# Report on a Workshop in Natural Resource Management In Pastoralist Areas

Mbarara, Uganda
!9th -23rd March 2001

Pastoralist and Environmental Network in the Horn of Africa (PENHA)
Natural Resources Institute, University of Greenwich U.K.

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## Introduction

This workshop was the latest in a series of training courses organized by the Pastoralist and Environmental Network in the Horn of Africa (PENHA) in the greater Horn of Africa Region, working with partner groups pastoral communities, and a wide spread of government officials and researchers.

The partner organization in this instance was the Nyabushozi Development Agency (NYDA) of Mbarara District, in South Western Uganda. First contacts between PENHA and NYDA took place when some NYDA members attended a workshop in 1997 held in Ethiopia on land tenure. Thereafter, in 1999, PENHA in association with the Uganda Gender Resource Centre (UGRC) held a major conference in Mbarara, the 'African Partnership Workshop.' At this event further links were established with NYDA a, Memorandum of Understanding signed, and discussions held on how best PENHA could assist its new partner. This resulted in priority being given to Natural Resource Management training and technical inputs.

The training design was assisted by PENHA commissioning a review of its training conducted by Daniel Ticehurst of the Natural Resources Institute (NRI) and discussions were held with Dr. John Morton (Head of the Social Development Group at NRI), who is also a PENHA board member. PENHA Uganda staff also visited NRI for discussions and it was agreed that NRI / DfID would fund a consultant to provide training and coordinate course content with his Ugandan counterpart.

Preparation time for the NRI consultant was extremely well scheduled and he was able to meet with Dr. Fre, Director of PENHA, in London prior to leaving for Uganda. This enabled a clear vision to be agreed on the course and discussions of methodology, which were continued when Dr. Fre arrived in Uganda.

'Election Fever' was rampant in Uganda on the consultant's arrival, and hence only very brief meetings were possible with NYDA members. However, this 'Needs Assessment', together with very helpful inputs from PENHA Uganda staff, provided a basis of topics, level of education/experience of the participants, and likely approaches to combining technical inputs and a broader overview of planning for sustainability. Mr. Emmanuel Kyagaba, a Range Scientist employed as a consultant by PENHA, was provided with the information gathered and he proceeded to design his elements of the course, while Dr. Fre prepared presentations on the regional context.

NYDA, founded in 1989, is a local NGO with a largely pastoralist/ agro-pastoralist membership. It has been active in various fields including water conservation (particularly dam-building), gender, human rights and pasture management. It has an advocacy role greatly assisted by its chairman, the Honourable Elly Karuhanga, Member of Parliament for Nyabushozi. It is also involved with fledgling micro-projects such as glue-making, and in micro-credit though a financial institution run by the NYDA Treasurer, Lt. Colonel Fred

Mwesigye (a Founder Member of NYDA).

Other workshop participants included local government officers in such fields as Extension and Animal Health, representatives from other local bodies/NGOs and community workers from outside Mbarara district.

It was clear from the preparatory phase that the participants were generally well-educated and experienced, many also being livestock owners (although most held other jobs as well). In this context it was possible to spend considerable time with a wide variety and volume of materials selecting course content and training materials at an appropriate level.

Discussions were held between PENHA staff and the NRI consultant in Kampala on the need for clear and comprehensive course objectives, to provide both the theme(s) and evaluation criteria for the course. These were agreed as:

**Main Objective:** To develop Information and skills in NRM based on both people - and science - centered approaches.

**Sub-objectives:**
**(#1)** To provide demand-driven technical inputs
**(#2)** To provide a people - centered framework for planning sustainability
**(#3)** To commence an on-going process of sustainable NRM with all the people and stakeholders of the area.

The anonymous evaluation by 20 participants (see conclusion) was to clearly reflect the achievement of these targets.

The workshop was organized with great efficiency by PENHA Uganda staff and freed the facilitators to focus entirely on their assigned tasks. Selection of participants was thorough, with advice sought from both NYDA and Local Government sources. Participation varied from 18 – 24 persons (as participants arrived after the first day from outlying areas) and as the participant profiles tabulated below demonstrate, a wide variety of experience was available, As noted elsewhere (see Conclusion) the severe time constraints, given the ground to be covered, led to some slightly less participatory activity than had been hoped for. Group work, role plays and other participatory exercises are useful but relatively time-consuming. Nevertheless, a high level of participation was achieved, further bearing out the value of the exhaustive preparation activities.

Arrangements made for publicizing the event (carried out by PENHA Uganda staff) were extremely well planned and resulted in national TV and newspaper coverage.

Finally, the facilitators were able to respond to information on the participants (see profiles) and their expectations from the first day, as well as the information gathered beforehand. Participatory work was done on mutual understanding of concepts and the workshop was redesigned (or at least re-

timed) to gain the optimal flow from one subject area to another and to balance ‘lecturing’ and ‘participation.’

## Workshop Timetable

| Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|
| 8-9 | | Introduction of concepts -clustering and agreeing common understanding | Range Pastures - How to improve them. | Mitigation Measures for dry-season grazing /survival strategies | Summary of course and future training needs leading to discussion of the future |
| 9-9.45 | Introduction, participants, Opening speeches | Introduction to PASS and example of land use planning Importance of info Example of Colony - land | Ditto | Livestock/environment interaction/mixed farming | Evaluation -form Filling |
| 9.45-10.15 Tea | | | | | |
| 10.15-1 | Explanation of objectives and methodologies Participant Expectations | Brainstorm NR Problems - identify causes. Why are they being misused and with what results? | Ditto | Water for people and livestock Stocking rates/carrying capacity. Assessing range trends | Closing ceremony & Presentation of certificates |
| 1-2 lunch | | | | | |
| 2-3 | Zere Regional Context | Concepts of NRM & food security. Processes that put pressure on resources | Regional Issues and Case Studies from the experience of PENHA and others | Disaggreation of community - identifying stakeholders - stakeholder workshop (PASS) | Departure |
| 3-4 | Ditto | Soil and water conservation Agronomic and physical. | Ditto | Gender issues, changing roles | |
| 4-4.30 tea | | | | | |
| 4.30-6 | Ditto | Agroforestry technologies and NRM | Information gathering | Conflict Management and other related issues - how do we all work together? | |

(Minor changes in the schedule shown above will be noted in the text).

## Participant Profiles

The participants were asked to fill in the form below at the commencement of the workshop. Abbreviated column headings are added for each item, given in *(italicized parentheses)* in order to facilitate tabulation (see Following tables). These abbreviations were not used on the original form.

| | |
|---|---|
| 1. Name: | *(Name)* |
| 2. What area do you live/work? (county ? Sub county ?) | *(Location) - in tabulation this is shown as Sub-county then County* |
| 3. Education/ relevant experience | *(Education/relevant experience)* |
| 4. Current livelihood/ Job | *(Livelihood/Job)* |
| 5. For how many years | *(for how many years)* |
| 6. What is your relationship with NYDA ? | *(Relationship with NYDA)* |
| 7. If member NYDA, for how long | *(Years membership of NYDA)* |
| 8. What (if any) Interventions (new activities) have you been involved with regarding Natural Resources? | *(Previous activities with Natural Resources)* |
| 9. Have you attended other Development training? If so, what subjects? What date(s)? | *(Previous Development related training)* |
| 10. Do you yourself own any animals, if so, what kind ? (cows, sheep, goats) | *(Animal Ownership)* |
| 11. Do you yourself grow any crops ? if so, what types ? | *(Cultivation)* |

