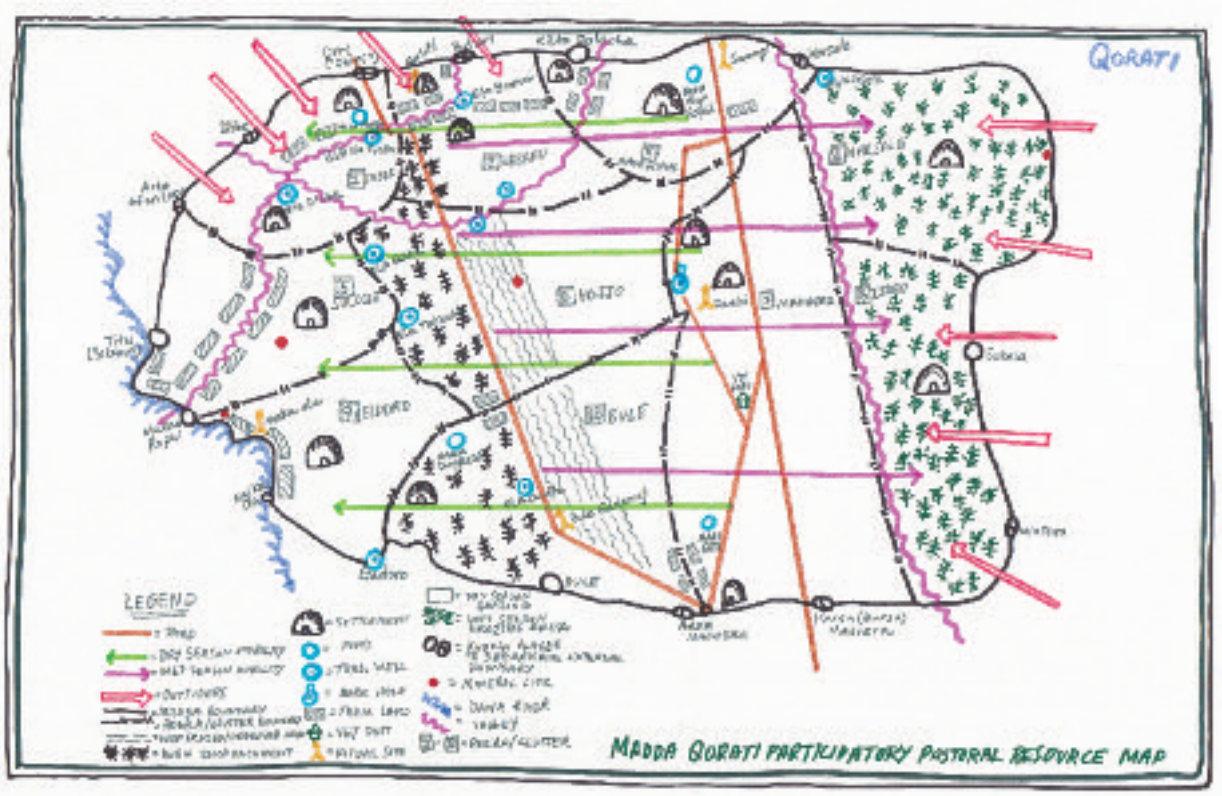
## Understanding rangeland users

The second crucial task in the 'Investigating PRM' stage is to undertake a thorough review of rangeland users through a stakeholder analysis. As noted, rangelands have multiple users, or stakeholders, and the relationships between them need to be understood if a more inclusive management of rangeland resources is to be achieved. Stakeholders include men and women, young and old, and rich and poor – all of whom will have different relations with rangeland resources and their use.

The immediate objective of a stakeholder analysis for PRM is to identify and analyze all the different stakeholders in terms of their direct and indirect use of rangeland resources. The current, and potential, roles and responsibilities of the different users can then be identified, and the interests, positions and requirements of all stakeholders fully understood. This process will allow potential and actual risks and conflicts between groups to be identified and highlighted.

Identifying how people perceive their own rights and responsibilities over resources, as well as those of others, is then the starting point in initiating discussions about

**Participatory mapping of resources by community members is a key starting point for understanding resource use, users, access and management.**




**A community-drawn resource map can prove to be a valuable tool for land use planning in pastoral areas.**

whom should have what rights and responsibilities in a future rangeland management system. To differentiate between different levels of rights to the rangeland's resources, stakeholders can be divided into primary and secondary users. They may be differentiated according to the proximity of their base settlement to a resource, such as a water source or a dry season grazing area, or differentiated through their clan affiliations.

The stakeholder analysis should involve group exercises and discussions to identify rangeland stakeholders, and should involve representatives from as many stakeholder groups as possible. Two useful tools for the analysis are:

- Stakeholder and institution mapping; and
- The conflict onion

Specific questions that the stakeholder analysis can answer focus on four elements of rangeland use and management:

- Who has what rights to use the rangeland resources and for what purpose? (Rights)
- Who takes what actions in terms of rangeland and resource management? (Responsibilities)
- How do the different stakeholders relate to each other? (Relationships)
- Who benefits from the rangeland resources? (Revenues)

To summarize this information a 4R's (Rights, Responsibilities, Relationships and Revenues) matrix can be constructed. Working with community groups it is possible to compile information about different stakeholders under defined headings. It may be necessary to treat each type of resource separately e.g. water, grazing, browse, non-timber dryland products.

The information obtained provides the basis for community discussions of who should be involved in the agreement on a rangeland management system, and what rights, responsibilities and benefits they each should have.