| Name | Location | Education Relevant Experience | Current Job/ Livelihood | For how many years? | Relation-ship with NYDA | Years member-ship of NYDA | Previous activities with Natural Resources | Previous development related training | Animal Ownership | Cultivation activities |
|---|---|---|---|---|---|---|---|---|---|---|
| Doctor Christosom Ayebazibwe | Nyakashashara | Bachelor of Veterinary Medicine | Veterinary Officer Mbarara | 2 | Stakeholder | N/A | Advocacy: Range Mgmt, Water conservation, Valley dam/tanks | N/A | None | None |
| Mrs. Esezar Byentaro | Nyakashashara Nyabushozi | N/A | Farmer | Whole life | Member | Since it started | Tree planting Pasture Improvement Valley dams | Farming | Cows, goats | Banana Plantations |
| Charles Nateekateeka | Nyabushozi; Kashongi | Diploma Educ BSc Agriculture | Agricultural Officer | 2 | N/A | N/A | Soil conservation | See Education | Cattle including cross-breeds | Bananas, annuals coffee |
| Godfrey Karamuzi J. | Rushere Kenshunga Nyabushozi | Grade III Teacher Many NRM workshops Mali, Kamapala and regional | Secretary / Coordinator NYDA | 12 | Founder Member and Secretary | 12 | Water Harvesting Pasture Improvement | Several since 1992 inc. PRA, GAP, Poverty Eradication and others | Cows, goats, sheep | Bananas, beans, Sweet potatoes, Maize |
| Frank Nuwagaba | Kenshunga Nyabushozi | Diploma in SWSA | Community Development Assistant | 1 | N/A | N/A | Promoting tree-planting among the community | Community Based Management Information System CBMIS | Cows | Bananas, Beans |
| David Rwamwojo | Kikaatsi Nyabushozi | Uganda Diploma in Business Administration 7 years | Not Employed | N/A | Member | 12 | None | None | Cows, goats | Banana Plantation |
| Joseph Mwesigye | Nyabushozi | Environmental Management | Environment Officer | 8 Months | N/A | N/A | Formulation of Local Govt. Committees at grassroots, seminars | Environmental By-law Formulation, Environmental Impact Assessment | Cows, goats | Bananas, beans, groundnuts |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Rev. Charles Bwirizayo | Kanyaryeru Nyabushozi | Diploma in Theology | Managing Director Lake Mburo Resettlement Scheme | 1.5 | Member | 8 | Water and Sanitation | Mbarara Milk Project (French Aid)<br>-Quality analysis/control<br>Farmers' Organizations<br>Epidemiology<br>Marketting | | |
| Abell Misango | Kiryandongo Kabanda | Diploma in Management & Planning | In charge of Research Project in Kiryando NGO/Herds man | No answer | Member | 3 | Yes - not specified | Training on the Environment | Cows, goats | Cassava |
| James Besiima | Kazo (county & sub county) | Advanced Certificate Education, Diploma Business Studies | Community Development Assistant Mbarara District | 1 | Member "by virtue of birth" | 12 | Training Pastoralists in planting improved pasture and controlled use of land | Gender & Community Development (October 2000) Community Environmental Management -3 days Nov. 2000 | Cows | Coffee, beans, groundnuts |
| Mrs. Grace Bwizi | Kinoni Nyabushozi | Farmer | Women's' Leader | 5 | Member | 4 | Bush Clearing | Resource Management, Pastoralism, Human & women's' rights, gender sensitization | Cows, goats | Bananas, beans, maize, potatoes |
| John W. Katafiire | Kashongi Nyabushozi | GCE, & several workshops on the environment | Farmer | Entire life | Chairman Kashongi Sub-County | 12 | Campaign against overgrazing, Crop rotation | Several on Environment, also forestation | Cows - Cross-bred Fresians and native Sheep | Banana Plantation, Irish potatoes, beans, groundnuts |
| Kennedy Bwebale | Busongora | B.A. Social Studies / Science | Herdsman / Community Worker | 2 | N/A | N/A | Integrated Lake Management (Lakes George & Edward): CARE | None | Cows, goats | None |
| Arimaitwe Katambuka | Nyakashashara Nyabushozi | Economist, experienced in training business skills | Consultant | 2 | Member | 8 | Sensitization Programmes | Development Training, Business skills | Local and long-horn cows | None |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| George Kambarara | Masindi Kibanda | Certificate in Project Planning And Management Dip.Customs Clearing and Management | Masindi District Youth Counsellor | 3 | N/A | N/A | Tree-planting | Community Capacity Building | Cows | None |
| Ms. Elizabeth Katushabe | Kanyaryeru Nyabushozi Kampala | Teacher, Social Worker Management of Communities | Assistant to MP / Coordinator NYDA Kampala Office | 7 | Kampala Coordinator | 7 | NRM Training in Sudan February 2001 | Gender & Human Rights in Pastoral & agropastoral communities 3 days Dec 2001 | Cows | None |
| Frank Kashaka | Nyabushozi | Graduate | Marketing Officer | 1 | Assistant Secretary | 10 | N/A | PRA Management of Small-Scale Enterprises | Cows, sheep, goats | Maize, plantains |
| Lt. Colonel Fred Mwesigye | Kensunga Nyabushozi | Bachelor of Business Administration | Managing Director National Enterprise Corporation | 15 | Founder member and treasurer | 12 | Financing Environmental Protection Activities | None | Cows | Yes: not specified |

In addition to those present on the opening day, the workshop was later joined by:
Ms. Irene Abigaba, Community Development Assistant, Sanga
Mr. Steven Kayamashaija, Councillor (LC5), Sembabule
Mr. David Mwesige, Movement Chairman, Rwemiyaga
Mr. Bulayim Batuuma, Lwemiyaga
Mr. Abaho Joshua, NYDA member, Rushere

Many of the latecomers had travelled considerable distances from outside the Mbarara area and provided valuable perspectives from other districts.

Note: For those unfamiliar with Ugandan names, 'Ms' or 'Mrs.' has been added to the four ladies present.

## Day 1 - Monday 19th

### Session 1: Opening Ceremony

The proceedings were opened by Dr. Zeremariam Fre, Director of the Pastoralist and Environmental Network in the Horn of Africa (PENHA), who welcomed all present and invited the Reverend Charles Bwirizayo to deliver a Prayer and Blessing for the workshop.

Ms Amsale Shibelshe, Project Coordinator of PENHA Uganda gave a brief introduction to PENHA and the Natural Resources Institute (NRI) and stressed the objective of strengthening the local capacity of partner organizations. She welcomed and thanked the Chairman of the Nyabushozi Development Association (NYDA), the Honourable Elly Karuhamga MP for coming to deliver the opening speech of the workshop.

This was followed by a brief introduction by each participant of his or her names and occupations.

The Honourable Mr. Karuhamga thanked all present for their attendance and noted that this was the first work under the newly re-elected President. He went on to congratulate PENHA and all participants for their dedication.
He stressed the part that training plays in the development objectives of Uganda, and added that the need for expansion of such training was an important part of Government Policy.

He then called attention to the re-election of the President and the need for reconciliation (Applause). He also congratulated Lt. Colonel Fred Mwesigye (a founder and Treasurer of NYDA) on his promotion from the rank of Major (applause). He further thanked Dr. Fre for his role in instigating the training and called on a round of applause.

He then gave an excellent summary of the socio-economic and environmental problems of the area, noting in particular the great progress made by NYDA in addressing these issues. After discussing some of the Natural Resource problems he highlighted our dependence on such resources and their centrality to poverty eradication. Stressing the need for innovatory approaches, he stated that 'New Ideas lie at the heart of progress' and noted how, over time, there had come a greater willingness to investigate and build upon the previously neglected knowledge of pastoralists. Drought, for example, need not necessarily be a disaster if proper preparation was made.

He remarked that the workshop was not an academic exercise and that participant selection had been very careful, urging prompt attendance at all sessions. Finally he called for environmental questions to be asked of all candidate for Parliament in the forthcoming Elections.

Dr. Fre thanked the Honourable Mr. Karuhamga for his address and continued with a brief introduction to the regional perspective with an

ecological map of the Greater Horn Area in which PENHA operates. He stressed the prevalence and importance of livestock keeping and pastoralism throughout the region.

Finally Mr. Meadows (NRI) noted that the financial support of the British Department for International Development (which funded his own participation) should be acknowledged for the record.

**Session 2: Objectives, Methodology and Expectations.**

Mr. Meadows gave a presentation of the Main and Sub-objectives of the workshop, which were presented on a chart that remained posted throughout the week. These were:

**Main Objective:** To develop Information and skills in NRM based on both people - and science - centered approaches.

**Sub-objective (#1)** To provide demand-driven technical inputs
**(#2)** To provide a people - centered framework for planning sustainability
**(#3)** To commence an on-going process of sustainable NRM with all the people and stakeholders of the area.

He proceeded by discussing and explaining the objectives and their complementarity, and informing the participants that these criteria would form a crucial part of the participatory evaluation at the end of the workshop, to see how well the objectives had been achieved. He stressed that the training methodology would include 'lectures' but would be a joint process among all present and that he hoped for a high level of participation.

Mr. Kyagaba then led a discussion on the expectations of the participants. This produced a large number and variety of contributions from the participants. This discussion covered many topics, not only those found in the original Needs Assessment but also both more specific and broader subjects. Mr. Kyagaba then, in discussion with the participants, summarized the expectations in the following list:

1. How to handle the issue of bushes on grazing land - bush clearing and burning
2. Resource Flows - Who owns what, who controls what and conflict resolution.
3. Mitigation Measures for dry-season watering and grazing.
4. Cross-border use of resources.
5. How to sustain livelihoods on a reducing resource base.
6. Water for people and livestock - efficiency, quality, delivery and sanitation.
7. Improved/Modern Technologies such as animal power and mechanization.
8. Livestock / Human / environmental interaction.
9. Siting of farm watering points.
10. Facilitation of outreach activities.
11. Preservation of local animal genetic resources.
12. How to overcome the problem(s) of de-forestation.

The discussions and summary of the participant expectations were separately discussed by the facilitators and suitable changes and modifications were made to the topics (as well as timing) in the provisional timeframe to best address areas of interest in the very limited time available and in the context of the course objectives. A very brief exercise concluded the session, in which participants were asked to 'write the letter 'I' with a dot on top' a variety of representations emerged, e.g. A capital 'I' with a dot above it, the simple letter 'i', the letter 'i' with an additional dot and one or two other variations. This was intended to demonstrate varieties of perception.

**Afternoon Sessions: A Regional Perspective.**

The afternoon was spent with Dr. Fre who gave what was later evaluated (see below) as a highly useful and informative presentation of the regional context.

He pointed out that there were many lessons to be learned and techniques in existence throughout the region that might be replicable in the Ugandan (agro) pastoralist context.

Using the Ecological Zone Map of the 7 countries in the Greater Horn region he proceeded to give an overview of the types of livelihood practiced in the various zones, noting population and other pressures on lowland/riverine areas crucial to pastoralism. He further discussed how such pressures were affected by political boundaries, and said that although cross-border ethnic relations often alleviated problems, nonetheless different Government Policies and activities have to be considered, as for example mechanized schemes in pastoralist areas of Sudan.

Historically, a great deal of pastoral activities, particularly in marketing of animals, had been cross-border, and the imposition of political boundaries was deleterious to this process, rendering in some cases such trade as at best 'informal' and at worst illegal, with negative repercussions for pastoralism.

As Uganda is not an animal - exporting country, the participants were not aware of the Saudi ban on livestock imports from the area, caused by reaction to an outbreak of rift valley fever, which in turn was creating environmental degradation as animals (otherwise to be exported) were concentrated.

He summarized his initial presentation with three points:

1. There are distinct indigenous technologies from which lessons can be learned.
2. Policies in one country can have major effects in others
3. Technologies are also available from outside the region.

A discussion followed which included the poor transport infrastructure of the region, the difficulties of exporting Ugandan cattle due to disease prevalence,

and the cultural norms that sometimes influence nutrition, such as the non-involvement of coastal pastoralists in the fertile fishing grounds of the Red Sea.

Dr. Fre then presented a fascinating video from a highland community in Ethiopia. A very high level of interest was observed among the participants.

The video focused on the indigenous techniques developed by a single community to most effectively utilize and sustain natural resources, while practicing highly productive and diverse agricultural methods.

These included measures taken to prevent rainfall erosion, such as stone terracing and raised beds, created and maintained by community work parties. On the flatter lands, tie ridges were used, and sustainable planting and coppicing of trees maintained a sustainable supply of wood. Each family keeps a compost heap, and weeding is continuous and intensive. Inter-cropping and the use of early and late maturing crop varieties were also common, an example being given of one plot with 13 different varieties grown.

Fallowing for 3 years under grass both rested the soil and provided roof-thatch material, while even dead sorghum stalks were utilized as weed barriers and support for the raised beds.

Water harvesting was undertaken by digging a pond and additionally building an upstream stone wall to clean the water and prevent silting.

Finally, pictures of market day with high quality and diverse produce demonstrated the success of these techniques in what is in fact a highly fragile ecosystem.

Dr. Fre asked for impressions of the video and it was universally regarded as highly useful. The discussion that ensued focused on the centrality of community organization and participation. Issues of communal versus individual ownership were also raised. The participants became quite animated on the issue of (local) community mobilization, the place of by-laws, the role of community leaders and of the extension service, with differing opinions of how 'top-down' (or not) the processes of innovation should be.
No consensus was reached in the time available, but Mr. Meadows took the opportunity to stress the relationship of these issues to 'people-centered' planning, which we would be discussing in later sessions.

Dr. Fre then gave a brief history of PENHA, which is the only African regional organization networking through partners and focusing on pastoral, environmental and gender issues. He noted that the tenth anniversary of the organization was celebrated in Mbarara itself in 1999 with a conference of 30-40 attendees, which he regarded as a turning point for the organization.

He concluded the day with a slide show of paintings commissioned from an Ethiopian artist, each of which graphically depicted aspects of pastoralism in the current context. Participants were invited to comment on what each

picture signified and there was widespread recognition of the local relevance to a wide variety of issues, from water disputes to lack of credit, community discussion, 'modernizing' and urban pressures, lack of health care for pastoralists and many other relevant aspects of pastoral life. Finally Dr. Fre showed a few photographic slides taken on previous trips to Uganda, noting particularly elements such as environmental degradation and the highly visible uniformity of the locally adapted cattle, suggesting as it does excellent breed maintenance (i.e. preservation of the indigenous gene pool).

## Day 2 - Tuesday 20th

### Session 1: The clustering and discussion of key concepts.

(Mr. Meadows Facilitated).

The purpose of this session was twofold. Its primary objective was to gain each participant's understanding of some key concepts of NRM and trace commonalities of understanding. Secondarily, it was intended to stimulate the participatory aspects of the workshop by giving every individual an opportunity to express his/herself and promote a sense of 'ownership' while validating the importance of participants' opinions.

Two key concepts were identified, 'sustainability' and 'the environment.' Each participant was given a card (and a felt-tip pen) with which to write his/her understanding of the concept in a few words (5-10) large enough to be read by the whole group. No discussion was allowed during this process, as the purpose was to gather individual opinions. The cards were then placed on a large board, and as similar themes and phrases emerged, were rearranged into clusters.

Discussion took place and key elements and 'threads' emerged. In the first exercise, 'Sustainability', the following themes emerged and were presented on a chart by the facilitator. It was stressed that the purpose was not to necessarily develop a single-sentence definition agreed by all but to highlight the key elements implied by the concept.

**Sustainability:**

- The satisfaction of current demands
- Continuity of a process that constantly changes
- Adaptive and on-going
- Self-reliance on available resources
- Conservation of Natural Resources (NR) for humans and the environment
- Maintenance of the Ecosystem

The participants, given the choice between 'Natural Resources' and 'Environment' for a second exercise in the time available, chose 'the environment'. The process described above was repeated with the following results:

**The Environment:**

- Surroundings
- Water
- Plants
- Animals/living things (in discussion this was agreed to include disease - causing organisms)
- Air >
- Sunlight > These two regarded also as 'the atmosphere'

- Climate
- Factors affecting the health/status of the ecology and living creatures
- Man - made elements
- Land
- Topography

The facilitator concluded the session by pointing out that sometimes the word 'environment' is used to mean what existed before there was human impact, but it was clear that the group understanding was the more broad sense of the word, including the impacts made by humans. The use of the term should generally be qualified, as for example the 'global' environment in which for example the 'El Nino' event in the Pacific Ocean directly caused the massive flooding and herd decimation in Northern Kenya. At regional, national or local level it is also useful to be specific.

Mr. Kyagaba, seeing a linkage between this session and one of his own topics, was invited to give a further brief session.

In this, he linked through a diagram different and interlinked concepts relating to sustainability, namely Food Security, Social Security, and environmental Security, drawing these as three circles that intersect at a point called 'Human Security.

He went on to give some brief examples of human/environmental interaction such as the switch in Somalia to environmentally destructive charcoal manufacture caused by the Saudi livestock ban (q.v. above). Another (local) example was that of pastoral encroachment upon National Parks. He concluded that a holistic approach is required to incorporate these three aspects of 'Security" to ensure 'Human Security', and thus the concept of NRM itself should give strong consideration to the goal of human security.

**Session 2: Colonyland: an example of semi-arid resource use.**

(Mr. Meadows facilitated)

This exercise was intended to give a true example of a 200 year period of human (in this case colonial) Natural Resource use, to the present day, and to demonstrate the processes and influences involved in an unplanned and unsustainable exploitation of Natural Resources. It further presented the human and ecological damage done in the process. To lighten the proceedings, participants were asked to analyze what they had heard and suggest in which country this semi-arid area was located.

**Colonyland**

With the aid of a map (drawn as a rectangle) the facilitator described the area as semi-arid in the North where mountains provide a watershed for a river that runs from the semi arid areas to the true desert of the arid South. The livelihood 200 years ago was agro-pastoralist in areas where water was available, with some nomadic groups in the desert and semi-arid areas, relying largely on hunting and occasional very small-scale home gardens in settlements relying on rainfall harvesting. In general dryland farming was not feasible.

For over 400 years a system had developed in those areas (particularly in the North) where feeder streams to the main river were diverted into small irrigation ditches built by the community. Each ditch in turn had gates of wood or iron along its length and each household held a strip of land (of various sizes) which could be watered (by gravity) when their ditch gate was opened.

Each ditch had an association consisting of all those who used the ditch water. They elected a president, account keeper and sometimes (in later years) a secretary). The ditches would run from the time the mountain snow melted April) until the water level was too low (usually in September, depending on the brief summer rains). Every morning in the watering season the President would be at a middle point on the ditch and farmers must come and request a day or afternoon of watering. The president then allocated the water according to availability and need.

This enabled the cultivation of beans, maize and vegetables. One or two cattle would be kept at home, but the majority were herded to graze at the base of the mountains and in the flat-lands where grazing and water was available (a huge area for relatively small herds which was quite sustainable).

50 years ago colonists conquered the area and immediately broke the Peace Treaty, which had guaranteed previous communal land rights. Through a succession of illegal maneuvres conducted by lawyers and corrupt politicians known as 'The Ring" huge areas were seized for private ownership, with up to one million acres of grazing land being owned by one individual. They proceeded to introduce numbers of cattle well beyond the 'carrying capacity' of the land.

Meanwhile, the colonial Government proclaimed vast areas as Government owned (about half the area). In the grazing lands they granted cattle rights to wealthy colonists for an uneconomically low rent, while at the same time huge National Forests and Reserves were declared. In 1912 the Government produced a secret document arranging how to keep the 'natives' pacified as they enforced grazing bans in the forests and reserves. The result was that the subsistence agro-pastoral livelihood became impossible, as the irrigated plots were too small to support families without grazing for their herds. Thus impoverishment set in and many local people sold their land and traditional water rights to the colonists, in many cases leaving for cities or joining the military of their new country. Some fighting broke out and continued intermittently with ranch fences being torn down at night and cattle driven off, but no justice was to be had.

In the 20$^{th}$ century the colonists, with huge Government loans, began to dam the big river in the South (in 1916). This produced a huge irrigated area owned by wealthy farmers and heavily subsidized by the Government. More and more 'water rights' were bought from small northern farmers.