Table 1 **Four 'Rs' matrix for a dry season grazing area**

| Stakeholder name | Rights | Responsibilities | Relationships | Revenues |
|---|---|---|---|---|
| **Stakeholder 1**<br>Permanent user | To graze animals in open areas<br><br>To graze animals in communal 'kalo'<br><br>To collect gums and resins<br><br>To collect other non-timber dry-land products<br><br>To collect grass for fodder | To control access to grazing and prevent overgrazing<br><br>To control access to ensure water source kept clear and clean<br><br>To protect fences of 'kalo'<br><br>To manage tree cutting<br><br>To guard forest against fire<br><br>To control agricul-tural encroachment | With occasional users:<br>reciprocal<br><br>With outsiders:<br>conflict over use of resources<br><br>With local government:<br>supportive | Livestock income and products<br><br>Income from gums, resins and other dryland products |
| **Stakeholder 2**<br>Occasional user | To graze animals when grazing low in own area in open areas<br><br>To water animals when visiting area to graze<br><br>To collect non-timber dryland products | To prevent overgrazing<br><br>To ensure water source kept clear and clean<br><br>To manage tree cutting<br><br>To guard forest against fire | With permanent users:<br>reciprocal<br><br>With outsiders:<br>conflict over use of resources<br><br>With local government:<br>conflict over access | Livestock income and products<br><br>Income from gums, resins and other dryland products |
| **Stakeholder 3**<br>Outsider group | Demand rights to graze and water animals | None | With permanent users:<br>conflict over access and use<br><br>With occasional users:<br>conflict over access and use<br><br>With local government:<br>conflict over access | Livestock income and products |

**Exclusion of community groups from customary institutions and decision-making processes**

**Dryland groups such as pastoralists tend to rely on customary institutions as the public face of decision-making processes. These customary institutions tend to be made up of male elders of a certain status, thereby excluding women, some youth and more 'marginal' groups. Though it can be argued that these community groups have their interests represented by their male relatives (the Elders) some caution is advisable in order to ensure that customary institutions are fully representative and fair. Having said this, it is too often assumed that women and other minority groups do not have ways to make their voices heard and are therefore without influence. Again, rather than taking things for granted, every effort should be made to clarify current decision-making processes, both formal and informal in order to establish fair, representative and inclusive decision-making process, in which none are marginalized.**

2

## Negotiating PRM

# Step 2 **Setting up or strengthening rangeland management institutions**

The establishment or strengthening of functional community-based rangeland management institutions is at the centre of successful PRM. The rangeland management institution is the body or group that will take on the roles and responsibilities of community-based rangeland management. The strength of the rangeland management institution is therefore critical, including the skills and capabilities of its members to carry out the duties assigned to them.

The investigations of stage 1 will have established the presence and current status of any existing rangeland management institutions. Discussions can then be held among the different stakeholders as to whether an existing institution is appropriate, and whether with some adaptation it can fulfill the necessary roles and responsibilities required of it, or if the development of a new group or institution is a better solution.

### Legal authority

It is important local government representatives are included within these initial discussions to ensure that the rangeland management institution selected will be able to gain legal recognition as a local rangeland management body. Its legal recognition will define its authority, its role, its responsibilities and its benefits. Its tasks will include bringing any offenders of the defined rangeland management rules and by-laws to the appropriate law bodies, the police or the court, so achieving this legal recognition is a critical challenge — and one that is becoming ever more important due to the different pressures on rangeland systems and pastoral communities.

In order to enter into a legal agreement with a government body, a community body needs to have a formal legal status. Currently only limited legal recognition and protection of community-based institutions can be provided for under Ethiopian law. Ethiopian law legally recognizes only certain types of organization at the community level: To be recognized communities need to form NGOs, private enterprises or cooperatives.

Management arrangements can be formed at different scales. Under participatory forest management (PFM), single-village level cooperatives and grouped-village level cooperatives have both been formed. Once formed, cooperatives have to conform to the cooperative law and its rules and regulations of operation, as overseen by government Cooperative Bureaus.

Much can be learnt from past experience of establishing cooperatives and their development. Cooperatives have proven success in business development and in mobilizing communities for a given purpose, particularly those communities which are relatively loosely con-

**Local customary authorities in Afar meet to resolve a dispute involving the use of their dry season grazing areas.**

nected. However the appropriateness of cooperatives for rangeland management and for providing the right forum for the development of rangeland institutions is questioned. This issue needs further consideration by relevant regional and federal government departments if Ethiopia is to identify, and scale-up, improved rangeland management.

### Local authority

As stated above, the rangelands have historically been managed according to customary governance systems. The advantage of working with a customary system is that it recognizes and endorses the well-established roles and rights of different members of a community. It also incorporates the existing management mechanisms that prevent overexploitation of resources, and promotes sustainable use and availability of resources for all community members, as well as occasional visitors. However, customary systems also have their limitations, as not all have a history of inclusiveness. Certain groups within communities may feel, and indeed be, excluded and marginalized. Support may be needed so that excluded groups can be accommodated, and/or linkages made with forums and institutions where these groups can be fully represented and involved.

### Capacity development

It is likely that the capacities of communities involved in the rangeland management institution will need to be strengthened to build the knowledge and skills required for managing the rangelands in modern times. In order to do this development practitioners and natural resource advisors need to develop capacities and training skills in both community engagement and inclusiveness, and in promoting adaptive management of rangeland resources by a community-led management unit.

The role of the rangeland management group will be formally defined in the rangeland management plan and agreement (steps 4 and 5). The group will need to build recognition and understanding of itself, and its status, in relation to the other institutions with which it will work. Central to the role of the management group is the ability to make decisions about rangeland management, and to take action to follow up on those decisions. Good decision-making will determine the success of the overall rangeland management system.

The process described above is complex, and to help keep the process on track it will be important to ensure clear communication between all parties throughout, using local language and ensuring step-by-step information dissemination to all PRM parties.

2

Negotiating PRM

# Step 3 **Defining the rangeland management unit and preparing the rangeland resource assessment**

The rangeland management unit is the area of land over which the PRM institution will have primary jurisdiction and authority. Defining this area, and establishing the presence and condition of the resources found within it through a participatory rangeland resource assessment, is the next step in the process of participatory rangeland management.