Finally, the grazing lands of the big ranchers became overgrazed and so the cattle were moved to the South-East desert were there is underground non-renewable water. This is now being exhausted by intensive dairy production with fodder brought to highly concentrated 'feedlots' around boreholes, where the environment is totally devastated - meanwhile the underground water will be exhausted within 50 years.

Thus Colonyland was transformed form a sustainable (if 'poor') area into an ecologically devastated land where the rich got richer and the poor poorer and dispossessed. A vote was taken (given a choice of countries) and the majority chose Sudan. The facilitator revealed that Colonyland was in fact his home state of New Mexico in the USA, and that this example showed how unplanned unsustainable policies existed even in the world's richest country.

An interesting discussion followed about how the community and farmers were now organizing cooperatives, advocacy groups and so on to fight to

maintain water rights and the traditional way of life. The depletion of underground water was also discussed. It was also brought up that lack of government intervention on behalf of the environment was an important factor - locally, for example, the problems caused by polythene bag waste.

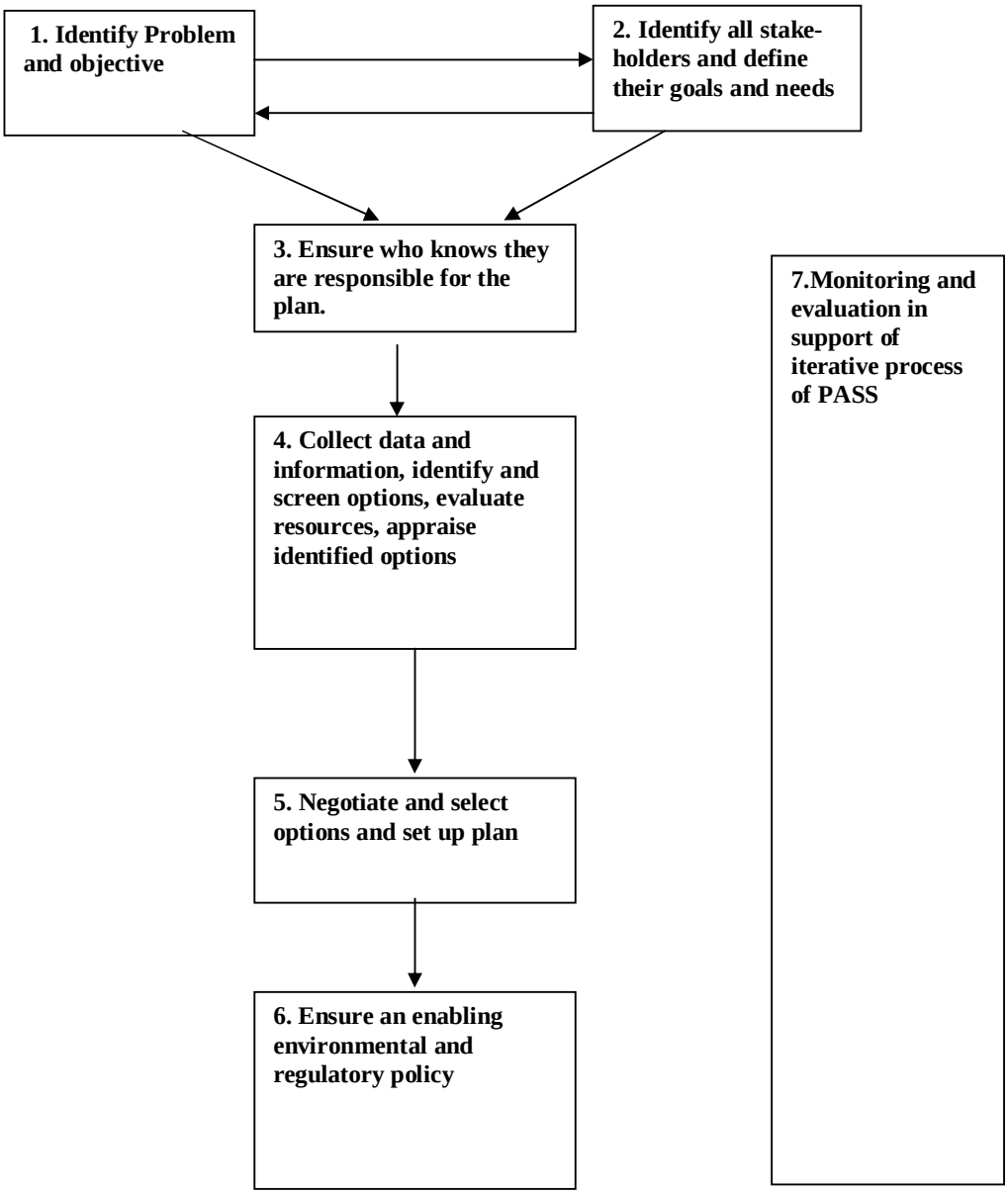
Finally a handout (#2) was given on 'Inappropriate Land Tenure Policies.'

The facilitator concluded the session with an emphasis on the need to develop interventions within a planned framework. He distributed a diagrammatic representation of a process called 'Planning a Sustainable System' (PASS) and then with the aid of a flip chart discussed and explained its various steps. He stressed that this was not a 'blueprint' but a tool that could be used and adapted to different circumstances. He added that such planning and implementation should be continuously monitored and evaluated so that the process can be 'iterative' - simply put, ongoing, capable of modification and repetition of steps if needed as circumstances change. He then went through the steps of the diagramme (following page) explaining each step. This is reproduced from the NRI 'Short Course on Natural Resource Management from a System Perspective.'

He stressed that boxes 1,2,4 and 7 were all steps that required Information gathering, and that this would be the focus of his later sessions, leading to other steps in the process. Finally he handed out a short handbook for field use in gathering "Community Based Indicators", and briefly described how it could be used and adapted in various local situations.

***The PASS method***

First in diagrammatic form, the PASS method is shown in its seven steps. These are each numbered in brackets alongside their titles. All steps are to be practiced iteratively, but step seven is even more so. This is why the last step extends down the whole length of the diagram. Brief descriptions of each step are then given in the following notes. Further information about each of them can be found in the references given at the end of these notes.



**Afternoon Session: Soil and Water Conservation**

**(facilitated by Mr. Kyagaba)**

The facilitator began by saying that this is a very large field and he would concentrate on concepts of 'good practice.' Soil and water conservation cannot be treated as separate topics - if there is no water content then soil is useless.

He examined the political and economic pressures on the resource and highlighted Institutional weaknesses in bringing about change, particularly the view that disseminators might have good knowledge but be ill-trained themselves as trainers.

Policies of modernization were often over-ambitious, relying on expensive inputs to maintain soil quality. Structural inequalities are a further factor in resource degradation.

Using a number of flip charts he demonstrated the links between mobilization, poverty alleviation, conflict resolution and advocacy with policy makers. He then opened the floor to comment on current innovations being used and the participants produced the following list:

- Soil preparation to enhance water penetration
- Cultivation of one piece while another is fallowed for pasture
- Agroforestry and shade trees
- Stopping over-grazing & bush burning
- Introducing paddocking
- Controlling the pace of stock movement
- Retention ditches
- Manuring
- Contour ploughing
- Mulching
- Terracing
- Trash lines
- Stone lines
- Strip grazing
- Crop rotation
- Intercropping
- Land consolidation
- Wetland conservation

Thus the technologies are known, and the problem seems to lie in their dissemination. He suggested some constraints, for example that people are not grounded in their knowledge and understanding of an innovation. The question arises whether we can demonstrate the applicability and feasibility with very few people implementing such measures.

He suggested some local interventions such as the collection and use of dried cow dung, and questioned how we can increase volume, quantity and

utilization of this. Very few places on earth are actually 100% flat, and thus gradients can be used for water/soil improvement. Mulching is common in local banana plantations but while retaining water does little to improve the soil. He referred to some of the practices noted above in the video from Ethiopia, relating to use of the contours.

Adding to what the participants had provided, he suggested other methods such as timely planting, plant spacing, fallowing, and using water channels (both for supply and flood protection). Leaving crops standing after harvest was a harmful practice as they continued to absorb water and nutrients.

An objection was voiced that this was irrelevant to pastoralists, but other participants agreed that cultivation practices, particularly grass and tree planting, were of great importance to pastoralism.

A flip chart was shown listing some measures related to water conservation;
- check dams
- cut-off drains
- channel terraces
- artificial waterways

Factors affecting water management included:
- rainfall variability
- High evaporation rates
- Poor land management
- Need to maximize intake into the soil
- The collection and storage of excess run-off.
- Difficulty of agro-pastoralists getting access to credit for such activities because of perceived 'high risk' and long wait for returns.

(It was observed that during this session note-taking by the participants was extremely intensive).

Agroforestry was addressed with a flip chart including the following topics:

- Tree-planting improves soil and water retention
- Scattered trees in fields
- Contour hedges
- Wood lots
- Trees on rangeland and pasture
- Trees in home gardens
- Rotational wood fallows
- Fodder banks
- Live fences

He encouraged the use of local varieties (listing some), and local seed collection. A constraint was poor communication between users and seed producers. Commercial seed has a short shelf-life and germination cannot be guaranteed. Farmers should locally organize seedling production.

Mr. Meadows was given a few moments to relate his experience of managing agroforestry projects in Sudan. He highlighted three factors:

- Many if not most tree - related activities were undertaken by women
- The institutional (Government) separation of Forestry from Agriculture Departments
- The lack of indigenous knowledge of agroforestry's advantages in Pastoral societies.