## The rangeland management unit

Once the rangeland management institution has been identified and its roles and responsibilities have been clarified and agreed, the next step is to establish the 'boundaries' of its jurisdiction. These are not hard and fast boundaries and should include reciprocal grazing arrangements with neighbors.

It is likely that a map of the approximate rangeland management unit under discussion will have been produced as part of the investigation stage, and will show the types and distribution of the resources found. The rangeland management institution should confirm that this map, its 'boundaries', and its content, provide a sufficiently detailed inventory of the resources found within the management unit. Ground truthing should also be carried out to ensure that the map reflects the situation on the ground. It may be possible for an NGO or government office to assist the community in digitizing the community map (including the boundaries), although this is not necessary. Nor is it always empowering for the community members.

As has been noted, 'boundaries' in pastoral areas are seldom if ever like boundaries in more sedentary communities, as the rangelands are communally managed and different groups of pastoralists have well established reciprocal grazing rights in neighboring management units. Boundaries can therefore be considered something of an alien concept. Traditionally, boundaries where one group's authority ended, and another's began, were simply 'known'.

However, for local government to approve the authority of the rangeland management institution over an area of rangeland, it will be necessary for rangeland units to be broadly defined — provided that all parties understand that the users themselves must then work out their reciprocal grazing rights. Discussions and negotiations with neighboring rangeland management institutions at the early planning stage however can sharpen the debate and ensure that this issue is not overlooked.

The outcome of the process outlined above should be a community-drawn map (perhaps supported by a digitized GIS map) that defines the following:

- The 'known' boundaries of the rangeland management unit (albeit recognizing that these are porous and flexible);
- The different types of natural resources found in the management unit, including grazing areas, watering points, non-timber dryland products, community and individual enclosures/exclosures, and mineral sites such as salt licks. The most important areas can be highlighted as 'rangeland productivity hotspots' —

without which the whole pastoral system that functions in the area is at risk and which therefore should be afforded the most protection e.g. dry season grazing areas or watering points.

- Other important sites, services or resources including sites of cultural and religious importance, settlements, agricultural land areas, health posts, etc.
- Key mobility routes can also be shown on the map, which will highlight the different usage of resources and parts of the rangeland management unit at different times of the year.

The mapping of soil types is another potentially useful exercise that can generate information important for future resource management decisions. Government representatives may be able to provide soil maps or other useful information for understanding different soil and habitat types.

Community and government representatives will also have to decide on broad, but useful, habitat or rangeland condition types within each soil type. These habitat or range condition types can then be mapped on top of soil types. The resulting map can be used to guide both management and assessment decisions for specific sub-units within the overall rangeland management unit. The chosen habitat types should therefore be broad enough to encompass large areas of land (probably on the scale of hundreds of hectares), but specific enough to inform management planning. An example of possible habitat types is shown in Table 2 below.

Individual communities, however, may want to divide the landscape into more, or different, categories or sub-units that are more meaningful to them in terms of both resources and management.

Finally, different management activities that are currently being undertaken within the PRM area should also be considered. These might include areas under cultivation; areas where trees have been cleared or thinned; areas that have recently been burned; areas where other rangeland restoration efforts are being undertaken; and any other targeted management activities. Such information should be fully documented and supplement the map of the rangeland management unit.

### Box 2 Local land-use planning at a landscape level

**In the past the mapping of rangeland resources and related management practices has been carried out at a kebele or Pastoral Association level. However this relatively small unit has proved to be limiting, and misses out larger livestock and human movements to access resources in the wider rangeland. It is better to identify any traditional resource management units that will reflect and incorporate much better the resource use and management practices of functioning and self-supporting pastoral communities.**

**Recent work suggests that taking a landscape or watershed approach to land use planning has many benefits in a pastoralist context. Save the Children/US and SOS Sahel Ethiopia's work with pastoralists in Oromia region has shown that land use planning of the units, described locally as the 'dheeda', is both appropriate and highly effective. At this level a NRM institution already exists with rules and regulations concerning NRM use: the jarsa dheeda. Planning at this level can form the basis from which larger-scale PRM processes can be developed.**

## The rangeland resource assessment

A participatory resource assessment report is part of the key documentation for PRM that will enable communities to take up the legal management of the resources. The community should be supported in undertaking the assessment exercises and preparing the report as key rangeland management tools.

Once the overall rangeland management unit has been defined and agreed upon by both the rangeland management institution and the relevant government office, it is necessary to collect more detailed information on the types and current condition of the different rangeland resources. This can be achieved through carrying out a participatory rangeland resource assessment. A participatory rangeland resource assessment has two main objectives:

i) To provide an inventory of resources and their condition as a contribution to the rangeland management plan and the rangeland management agreement, including the identification of 'rangeland productivity hotspots' and/or areas that are particularly sensitive and/or may require specific management interventions; and

ii) To provide a technical baseline of the resources and their condition against which to monitor subsequent changes, including the effects of the management actions that will be agreed upon in the rangeland management plan. As such it is a first step in the design of a participatory monitoring system.

The participatory rangeland resource assessment process consists of several key steps:

1. Defining the rangeland sub-units or zones within the overall rangeland management unit based on use, management, soil, and habitat areas, for use in the PRM agreement and for data collection;
2. Deciding where to collect baseline data based on the identification of different sub-units or zones;
3. Deciding what data to collect, and how, depending on the level of detail required and/or specific management concerns for the area;
4. Documenting assessment data collection protocol, including the design of data collection forms and identification of feedback/verification methodologies;
5. Collecting baseline data by a team made up of community and government representatives;
6. Interpreting results by a team made up of community and government representatives;
7. Producing the assessment report, including the results of the mapping exercises, the results of the data collected in each rangeland sub-unit or zone, an interpretation of these results, and management recommendations for each sub-unit or zone based on these results. The report can best be made available in the appropriate local language.

**In Somali region gums and resins are tapped from local indigenous trees. Ensuring that this is done sustainably is key to maintaining the resource.**

The process of carrying out a baseline participatory rangeland resource assessment, and developing a long-term monitoring program, should involve (if not be lead by) the full participation and input of the community. In many of the above steps key decisions will have to be made and agreed upon by both community members and government representatives. Development practitioners or natural resource advisors and/or a relevant research institution can facilitate this process.

*Note: This section presents an overview of the participatory rangeland resource assessment process, while identifying areas that need to be more fully developed to effectively use the process to guide management decisions. More detailed guidelines for developing a participatory monitoring system are being developed in a parallel process which will result in the publication of a handbook: "Monitoring Rangeland Health: A Guide for Facilitators and Pastoralist Communities."*[9]

Table 2 **Possible habitat types**

| | Tree and shrub cover | |
|---|---|---|
| **Grass cover and erosion potential** | Low grass cover<br>Low tree / shrub cover | Low grass cover<br>High tree / shrub cover |
| | High grass cover<br>Low tree / shrub cover | High grass cover<br>High tree / shrub cover |

Experience with Participatory Forest Management (PFM) suggests that a resource management plan (be it forest, rangeland or other resource) forms a solid foundation for formal and legally supported agreements governing access to resources and their management.

2

## Negotiating PRM

# Step 4 **Developing the rangeland management plan**

The rangeland management plan is the vital last step before the drawing up of the rangeland management agreement and its authorization. It is recommended that the plan be developed by the rangeland management institution and be based on discussions with all relevant community groups and other stakeholders.

The next step in the PRM negotiation process is the development of the rangeland management plan. The plan's objective and actions should reflect decisions that have been informed by data collected in the preceding participatory rangeland resource assessment, for example the identification of areas within the rangeland management unit that need to be managed in a particular way. The rangeland management plan might follow this structure, though local adaptations should be made:

1. Introduction.
2. Description of the rangeland management unit, including a resource map and the information collected through the participatory rangeland resource assessment.
3. Objectives of the rangeland management plan.
4. Rangeland management actions, including: rangeland resources and use; rights of access and management responsibilities; improvement and development; and rangeland health and condition monitoring.
5. Plans for monitoring and evaluation (M&E).
6. Methods for revision of the plan as part of an adaptive management process.

Once the rangeland management institution has a draft plan, consultations and negotiations are necessary with the appropriate local government offices. 'Outside' facilitation by a third stakeholder may help ensure that these meetings are productive and supportive of the intended outcome.

As part of the plan many important actions will need to be considered, discussed, negotiated and agreed upon. These may include:

- Sustainable levels of grazing. These will be based upon the resources available, their distribution, and the movement patterns of livestock (which can only partly be predicted as mobility is primarily reliant on the climatic conditions of a particular year or period). Planning should include provisions for periods of crisis, such as grazing of grass reserved for times of drought.
- The development of watering points and terms of access to them. It may be necessary to restrict the development and access of some watering points if adequate grazing is not available in the close vicinity to avoid overgrazing what is there.
- Sustainable levels of non-timber dryland products including gums and resins, and plant products. These

## Box 3 Woreda Environment Management Plans

**In order to support the full participation of communities in the preparation and implementation of plans for environmental resources management, Woreda Environment Management Plans (WEMPs) are being developed through consultations and negotiations between representatives from woreda governments and local communities. A process initiated by the federal Environment Protection Agency, the plans are for community implementation with government support. In developing WEMPs a similar process is carried out as within PRM based on investigation, negotiation and implementation, including the establishment of by-laws. Although currently being developed more in highland areas of the country, there is room for overlap and complementarities between WEMPs and PRM plans in pastoral areas.**

should be in line with sustainable use protocols for different groups, and species, of plants and products.

- The utilization and management of invasive species such as *Prosopis juliflora* and *Acacia drepolobium*. Sometimes there can be conflicts of interest between those who want to utilize these species and those who want to see them completely removed.

### Key principles for the management plan

Issues of sustainability must not be compromised in the management plan. Further information may need to be collected on sustainable levels of resource use and harvesting. If this is the case, then the gathering of required data and experimentation with grazing or harvesting levels should become part of the plan of actions. Development practitioners or natural resource technical advisors can cover this task as part of their technical support provided to community managers.

The rangeland management plan should be kept relatively simple and brief, should be reviewed on a regular basis, and should ideally set a vision for the next 25 years or more. As the management activities are carried out it is important to test their effectiveness and impacts. Skills and knowledge need to be built through practical experience and the operation of the management plan.

The plan's monitoring and evaluation (M&E) needs should be considered and defined at the planning stage. Communities and other stakeholders should define the appropriate indicators to measure change. The baseline data collected as part of the participatory rangeland resource assessment should form the basis of this M&E plan. M&E systems should be established based on processes already used by community members and utilize their own knowledge systems, but should incorporate appropriate scientific knowledge too. Development and natural resource technical advisors can assist communities to develop such systems. (M&E is discussed further in step 8).

The most important principle is that the community should develop the rangeland management plan. It must be based on their decisions on how to manage the resources. Development practitioners or natural resource technical advisors must resist the urge to impose rules and regulations and revert to a top-down approach. The management plan needs to receive the approval of all the communities living within the management unit. Without this approval it is unlikely that actions will be taken seriously, or even allowed.

**Borana community members work together to clear the bush that has encroached on the rangeland.**

2

## Negotiating PRM

# Step 5 **Establishing the rangeland management agreement**

The rangeland management agreement is the binding contract document for participatory rangeland management between the government authorities and the rangeland management institution.

The final step of the 'negotiation' stage of PRM is the drawing up and signing of the rangeland management agreement. It is likely that the formulation of the rangeland management agreement will require extensive meetings, discussions and negotiations between the government offices and the rangeland management institution, particularly on rights and responsibilities. The final agreement will require the signatures of the head of the appropriate woreda office such as the Livestock, Crop and Development Bureau on behalf of the government, and the head or chairperson of the rangeland management institution on behalf of the community.