The facilitator and participants listed local species and their respective advantages for purposes such as woodlots for construction and firewood; pastureland shade; fruit production in home gardens, and fodder - providing trees. He re-iterated the need for local seed collection, seedling production, and varieties that could be grown from cut stems.

After the tea break he showed an overhead projection listing advantages of tree planting and some criteria for tree choice:

- Nitrogen-fixing
- Fast growing
- Able to be coppiced
- Deep rooted
- Light canopy
- Suitability for fodder
- Quick recovery (after cutting for fodder)
- Large biomass

The concept of good land husbandry using agroforestry should be promoted by focusing on the benefits it produces for agro-pastoralists, fodder, firewood, fruit, shade etc.

Erosion was then discussed, both from wind and water. Water color was a useful indicator ('Turbidity') if soil was observed in run-off streams. He gave a typology of water erosion problems and their effects (see Appendix 13).

The issue of soil degradation by cattle trails was discussed, with remedial suggestions such as changing the trails while replanting closed ones, but such a process should be planned and not random. During the rainy season trees and grasses should be planted to repair degraded trails.

In the final hour a discussion took place covering many different issues of the afternoon's presentation, with many useful contributions. It was pointed out that many of the interventions had as a primary requirement community mobilization, as they were labor-intensive. Locally groups had been tried based on ten farming households per group. Re-seeding was noted as a greater problem for smaller farmers with less labor and financial resources.
Competition between species was noted as a factor to be considered, as was the tendency towards individual holdings.

The conflict between cattle and goats in the area was discussed.

Dissemination was being done through monthly home visits in the Rushere area of NYDA operations.

Discussion took place concerning grass depletion. Certain species 'Taking over' from good grazing grasses was a good indicator of soil state, particularly of compaction. When asked, the facilitator said that the best mitigating species were local grasses planted to stabilize the environment. Over the last 5 years it had been observed that land - clearing usually resulted in the invasion of useless weeds. After any clearing, or emergence of bald patches, native grasses should be immediately planted to prevent this, 'otherwise nature will plant it for you.'

A question was raised as to research into what were the 'best' local grasses. The facilitator replied that this research had been completed in 1956(!) and left the participants to absorb what this meant in terms of the dissemination and return to local populations of research work (a recurrent theme).

Grasses should be selected on the basis of what best would survive the dry season. The 'best' grasses might flourish in the rainy season but be useless otherwise. It should also be considered that 20kg of 'wet' grass with a high water content was less nutritious than 10kg of dry grass. It was noted with pride that the local grass, Mbarara, had given its name to both the town and district. Dr. Fre added that this was extremely common throughout the region and often reflected cultural and environmental factors as place names.

He continued by giving an example of how PENHA had facilitated, at very low cost (Mainly providing some laboratory equipment), research into ITK of herbal treatments for liver fluke with an agricultural research center. This was a question of changing research orientation, and produced excellent results when 2 of 15 herbs were proven to be excellent drugs for the disease. This was passed back to the local people.

Finally the issue (see above) of researchers using local information for their own ends with no 'payback' (let alone feedback) given to the local communities. The level of resentment at this practice was high among all participants, with only some NGO's and PRA approaches being recognized as 'doing something for the people.' Mr. Meadows commented that in his wide academic experience of pastoralist studies there were extremely few researchers who were themselves from pastoralist backgrounds. The day concluded with a call for researchers to be encouraged, if not required, to deliver feedback to the communities that hosted them.

## Day 3 - Wednesday 21st

### Session 1: Pasture and Range Improvement

(Facilitated by Mr. Kyagaba)

While we look for gaps and innovations, in fact most Soil and water techniques are known but not implemented. There need to be more user-friendly manuals with a practical orientation.

One problem with pasture is that its planting is not regarded in the same way as cultivation, i.e. it is not a crop to be consumed by humans. However, it needs to be considered and managed as a 'crop.'

Pasture development should have 3 objectives:

- Increased quality of pasture produced
- Increased quantity of pasture produced
- Prevention of soil erosion and protection of the environment

Pasture is rarely planted for certain reasons. Maybe it is still regarded as plentiful in Nature. It is expensive in terms of immediate cost-benefit as well as initial expenditure, involving planting, sowing and weeding, and cost recovery in terms of increased output is uncertain. Thus its main practice is in dairy farming or for 'improved' breeds.

One participant observed that the local wildlife was very able to identify such improved grasses and deplete them after re-planting. They are, of course, protected by wildlife laws.

The facilitator proceeded to give a detailed and comprehensive presentation on all aspects of seeding pasture. These are detailed in his notes (Appendix 13 pp 9-13). He highlighted the need for soil preparation, mixing tiny seeds with fine soil to assist broadcasting, and the need to plant at times of day when there is no wind. He suggested that land to be seeded should be divided into strips with an equal weight of seed allocated to each strip to ensure uniformity. After broadcasting, dragging a branch over the plot gives adequate depth to the seeds.

Various local legumes and grasses were discussed. One useful technique in spreading the seed is to graze small calves when the grass has reached about 3 feet (1 meter) tall - but large animals should not be used until after 2 growing seasons. A mix of legumes and grasses provides the best nutritional balance. Grass planting can also be utilized to maintain earth dams, but obviously animals must be prevented from grazing on it.

Natural pasture can be improved by removing weeds and 'spot seeding' in foot wide strips, a technique called 'oversowing'. In this case livestock should be kept out for the first growing season.

Legumes are particularly helpful as they are somewhat lacking in natural pasture. They improve soil fertility, are highly palatable, provide a rapid return of abandoned pasture to grazing, and of course cover bare patches, preventing erosion.

Bare patches form the nucleus of erosion, thus need to be caught early and controlled. Once again he stressed the use of local seeds and the need for variety to give adequate nutrition.

Burning and grazing techniques have a place in maintaining grassland pasture. They are Management Techniques - after 15 years, without such burning, the grassland would be a useless area of bushes.

It should not be done too frequently - sometimes it is done every dry season, which is excessive and unnecessary. It must also be timely - burning soon after the rainy season when the bushes are still green will simply destroy grasses. The proportion of land to be burned should be carefully chosen so that there is still sufficient grazing area.

It was asked if cut bushes should be burned in the fields, the reply being that they should be removed, as the heat would be damaging to the soil and other vegetation.

Burning is only suitable for higher quality rangeland, as if it is overgrazed land there will not be adequate grass to burn and destroy bushes.

Firebreaks were discussed and the importance of controlled burning stressed.

A flip chart showed the advantages of burning:

- It removes old unpalatable growth and old growth in general
- It stimulates vegetative growth and enables re-seeding
- Controls the encroachment of undesirable plants
- Helps better distribution of animals on the Range
- Helps destroy animal parasites

Misused fire, on the other hand, can be deleterious in several ways. It may lead to reduced soil quality, especially in areas where hardpan has formed, encourage erosion, and spreading out of control to other areas not intended for clearing.

Government policy was discussed, since burning was in fact illegal and a permit required. One participant argued that the area was already so over-grazed that in most cases there was insufficient biomass for burning. It was also pointed out that with 90% of the area now in private hands the risks of fire spreading to other's property was very high, thus controlled burning was even more important.

Weed control is a related issue to bush control. Weeds mix perfectly with

good grasses and their prevalence is an indicator of over-grazing or under-grazing. Under - grazing may allow the development of weeds, bushes and trees.

One of the original approaches to bush control had been herbicide use (2-4-5-D) which had proven both ineffectual and ultimately banned as toxic.

Thus the options are:

- Burning
- grazing control
- use of goats - they can be used after burning when they will eat any young shoots re-growing on burnt bushes.
- Mechanical control (hand hoeing/uprooting)
- Oversowing (q.v. above).

The participants discussed local experience. Chemicals had been tried and failed. 'Mechanical' clearance was very labor - intensive and expensive. There were not really adequate numbers of goats to eat the very fast re-growth of new shoots. One example was given of 2000 goats used on 40 acres and the question raised as to whether the shoots of local bushes were in fact very attractive/palatable to goats. It was felt that bush is a sign of depleted soil and thus soil improvement was needed.

The Facilitator stated that the optimal land use was probably 50% utilization and 50% re-growth, which if properly managed should provide an overall average of 70% 'good' grazing

Grazing Systems were divided into 3 types:

- Continuous Grazing
- Rotational Grazing (paddocking and block herding)
- Zero grazing (Small land area - high output)

It was noted that outsiders often regard this kind of area as 'continuous' grazing, while in fact there is a good deal of local knowledge of paddocking and block herding. Continuous grazing on a random opportunistic basis is only viable in very large areas with relatively few animals.

The farmer must work out the economics of pasture creation, given a two - year timespan, and also consider the feed preferred by different breeds (especially crossbreeds or introduced non-native breeds). Soil quality will of course be a factor in what will be useful and what harmful or poisonous. Thus one cannot generalize on issues of stock density.

Various issues were raised by participants including;

Local belief in the area is that burning gives rise to better feed plants (the facilitator commented that this is scientifically proven).

Suggestions were made concerning 'demonstration farms,' perhaps one in each sub-county. Stakeholders could be brought together for farmer - to - farmer extension.

High cost inputs are often used in research/demonstration plots, which in real world conditions are far less productive or economical.