A rangeland management agreement could be developed as the following:

**Article 1** Definitions

**Article 2** Objectives of the agreement

**Article 3** Location and condition/health of the rangeland and its resources

**Article 4** Description of the agreeing parties

**Article 5** Benefits of the agreeing parties

**Article 6** Rights and responsibilities of the parties

**Article 7** Condition, legality and duration of the agreement

Sections one through three of the rangeland management agreement can include an introduction (similar to the rangeland management plan), the definition of key terms, the objectives of the agreement (as defined in the management plan), and the condition/health and location of the rangeland and its resources.

Section four contains detailed information about the agreeing parties. On the government side this includes which offices are involved in the agreement. On the community side, this includes the listing of the rangeland management institution executive committee members and group members.

Section five of the agreement describes benefit-sharing arrangements. For example, if the community is managing a rangeland where there are usual (or primary) and occasional (or secondary) users, the agreement should state who has rights of access to the rangeland and under what conditions. Further, it may be agreed for example that if communities are benefiting from the collection and sale of dryland products such as gums and resins, that a tax be paid to government and/or they be provided with a share of the revenue. Such points should be clearly stated in the agreement.

Section six of the agreement is the clear specification of the rights and responsibilities of the two (or more) parties. Decisions about rights and responsibilities should be negotiated through discussions with and between the government and the community (or communities). The rights and responsibilities need to be directly related to the rules and regulations that have been agreed concerning the rangeland management unit (including sub-units

or zones) and its resources, for example who can do what in the area and access which resources. Decisions need to relate to the objectives of sustainable rangeland management.

The final section stipulates the legal conditions of the agreement. This includes the procedures to be followed in the event of a disagreement between the parties, a default of contract by one of the parties, or the termination of the contract.

The duration of a rangeland management agreement could be as little as 25 years or as much as 99 years (as within forest management agreements and property leaseholds in cities) — this should be stated. Other legal terms, conditions and/or requirements should also be noted. In a situation where multiple users are involved it may be thought useful that all such user groups agree over the terms of the rangeland management agreement and sign it.

The rangeland management agreement is a vital document for PRM, and should be held by all parties. The agreement can be made best available in the appropriate local language, and all parties should hold a copy.

### Box 4 The experience of Participatory Forest Management in Borana

**Under PFM in Borana a new community institution was set up which complimented the pre-existing system controlled by the Gadaa. The new structure was composed of four levels:**

***Jarsa Maddaa kan Fina Badaa* — a forest management group responsible for the management of one or more forest compartments belonging to a particular kebele, PA or madda.**

***Jarsa Ejjaa kan Fina Badaa* — a forest management group charged with the responsibility of managing a given forest block belonging to an aggregate of madda.**

***Jaarsa Aanaa ka Finna Badda* — a forest management group composed of representatives of the Jarsa Madda kan Fina Badaa, Gadaa and local government bodies, which undertakes forest management at a district level.**

***Gumii Finna Badda* — a forest management assembly comprising the entire membership of the forest management groups functioning at the level of district.**

**Both men and women were elected to these positions, including illiterate, rich and poor. The role of the forest management group is to manage and protect the forest from illegal extraction and fire, promote awareness creation among the local community, reflect on forest management issues on a bi-monthly basis at madda (or PA) level and on a monthly basis at district level. The group is in charge of regulating how, when and by whom the resource will be utilized and enforces rules and regulations. It grants permits for certain uses of the forest and resource collection, and prohibits the cutting of re-growth, large trees and certain species that have religious significance. Whether the person is poor or better off, the forest regulation is equally applicable to all community members. The collection of dead wood cannot be carried out without the approval of the forest management group. Defaulters from the regulations are subject to punishments to the extent of exclusion from using any communally owned resource. If someone is caught collecting a forest product illegally he/she could be subject to a fine of five cattle or a five to ten year jail sentence although no one has received such a punishment so far.**

**In general these forest management institutions and the PFM process that they support, are functioning well, with awareness and protection improving within the communities and positive relations between management groups and government bodies strengthened through regular meetings etc. The system can be said to have positively contributed to the sustainability of forest resource management and utilization.**

3

Implementing PRM

# Step 6 **New roles for communities and rangeland management advisors**

Participatory rangeland management requires an effective partnership between the appropriate local government office and the community rangeland management institution, with each side working towards mutual goals. Important new changes are required in the roles of these partners, as well as in the roles played by supporting advisors/facilitators from NGOs and research institutes.

## New or adapted roles for community institutions in rangeland management

The activities that the community undertakes are critical in determining the success of PRM. In the implementation of PRM the community will have strengthened roles as rangeland managers. While some activities will be new to community members, others may have been carried out previously, though without formal recognition. Recognition of their new role is the basis of the new natural resource relationship between government and the community rangeland managers. The list below gives some examples of the new roles and activities for the community. The list is not exhaustive.

- Information providers of new rangeland users and uses.
- Legalized rangeland resource managers and rangeland resource users.
- Assessors of rangeland resources through the participatory rangeland resource assessment.
- Managers of the rangeland management institution.
- Resolvers of conflict and competition between and within rangeland user groups.
- Decision makers of new rangeland rules and regulations.
- Implementers of rangeland management plans.
- Protectors and controllers of rangeland resources.
- Removers and controllers of invasive and damaging species.
- Selectors and planters of vegetation species for rangeland/rangeland rehabilitation.
- Promoters of rangeland health and condition.
- Marketers of rangeland products.
- Evaluators of new ideas and technologies.
- Experimenters and actors with/within new rangeland management approaches and processes.

- Adaptors to climate change and related influences.
- Communicators of own knowledge and findings to others.
- Monitors and evaluators of participatory rangeland management systems and practice.