Intercropping of maize and grass would encourage pasture-land preparation as an immediate return would be available from the maize and the grass remains for grazing after harvest - known as 'undersowing.'

Fodder Conservation was then discussed. Though it sounds exotic, it is simply the means to utilize excess. Standing hay may be eaten dry in the fields but is also subject to termite attack. Harvested hay can be cut when there is surplus grass in the rainy season, left out to dry then stored.

The facilitator gave a brief guide to simple baling techniques (which should be included in his training manual. He stressed the need to keep stored hay well aired by frequent turning. It is a useful supplement in times of shortage, although not highly nutritious it provides required bulk and roughage.

To close the session a training video from Kenya was shown on the complete process of making, storing and using silage, which unlike hay maintains a higher nutritive value. Note-taking was intensive during the entire session.

**Afternoon Session: Community Participation in NRM - Regional Perspectives**

(Facilitated by Dr. Fre.)

Four topics were to be addressed:

1. The relevance of Culture, Attitude, Traditions and Technology (CATT)
2. Understanding 'Stakeholder Analysis.'
3. Tools for community participation (using Videos)
4. Examples of pastoral community empowerment and disempowerment.

A table was used to demonstrate some linkages in the 'CATT' format.

| CULTURE | ATTITUDE | TECHNOLOGY |
|---|---|---|
| Agriculture | Exploit the land but pass it on to the next generation | Oxen ploughing |
| Pastoral | Love for Animals - 'Animals Cry' | Livestock orientation such as maintaining gene pool |
| Agro-pastoral | Complementarity | Mixed technologies |
| Hunter/gatherers | Preserve the forest | Hunting Skills |

The relationships were described and explained, particularly for extension and adaptive knowledge. Culture, attitude and technology are interlinked, and a lack of analysis of one's own local culture is a barrier to sustainable development.

Stakeholder Analysis was explained as not a complicated academic exercise but a series of key questions:

- Who really owns the resource base?
- What are their production objectives?
- Do the production objectives complement or contradict one another?
- How do they impact on the resource base?

He then gave an example of stakeholder interaction in Eritrea, in an area that was 70% barren Mountains, 20% grazing near to the river, and 10% riverside.

The pastoralist stakeholders used the riverine area in dry months for grazing and digging wells in the riverbed if it was dry.

The Government 'stakeholder' intervenes by permitting cultivation in the riverine areas and compounds this by privatizing the land, thus plantations are established often with absentee stakeholders living in the capital, Asmara.

The Army 'stakeholder' cuts wood from the trees near the river to build trenches and for firewood.

This clearly affects the traditional pastoralist way of life. Information must be produced through community mobilization to use in advocacy to the Government to change its policies. The empowerment of pastoralists is thus a fundamental issue, with networking and wider alliances being built and adaptive technologies introduced.

Extracts were then shown from a video of a PENHA workshop in Asmara held in conjunction with the Land and Housing Commission. Present were policy makers, pastoralists, academics, NGO representatives, and regional representatives from Kenya, Ethiopia, Sudan and Somalia. It was clear that the pastoralists were listened to and that there was an extremely useful exchange of views. Dr. Fre stressed the need for such networking to hand back research to the people themselves. He also handed out copies of the keynote document of the Pastoralist Concern Association Ethiopia (PCAE) as an example of a pastoralist organization.

The Session concluded with a brief video from IEED on PRA, gender and the environment. It was highly informative on issues of resource use, ownership, and control, investment in sustainability and changes over time. It then gave basic introductions to the principles of communication underlying PRA and introductions to a number of techniques such as timelines, community mapping and transect walks.

**Final Session: Information Gathering**

(Facilitated by Mr. Meadows)

Following directly upon Dr. Fre's presentation, wherein he used the phrase "Fill the knowledge gap based on the users' best knowledge", the facilitator reminded everyone of his earlier session on PASS and the information needs which it highlighted at various stages (especially the first two steps and the ongoing monitoring). This session was therefore aimed at the participatory identification of:

1: What kind (or type or sort) of Information do we need on the (existing) Natural Resources?

2. What kind of Information do we need on Natural Resource Problems?

3: What methods can we use to gather information on items 1 & 2?

The 18 participants present were split into 3 groups of six on a random basis and each given a single topic. They were requested to discuss and come up with 10 items, and after having agreed these, rank them in order of importance.

About one hour was spent by the groups, with the facilitator visiting each group to observe progress and answer queries. The groups then produced flip charts of their results:

**1: What kind (or type or sort) of Information do we need on the (existing) Natural Resources ?**

1. Land
- What is the Settlement Pattern ?
- How is it used ?
- How is the terrain ?
- What type of soils ?

2. Water
- What type of water ?
- Is it polluted ?
- Is it silted ?
- Is it salty or fresh ?

3. Forests
- What type of forest ?
- Is it natural or man-made ?
- Is it conserved ?
- Is there encroachment ?

4. Wildlife
- What type of species ?
- Is it protected or not ?

5. Wetlands
- Are they protected ?
- Are they being encroached on ?

**2. What kind of Information do we need on Natural Resource Problems ?**

1. Identifying the kind of problem (and factors involved).
2. Causes of the problem.
3. Effect/impact of the problem
4. Area coverage - Administrative/Geographical
5. Possible solutions/interventions
6. Costing
7. Past Experience
8. Experience from other people
9. Government Policy
10. Level of Awareness

**3: What methods can we use to gather information on items 1 & 2 ?**

1. Interviews (Community Meetings, Group discussions)
2. Direct Observation (also trends)
3. Culture and Traditions
4. Literature
5. Political and Civic Leaders
6. Institutional Data Bank(s)
7. Workshops and Seminars
8. Postal Questionnaires
9. Information Technology
10. Music, Dance and Drama.

The facilitator briefly ran through the lists checking that there was general understanding of what was presented, and in one or two cases adding sub - headings (above, in brackets).

The Session was closed at the end of the day and participants asked to reflect on the results for discussion the following morning.

## Day 4 - Thursday 22nd

*(NB. Thursday and Friday sessions were rearranged and in some cases shortened owing to the announcement of a Presidential visit the following day and the need to close the workshop earlier than had been planned)*

### Session 1: Discussion of Information Gathering Workshop

(Facilitated by Mr. Meadows)

This was a brief (half hour) session in which the facilitator invited comments and explanations of the various items listed on the three charts listed above. Some debate took place over the ranking/priority of various items, but it was explained that this had been introduced as a means to provoke thought and discussion, and was not to be taken as definitive.

The most lively discussion took place over the importance of knowing Government Policies on land tenure and ownership. The facilitator discussed some aspects of information gathering itself, such as monitoring group meetings and evaluating community extension and training. He distributed Two forms that he had used in many different contexts for these purposes (appendices #4 & #8) and concluded the Session going through them and explaining how to use them.

### Session 2: Dry Season Mitigation Measures

(Facilitated by Mr. Kayagaba)

The facilitator began with a chart and discussion of measures and options for mitigating dry season problems.

- Proper stocking rates
- Rotational grazing
- Avoidance of Uncontrolled burning
- Weed Suppression
- Herd Diversification
- Use of harvested forage
- Use of harvested crop by-products
- Growing forage in crop rotations
- Distribution of animals in rangeland - possibly using salt-licks
- Use, if possible, of widely spatially distributed water points and building trails to them.
- A grazing system that allows: resting of part of the pasture, allowing 'sacrifice' trails to recover, and obtaining uniform use of the available pasture.

He discussed the traditional survival strategies with the aid of more charts and noted particularly herd diversification, mobility, herd dispersal and non-pastoral activities such as hunting. Most of these were no longer applicable in

the area since privatization of the land and the consequent decline in communal grazing and mobility options.

He concluded with an overhead projection, which he went through in detail. It can be found at the end of Appendix 13 but is also reproduced here:

**ENVIRONMENTAL CONCERNS IN LIVESTOCK PRODUCTION IN UGANDA**

| PRODUCTION | IMPACTS | MITIGATION MEASURES |
|---|---|---|
| **Traditional** | **Soil compaction**<br>**Vegetation change**<br>**Soil erosion**<br>**Disease spread**<br>**Soil/water pollution**<br>**Soil infertility**<br>**Silting of valley dams and tanks** | **Controlled grazing**<br>**Reduce livestock**<br>**Improve stock**<br>**Improve pastures**<br>**More watering points**<br>**Individual ownership of watering points and cattle dips**<br>**Environmental education**<br>**Soil/ land policy**<br>**Grazing laws and bylaws.** |
| **Ranches** | **Vegetation change**<br>**New pastures**<br>**Micro climatic effects**<br>**Soil compaction at watering points**<br>**Vegetation loss**<br>**Soil/water pollution** | **Study of the ecosystem**<br>**Provide more watering points**<br>**Environmental education**<br>**Improved stock**<br>**Movement corridors**<br>**Corridors around major water points**<br>**Individual land ownership**<br>**Land policy** |
| **Fenced farms** | **Soil compaction at watering points**<br>**Reduced grazing land**<br>**Deforestation**<br>**Vegetation loss**<br>**Soil /water pollution** | **Plant woodlots**<br>**Laws and bylaws**<br>**Environmental education**<br>**Cattle dips**<br>**Land policy** |
| **Zero grazing** | **Soil compaction**<br>**Controlled disease spread**<br>**Unhygienic environment**<br>**Contamination problems** | **Use slated floors**<br>**Use waste as manure**<br>**Use waste in biogas production**<br>**Cubical system of housing**<br>**Laws and bylaws**<br>**Environmental education** |
| **Marketing** | **Soil compaction at the market**<br>**Easy disease spread** | **Controlled loads**<br>**Stock routes, quarantine centres.** |

**Session 3: Water for People and Livestock**

**(Facilitated by Mr. Kayagaba)**

It was noted that water use was a highly important part of Ugandan Government Policy, and commenced with a very interesting video concerning wetland conservation in Uganda. It included H.E. President Museveni stating that 'Nature is our mother' and stressing the government's commitment to environmental concerns.

Environmental issues such as loss of trees at wetland edges, and the importance of wetlands as a means of recharging groundwater. Drainage and cultivation was presented in a negative light, showing how cash cropping on such lands was at high risk from flooding and detrimental to pastoral grazing. Since 10% of Uganda's area is wetland, government policy is directed towards conservation of these areas, and of their importance for livestock.

The facilitator then asked participants to contribute their own experiences and knowledge of water management and conservation, particularly for dry season use. These included:

- Communal dams
- Boreholes
- Hand-dug wells
- Ponds
- Valley tanks (excavated)
- Valley dams (damming a valley watercourse)
- Private dams
- 'Shallow wells' - actually quite deep but distinct from boreholes
- Roof harvesting
- Shallow springs and ponds fed by them
- Rivers and streams

Features causing problems in Mbarara specifically were addressed:
- Poor rains
- Inaccessibility
- Small number of dams owing to expense
- Silting of rivers due to poor riverine management
- Destruction of water catchment areas through cultivation
- Expense of earth-moving machinery
- The topography of the area
- Mutual mistrust with people acting on a household rather than communal basis

The question of how to approach these problems was discussed. Mr. Meadows gave a real-world example of a project he had worked with in similar countryside in Sudan, where an earth moving machine was purchased by a local NGO with a loan from an International NGO. This was then managed by a local committee who agreed where and when it should be used, its maintenance and fuel supply, and most importantly the collection of

money to gradually repay the capital and running costs over 5 years. This was, however, in a highly profitable vegetable producing area renowned for the quality of its produce, which commanded high prices in Nearby Port Sudan, and thus cash was more freely available than might be the case in a more pastoral context.

Micro-finance was identified as an option to permit machinery hire on an hourly basis. Issues of pooling resources and seeking credit were discussed. It was noted that fragmentation of land, for example four different farmers owning different segments of a valley, meant cooperation was essential to catchment projects. Further discussion of the need for group formation/mobilization took place (as it had in earlier session). The need for increased levels of awareness and technical knowledge in for example the need to keep dams de-silted was also an issue.

Dr. Christosom Ayebazibwe then gave a talk from his own experience in water use in the District. He stressed the centrality of water to pastoralist livelihoods and went on to detail how communal dams had been poorly managed, citing:

- Lack of Control of silting
- Poor drawing techniques
- Inadequate sizes for the entire dry season
- Inadequate care taken of the water for human and animal health

He proceeded with a most informative set of photographs (overhead projected). These graphically illustrated many problems:

- The concentration of livestock leading to contamination of the water, spread of parasites and diseases, and the erosion of trails to dams
- Water turbidity and the silting/emptying and contamination of dams before the end of the dry season.

Some discussion took place as to the necessity for local water committees to be well informed and active in enforcing by-laws. The issue of finance/credit arose again as it was suggested that in some cases 'expert' water engineers must be consulted.

A remedial measure, having separate run-off troughs for cattle watering was illustrated; but poor management meant that (as the next picture showed) water levels fell too low and cattle reverted to the main dam.

Solutions were then discussed. Dr. Ayebazibwe stressed fencing as of primary importance, to protect the water from some of the above problems and divide it for human and animal consumption. Dams should be managed to still provide water at the end of the dry season. Preparation should be made before the rainy season by digging channels to collect rainwater and divert it to catchments. Grass filters placed upstream might be built to prevent turbidity and silting. Still ponds can be easily dug 20-100 meters radiating from the catchment areas a photo was shown of a simple one-man treadle pump that could lift the water into gravity-fed channels.

He showed a picture of water being raised by buckets from a hand-dug well and poured into cattle troughs, observing how time and labour consuming this is. Possibly cheap windmills could be developed - a participant observed that such technology already exists but was not adopted. He concluded the photographs with a picture of men building a simple concrete water filtration wall.

After the photographs a very lively discussion took place (it was observed that with the exception of the 'women's role' workshop below, this session probably had the highest level of inputs from the four women participants).

Issues discussed included the recurring issue of access to credit. One participant from outside Mbarara district noted the failure of co-operatives and the preference for individual micro-finance. It was felt that 'old' boreholes were better than those recently dug, which have a very high failure rate. However this might not be a difference of technique but rather the result of a falling water-table. Also some areas were simply unsuitable for dams and that other means must be sought.

The use of roof-harvesting was given as a detailed example of conservation at a household level. With simple tarpaulin-lined holes in the ground capable of providing 5000 litres at a cost of 100,000 UGShillings, or if concrete covered, about 120,000.

Finally it was noted that communal water resources remained underdeveloped while technologies, as had been demonstrated, do exist. Simply enforcing by-laws on cattle trails to water sources was not even done. Government intervention was suggested in the more scientific surveying of groundwater resources (an example was given of an expatriate team who simply drilled at random). It was noted that a water engineer concerned with providing safe water would always tend to groundwater solutions.

Some discussion took place of the control and use of water on the basis of gender, and of men controlling the money required for investment in water improvements while women were 'merely' the handlers of the water. This led to mention of stakeholder participation and women's roles, which the workshop would address in the afternoon sessions.

**Afternoon First Session : Community disaggregation and stakeholder issues**

(Facilitated by Mr. Meadows)

The facilitator referred back to earlier sessions, which had discussed the community, stakeholder analysis etc. Referring to the PASS diagram (see above) he noted that the identification of stakeholders and their interests was step 2 in the process and interlinked with Step 1, problem and objective identification. He delivered a brief talk on the need to think about very specific groups, not just 'the people' or 'the community' or 'farmers' but to consider the

further breakdown - giving an example of the different 'stake' held by a shopkeeper in Rushere who had no cattle, and his neighbor whose sole means of support was cattle.

He then added that stakeholders were a very wide group, giving for example himself who had an indirect 'stake' as he made his living training groups like this. Thus it was important to consider both indirect as well as direct stakeholders. Finally a definition was agreed for "Stakeholders":

'Anyone who has a direct or indirect interest in the Natural Resources &/or is affected by Natural Resource processes."

The facilitator then invited the participants to discuss and list the stakeholders in their area. He then listed these on a flip chart:

1. Government
2. - Central
3. - Local
4. - Uganda Wildlife/Park Service.
5. - Veterinary Services
6. - Extension Service Workers
7. Researchers
8. National Agencies (e.g. those concerned with Environment, Forestry etc)
9. Local NGOs and Community Organizations
10. Cattle keepers - Commercial (mainly for profit)
11. Cattle keepers - small herds ('subsistence')
12. Cultivators
13. Mixed farmers (agro-pastoralists)
14. Industry
15. Religious Organizations (churches, missions, mosques)
16. Aid Agencies
17. Outsiders.

This list was then discussed and some points clarified, such as the distinction between commercial and non-commercial cattle keepers. It was agreed that the definition could not be exact, since commercial owners might consume some of their own product and 'subsistence' herders might sell cattle and milk. However it was generally felt that the distinction was clear in the area, with large herd/absentee/dairy herds and ranching, while the smaller herder would rarely hire workers and aim more at herd maintenance than profit maximization.

Item #1, 'Government' was considered a heading as it was broken down in items 2-6, so was not used as a separate category later on.

It was also explained to the facilitator that religious groups often owned land, animals and farmed. Finally, 'Outsiders' referred essentially to those who crossed political borders into the area, for employment, for pasture, as refugees and so on.

After this discussion was complete and the definitions agreed, the facilitator moved to the second stage, which was for the participants, having themselves identified the stakeholders, to discuss and list their primary respective concerns. This second list therefore was addressed on a parallel sheet and will be represented by a chart below listing each stakeholder's primary concern(s) in ***(bold italics)***.

**Stakeholder Concerns**

1. Government ***(see below)***
2. - Central ***(Protection of Environment. Security, policy and taxes enforced)***
3. - Local ***(All of above plus enforcement of local by-laws)***
4. - Uganda Wildlife/Park Service ***(Conservation of NR as they see it)***
5. .- Veterinary Services ***(Preserving animal resources and health)***
6. Extension Service Workers ***(Profitable and sustainable use. Modernization)***
7. Researchers ***(Information)***
8. National Agencies e.g. those concerned with Environment, Forestry etc ***(Policy implementation)***
9. Local NGOs and Community Organizations ***(Awareness, survival)***
10. Cattle keepers - Commercial [mainly for profit] ***(Market, profitability)***
11. Cattle keepers - small herds ['subsistence'] ***(Survival, access, availability)***
12. Cultivators ***(Survival, market, profit, soil and water quality)***
13. Mixed farmers [agro-pastoralists] ***(combination of #11 &#12)***
14. Industry ***(Market, raw materials, inputs such as labor)***
15. Religious Organizations ***(rent, output from land)***
16. Aid Agencies ***(Empowerment through themselves and partners, South-South linkages)***
17. Outsiders ***(Survival)***

It was generally a vigorous and interesting session with the participants themselves providing all the inputs with little guidance from the facilitator. The Session closed with the facilitator asking the participants to reflect of the similarities and conflicts between stakeholder concerns, and referring back to Dr. Fre's Session (above) on stakeholder analysis.