Activities will further evolve as the members of the rangeland management institutions and the pastoralists who they represent, understand and develop their management operations and skills. This is done through learning and practical experience and can be supported and facilitated by both government and other partners. Such support will need to be on an ongoing basis as new challenges arise and new skills are needed to overcome them.

## New or adapted roles for rangeland management advisors

If PRM is to succeed, development and natural resource advisors from government and all other relevant stakeholders will also need to change. PRM offers a very different approach to rangeland management. The list below identifies some of the new roles and activities natural resource advisors will need to play — with the further development and understanding of their roles acquired through learning and practical experience.

- Investigators of local rangeland uses and users — rights and responsibilities.
- Identifiers of local rangeland management systems — rules and regulations.
- Actors in the participatory rangeland resource assessment.
- Advisors to rangeland management institutions about ways to monitor condition/health of rangelands and resources.
- Facilitators of rangeland based problem-solution analysis.
- Moderators of different interests, and of conflict and competition over resources.
- Facilitators in conflict resolution and transformation.
- Negotiators of rangeland management rules and regulations.
- Monitors of PRM processes and of rangeland management agreements.
- Advisors to rangeland management institutions.
- Experimenters of new rangeland management approaches and processes, including ways to improve rangeland condition and health.
- Facilitators of 'rangeland management institution to rangeland management institution' learning, communication and exchange.
- Trainers in community rangeland management skills and practice.
- Analysts of rangeland management problems.
- Generators of new technologies and innovations.
- Identifiers of regional rangeland policies, rules and regulations.
- Providers of information to complement rangeland management institutions' knowledge.
- Documenters / analysts of methods of PRM / disseminators of PRM results.

In addition to the specific skills above, new rural development technical capacity is also essential. Skills in participatory development will be particularly important including: Participatory Planning; Participatory Technology Development; Participatory Learning and Action; and Participatory Monitoring and Evaluation, including Participatory Impact Assessment. Such "participation" must be meaningful and of the highest degree if PRM is to succeed: communities must be allowed to lead their development and natural resource processes.

Other new skills implied in the new roles include conflict management, facilitation and negotiation, community institution development and rangeland/dryland product processing and marketing skills. All these skills are new in terms of what development and natural resource professionals usually do.

Ultimately, what is being asked for is a new commitment and understanding from development practitioners and natural resource advisors to support new systems for community managed resources. If rangeland managers are to rise to the challenge then new PRM curricula and professional training will need to be put in place. This is perhaps a long-term change. In the short term, managers should request and seek out specialist training.

# Implementing PRM

## Step 7 **Arresting and reversing declining rangeland productivity**

Implementing new rangeland management approaches through a practical working partnership is essential for the success and maximum effectiveness of PRM. But communities should not be left to get on with managing rangelands without assistance: they need support, skills and technical know-how from professional rangeland and natural resource advisors, particularly in the face of many new changes and pressures on rangeland environments.

Rangelands now face new and negative threats and challenges, such as climate change or the 'invasion' of non-local plant species, for which adaptation is vital. But many new and positive opportunities are also arriving, including improved communication networks that allow for a greater spread of knowledge and information, which can be used to benefit rangelands and those who live there. To improve resiliency and the means to cope with the new threats, and to optimize the benefits of new opportunities, community rangeland managers and development/ natural resource advisors need to work hand-in-hand to share and develop new knowledge and skills.

The management of the rangeland management unit will be determined by the specific conditions and health of the rangeland and the uses required of it. An area of well-managed rangeland will require different management skills and practices to those required for an area of highly disturbed and degraded rangeland in need of rehabilitating. A dryland forest area will require different management skills and practices to those required for a grazing area to optimize grass production.

New and/or revitalized tools such as the use of prescribed fire or the establishment of communal grass enclosures as drought reserves are important manage-

***Acacia drepalobium*. The invasion of non 'local' or alien species raises new challenges for communities as rangeland managers.**

ment options to consider. However capacities may need to be (re)built if such practices are new or have not been used for some time. Approaches and processes used in other parts of the world can also offer 'new' and positive input including such as 'planned livestock grazing.'

Using participatory and experimental approaches to develop new community dryland practices, based upon and utilizing indigenous knowledge and customary practices, is the way forward. Participatory Technology Development (PTD) can be used in order to develop and try out (experiment) appropriate rangeland based trials. For example, where the management plan aims to rehabilitate a rangeland area and encourage the growth of specific high value grass species, the community members, supported by the rangeland manager, can set up a number of area based experiments in order to determine best species to introduce and manage.

In some areas, rangelands have been degraded so much that simply reducing grazing pressure is not enough to allow the land to recover. In these cases, communities may consider doing some ecological restoration or rehabilitation to promote land recovery. Though both communities and rangeland managers may have some knowledge on and skills for this, it is likely that these can be improved, and lessons learnt from other rangeland areas and experiences. Rehabilitation or restoration activities, for example, include reducing erosion through plugging up gullies and laying down obstructions to slow sheet erosion; facilitating plant establishment through such as furrowing; and improved livestock management. All these techniques will need to be tested and adapted by communities.

### Box 5 Management of invasive species

**Many pastoral areas have seen an increase in the 'invasion' of alien, non-'local' species in the last decade. These include such species as *Prosopis*, *Parthenium*, and *Acacia drepanolobium*. These species have taken over grazing areas and blocked migration routes and access to water points. They prove very difficult to control and almost impossible to remove as they are easily spread and will re-invade a piece of land unless strict measures are taken to prevent them from doing so.**

**Some species such as *Prosopis* do have beneficial qualities and can be used to provide resources such as livestock feed, high quality timber and charcoal. However in most cases the benefits that such plants can bring is minimal in comparison to the costs they incur for communities and their livestock. Integrated and strategic planning is required with communities, governments, research organizations and other stakeholders working together to find solutions and ways to control the spread of such species.**

### Box 6 Climate change challenges

**Climatic fluctuations have always been a defining feature of drylands, including rangeland areas, and pastoralism is a livelihood system that has enabled those who live there to cope with these fluctuations. However global climate change is raising new challenges for pastoral systems, with most climate models suggesting a decrease in the amount and predictability of rainfall combined with an increase in evaporation caused by warmer temperatures. To adapt to this the mobility of pastoralists and their livestock is, and will continue to be, critical.**

**Evidence of climate change in pastoral areas of Ethiopia is already resulting in, for example, increasing frequency of droughts. At the same time many people and livestock movements are being curtailed due to: wet season grazing areas being given over to commercial farming enterprises; increased sedentarization and privatization of rangeland resources by those turning to agriculture as a livelihood; inter-ethnic conflicts; and urbanization and expansion of settlements around water points. As a result, the interests and benefits of a few are risking the displacement of the much larger group (those still relying on pastoralism as a livelihood base), and their ability to adapt to climate change in the future.**

*Source: Eyasu Elias 2009*[10]

3

# Implementing PRM

## Step 8 **Participatory monitoring and evaluation**

The effectiveness of its monitoring and evaluation system will ultimately determine the success of the PRM process. Communities need to develop their own M&E systems as part of taking up, or strengthening, their rangeland management roles. There are two key steps within the PRM process where M&E must be integrated: in the negotiating stage when developing the rangeland management plan, and here in the implementation stage where M&E should be used to facilitate adaptive management and/or help determine best management practices.

Pastoralists are highly skilled at monitoring the range, with community members holding valuable indigenous knowledge about rangelands, their processes and components. However, such knowledge is now fading as traditional rangeland management faces new threats and new skills and knowledge are now needed to cope with and adapt to these changes (see step 7).

For the PRM process it is recommended that knowledgeable rangeland managers are paired with talented and committed development and natural resource advisors, to devise appropriate M&E systems that are fully capable of measuring the condition/health and productivity of the rangelands and any changes occurring. By doing so the more science-based M&E systems can be combined with methods that are traditionally used by communities, and a system established which then reflects the needs, capacities and skills of those implementing it. Enabling the community to carry out participatory M&E of their rangeland management practices is crucial and a key area of capacity building for improving and developing community management.

### M&E for the rangeland management plan

If the objectives of the rangeland management plan are clearly defined, and incorporate useful scientific knowledge (collected through the participatory rangeland resource assessment, step 3), then developing monitoring tools is relatively simple. The key is to ensure that the communities articulate what changes they want to see in order to improve their rangeland, for example an increase/reduction in a particular species, or certain practices used or controlled. The collection and use of data within M&E systems can present a key challenge to rangeland management groups, particularly to non-literate groups. Non-literate methods of data collection and analysis can be developed based upon local methods/tools already used.

### Box 7 Definition of monitoring and evaluation

**Monitoring is the on-going process of collecting data in order to measure the progress, and/or the condition, of an activity to guide implementation. For example, if invasive species have been removed re-growth needs to be measured and monitored. Or if grass and tree seedlings have been planted as part of a rehabilitation program, the rangeland manager needs to monitor (collect information on) their survival and/or growth rate in order to know whether to continue or adjust the activity.**

**Evaluation is the periodic review of all the data and information gathered through the monitoring. Evaluation is an in depth analysis at a particular point in time of an ongoing or completed activity for learning and future planning.**

**Both monitoring and evaluation should promote joint learning and improved implementation, although evaluations are likely to involve a wider range of actors.**

The plan needs to ensure that PRM monitoring and evaluation becomes part of every day management practice. But monitoring needs to be more than a checking mechanism by community rangeland managers: the M&E system needs to support positive outcomes or impact based on the rangeland management plan.

## M&E for adaptive management

Mechanisms need to be put in place to systematically review the results of M&E processes within the management plan, to reflect upon them and to develop new actions based on them as part of adaptive rangeland management. Regular woreda (district) level PRM working group meetings to bring key government and community PRM actors together to discuss issues arising, and resolve problems, have emerged as a useful review mechanism for M&E information, and have ensured that the information is collectively analyzed and acted upon.

Fundamentally the aim of M&E is to improve implementation. In a relatively new process like PRM it is essential that M&E be used positively to improve the PRM system. This is especially important in this early period as PRM is established, developed and expanded.

## Endnotes

1 NRM Regional Technical Advisor for USAID funded Enhanced Livelihoods in the Mandera Triangle/Enhanced Livelihoods in Southern Ethiopia (ELMT/ELSE).

2 Director of the Livelihoods Unit, Save the Children/US

3 Bale EcoRegion Sustainable Management Project

4 *Key Steps in Establishing Participatory Forest Management: A field manual to guide Practitioners in Ethiopia, 2007. Best Practice Series No. 1.* Compiled by FARM-Africa/SOS Sahel Ethiopia, Oromiya Bureau of Agriculture and Rural Development and Southern Nations and Nationalities Peoples Region Bureau of Agriculture and Rural Development. London.

5 Safriel and Adeel 2005. "Dryland Systems" Chapter 22 in R. Hassan, R. Scholes and N. Ash. *Volume 1. Current Status and Trends. Ecosystems and Human Well-Being. Millennium Ecosystem Assessment.* U.S: Island Press. Internet: http://www.millenniumassessment.org/en/Condition.aspx#download

6 SOS Sahel Ethiopia, 2008. *Pastoralism in Ethiopia: Its Total Economic Values and Development Challenges.* For IUCN-WISP, Nairobi.

7 EEA (Ethiopian Economic Association), 2004/05. *Transformation of the Ethiopian Agriculture: Potentials, Constraints and Suggested Intervention Measures. Report on the Ethiopian Economy.* Volume IV. Addis Ababa

8 A draft policy and legislation for pastoralist areas has been developed for the Afar region and another is being developed for Somali region.

9 Riginos, C., J.E. Herrick, S.R. Sundaresan, J. Worden, J. Belnap, and M. Kinnaird. 2009. *Monitoring Rangeland Health: A Guide for Facilitators and Pastoralist Communities.* Nanyuki, Kenya: Mpala Research Centre.

10 Eyasu Elias (2009) *Threats of Climate Change on Pastoral Production Under Restricted Herd Mobility: A Case Study in Borena.* A report for SOS Sahel Ethiopia.

**Contributing Members of the Natural Resource Management Technical Working Group (NRM TWG), ETHIOPIA**

A. Bruk, IOM-UN
Abay Bekele, ACDI/VOCA
Abdi Hussein Abdullahi, PCAE/IDS
Abebe Mulatu, Ethiopian Land Administration Program
Adefires Worku, Ethiopian Institute for Agriculture Research
Abdirahman Ahmed, Livestock, Crop and Development Bureau, Jijiga
Abdirahman Ali, Save the Children/UK
Abdulhakim Mohammed, Save the Children/US
Addisu Abebe, LVIA
Adrian Cullis, Save the Children/US
Ahema Tadesse, Save the Children/US
Ahmed Osman, Livestock, Crop and Development Bureau, Jijiga
Alan Duncan, ILRI,
Alawis Ahmed, FARM Africa
Aliyu Mustefa, CARE Ethiopia
Almaz Tadesse, Wild CODE
Andy Catley, Tufts University
Araya Asfaw, HoA-RegEFN, AAU
Ayan Abdaila, OWDA
Ayele Gebre Mariam, Development Fund Norway,
Ben Irwin, SOS Sahel/FARM Africa
Beruk Yemane, Oxfam GB
Biruk Asfaw, Save the Children/US
Boku Tache, Consultant
Chalachew Agonafir, Oxfam America
Charles Hopkins, CARE Ethiopia
Dadi Amosha, GL-CRSP PARIMA
Dahir Ahmed, Food Security Bureau, Jijiga
Dereje Agonafir, Federal Environment Protection Authority
Dereje D. LVIA
Did Boru, Save the Children/US
Djihan Skinner
Doyo Hargessa, Save the Children/US
Dubable Admassu, USAID
Dula Etana, CARE Ethiopia
Elias Getachew, Save the Children/US
Emma Proud, MercyCorps
Ensermu Worati, Biology Department, AAU
Ephrem Haile, Biology Department, AAU
Eyasu Elias, Consultant
Fasil Demeke, MercyCorps
Ferhan Abduladir, Save the Children/US
Feyera Abdi, SOS Sahel Ethiopia
Fiona Flintan, Save the Children/US
Gebru Jeber, Ethiopian Meterological Agency
Gedlu Mekonnen, FAO
Geleta Simesso, PACT Ethiopia
Genene Regassa, CARE Ethiopia
Genet Abeberu
Getachew Asefa, COOPI
Getachew Gebru, GL-CRSP PARIMA
Gifawosen Tessema, Somali Pastoral Areas Development/MOFA
Gijs van't Klooster, FAO
Ginjo Giya, Community Vision Ethiopia
Girma Mulugeta, Talent for Change
Haileyesous Brook, UNEP
Hailu Meskela, FARM Africa
Houssein Rayaleh, HoA-RegEFN, AAU
Italo Rizzi, LVIA
Janny Poley, Netherlands Embassy,
Jason Forauer, Save the Children/US
John Graham, USAID
Johnathan Napier, FARM Africa
Kassaye Teshager, Action for Development
Kidanemariam Jembere, WaterAid Ethiopia,
Kristin Helz, Oxfam GB
Lemma Dinka, SOS Sahel Ethiopia
Lemma Gizachew, FAO
Lemessa Demie, CARE Ethiopia
Maria Ruiz-Bascaran, Save the Children/UK
Marianne Akumu, UNEP
Mahelet, UNEP
Massimiliano Rossi, LVIA
Marthe Strommon, Norwegian Development Fund
Mateos Matiso, Federal Environment Protection Agency
Mekuria Argaw, HoA-RegEFN, AAU
Michael Assefa, Norwegian People's Aid
Mitiku Tiksa, SOS Sahel/AFD
Moges Abebe, CordAid
Mohammed Abdinoor, USAID
Muktar Abduke
Mulugeta Belayhun, Consultant
Mustafa Mohammed, Oxfam GB Jijiga
Nemera Woyessa, CAFOD/Trocaire/SCIAF
Nikolai Hutchinson, PACT Ethiopia
Okeba Botie, Oromia Pastoral Development Commission
Rezene Fessehaie, Ethiopian Institute for Agriculture Research
Robert Bowen, Save the Children/US
Satishjumar Belliethathan, HoA-RegEFN, AAU
Solomon Abebe, Federal Ministry of Agriculture and Rural Development
Solomon Bekure, Ethiopian Land Administration Program
Solomon Demlie, Consultant
Solomon Desta, GL-CRSP PARIMA
Solomon Wakgari, Consultant
Sora Adi, Consultant
Strike Mkandla, UNECA
Sue Edwards, Institute for Sustainable Development
Tafera Mukie, FAO
Talew Daressa, Consultant
Tarekegn Tola, FAO
Taye Tessema, Ethiopian Institute for Agriculture Research
Tefera Mengistu, Wondo Genet Forestry College
Tekalign Kebede, SOS Sahel/AFD
Teklearegay Jirane, FARM Africa
Tesfu Kahsay, CARE Ethiopia
Tesfaye Gesiso, Action for Development
Tom Haverteart, CordAid
Trudi Dale, Save the Children/UK
Valdemar Holmgren, UNDP
Worku Chibssa, SOS Sahel Ethiopia
Yacob Wondimkun, USAID

**Contributing Members of the NRM TWG, NAIROBI**

Cary Farley, ELMT, CARE Somalia
Girma Kassa, ELMT, CARE Somalia
Walter Knausenberger, USAID
Ibrahim Nur, ELMT, CARE Somalia
Vanessa Tilstone, ELMT CARE Somalia