Afternoon Second Session: The Role of Women in Natural Resource Use and Management.

In what turned out to be what was possibly the liveliest session of the workshop, the facilitator invited the participants to discuss as one group:

- What are the traditional and present roles of women in NR?
- What are potential ways to give women more empowerment with NRM?

The Chairman, Dr. Fre, suggested that the (4) women present should be invited to give their opinions first in the two successive discussions. He also had to frequently interject to keep discussion related to NR issues, as there

was a very great enthusiasm to discuss 'emancipation' at a broader socio-political level.

**What are the traditional and present roles of women in NR ?**

- Sharing cultivation with men
- Sowing
- Harvesting
- Water provision (with children) to the household
- Sometimes watering animals, especially in Women-headed households
- Arguments put forward that women were now more involved participation and supervision - others argued that with education and urbanization they are now actually less involved
- Care of household smallstock, calves.
- Bull fattening
- Dairy Production/processing (e.g. making and marketing ghee)
- 'The line between men and women's' roles is shifting and unclear nowadays'
- House gardening
- Grass cutting for floor covering (repeated frequently)
- Use of herbs
- Grass collection for food smoking
- Firewood

This discussion, as noted, was extremely lively, and the chairman and facilitator kept having to refocus the discussion. However it certainly produced an extremely high level of participation with many people competing to be heard. A majority felt that Mbarara culture was different from the norm in Uganda where 70% of agricultural labour is undertaken by women. They ascribed this to the pastoral and agro-pastoral culture, attitudes and traditions.

The session proceeded to the second item, which was rather less controversial:

**What are potential ways to give women more empowerment with NRM?**

- Awareness of the importance of their role
- Education - the possibility of women influencing NRM at the policy and legal levels
- Current law in process to give women more equal ownership of resources
- Parish level women's groups (The smallest administrative unit)
- The existence of Women's' elected councils at
- LC1 Village level
- LC2 Parish level
- LC3 Sub-county level
- LC5 District level
- Women's' Credit Trusts -currently urban but could be extended to rural areas

- Government Level institutions such as the Ministry for Gender & Labour

The participants were clearly happy with the government policy of women's councils, reserved seats in different bodies, and the 'pyramid' method in which representatives were chosen first at a popular level, and then with elected women selecting further women for progressively larger bodies in local Government. Altogether these sessions were observed to be extremely useful, particularly given the limited time available for this vital issue.

**Final Afternoon Session: Conflict Management**

(Facilitated by Mr. Meadows)

The facilitator began by asking whether the best time to stop a war is

(a) When you have won it ? (one vote)
(b) When you have lost it ? (one vote)
(c) When you have negotiated peace (one vote)
(d) Before it starts (all the rest).

He then proceeded to relate this to item #5 of the PASS diagramme (Above) referring to negotiation. Clearly it is better to reconcile as far as possible the stakeholder concerns already discussed to prevent later conflict.

He then gave a brief lecture on the subject, of which the key points were:

- Taking care of disagreements before they generate hostility
- Helping the stakeholders to explore many options for agreement and then selecting an option everyone can live with
- Identifying and intervening in the underlying causes of conflict to prevent them in future

He then outlined the main constituents of conflict management

- The stakeholders concerned
- Common areas of interest and potential points of conflict
- The need for a forum for discussion of these issues
- Reliable data on points of conflict. Options generated by and discussed by the stakeholders concerned
- A written agreement on these options
- Legitimization of the agreement (which does not necessarily involve national law but should be written and approved at as high a level as possible)
- Implementation of the agreement.

The facilitator regretted that there was no more time to have a major discussion of the subject, but distributed a single-sheet handout (Appendix 9) and encouraged participants to use it in discussion and taking the subject forward among themselves and in future work with stakeholders.

## Day 5 - Friday 23rd

### Session 1: Concluding Discussions and Future Directions

Dr. Fre Chaired the final session. It commenced with Mr. Meadows distributing and describing a final selection of training materials, which he stressed included practical, useable materials such as a guide to Monitoring Sustainability, and documents that participants could use with their own groups to stimulate discussion and future action. (See appendices)

PENHA representatives explained that while PENHA was not itself a funding organization, it was in a position to assist partners like NYDA to find funding from donors, and that the report on this workshop would be a useful tool in making representations to donors.

A wide variety of points were raised by participants and were summarized by Mr. Kyagaba. They included:

- The need to devise ways and objectives for farmers' groups
- Satisfying today's needs as well as the future
- Cultivation being good not only in itself but having benefits for animals
- The need for policy - makers to be convinced of the economic value of pastoralism
- The worldwide household use of cattle products - milk, meat, hides; this is a big global asset and a lobbying body is needed to get this recognized
- Since the long-term nature of returns on credit for agriculture and pastoralism limits loan possibilities, lobbying must be carried out for credit provision.
- Too much reliance is made on waiting for Government interventions. It is up to the community to mobilize local groups first.
- Women should not be neglected in any future mobilization, planning and activities
- We should encourage more training of trainers for grass-roots dissemination. PENHA were requested to provide further such inputs
- The seminar should be taken to the pastoralists themselves
- Lack of facilities for training in rural areas was noted as a constraint.
- Need to develop a good local database with research on the ground, such as demographics, number of children in schools, numbers of marginalized women.
- Farmer Exchange visits have proved to be very useful (as for example with the Masai in Tanzania) and should be developed further. NYDA could act as a catalyst for this.
- Dissemination would be easier if the materials distributed could be translated into local language.
- Hope was expressed that the planned training manual would include information on selective breeding to maintain local stock.
- Perhaps students could be brought as part of their studies at Makerere University to assist in field surveys. This research must then be 'returned to the people.'
- Marketing remains a big problem

- Local people should be involved in water resource planning.

Prior to the break evaluation forms were distributed and explained by Mr. Meadows, with a guarantee of anonymity and a request for honesty - if we have made mistakes it is productive to learn from them, PENHA is not seeking compliments and the evaluation is a very important tool for improvement of training in the future

After the break some further comments were taken before the closing ceremony.

- The need for mediation between pastoralists and the Park Service was highlighted. Lobbying should be undertaken. Water points could be established on Park borders to remove the necessity for 'encroachment.' At present even cultivators are affected at the edge of parks when herds trample their crops.
- Pressure should be put for the enforcement of laws regarding cattle transportation which at present, due to illegal overcrowding, cattle travel in very inhumane conditions and suffer frequent injuries
- It was suggested that a strong National body should be available to assist the regions in training of trainers.
- It was noted that when the Park (and Lake) were reserved the herders were promised compensation with water sources outside the Park - this promise was never kept
- If a local slaughterhouse were constructed frozen meat could be easily shipped to the benefit of both herders and their animals.
- A lobby group should pressure for an end to discrimination against pastoralists; wildlife was protected but not herd animals, and land tenure issues must be tackled
- In response it was noted that since Parks bring in tourist dollars, while pastoralism doesn't earn hard currency, such lobbying should be undertaken carefully.
- PENHA was requested to facilitate meetings with high-level policy meetings - the Lt. Colonel suggested PENHA should support him as a candidate for Parliament (laughter and applause).
- A government backed credit scheme for water resource management could be established using revolving funds.
- Micro-credit should have flexible time spans for repayment based on the specific objective (e.g. bull-fattening) and how long it takes.

The Session was closed in anticipation of the arrival of the Guest of Honor for the closing ceremony. Reverend Bwirizayo delivered a prayer of thanks and for the safe travel and future of all present.

**Session 2: Closing Ceremony**

The Closing Ceremony commenced with the introduction of the Guest of Honor, Mr. Augustine Atwijukire, the Deputy Chief Administrative Officer for Mbarara District.

He thanked all present for the workshop. He noted that when the National Resistance Movement came to power in 1986 they promised fundamental change to increase Ugandans quality of life. However pastoralists were not significantly addressed, although some aspects such as the improvement of safe water provision had taken place.

The government was, he continued, committed to alleviate poverty but needed local level help to reach the community and household level. He encouraged local NGOs to reach into areas where Government resources were as yet inadequate, particularly in areas like the environment and sustainability. He pledged the assistance of District Government in response to requests for assistance from local bodies, and encouraged sensitization on water and land tenure issues. Productivity could be improved without environmental degradation if the right steps were taken.

He stressed that in fact there is better food security in other areas of Africa that have a far harsher environmental context, whereas Uganda as a country is one were Food Security should not be a problem, given its resources and climate. He noted the establishment of a District Level Department of the Environment and that it's Officers would be available to provide assistance.

He thanked participants, particularly those who had traveled long distances, for their attendance and concluded by saying that the democratic process needs continued strengthening; local organizations should work closely with the sub-counties and take advantage of the local government's budget.

Lt. Colonel Fred Mwesigye was invited to speak. He thanked PENHA and its facilitators for their love and concern for pastoralists. He hoped the knowledge gained would be beneficial to both participants and the people. He looked forward to future work together.

Dr. Fre added a note of thanks to PENHA Board Member Dr. John Morton (NRI) for his involvement with the course and securing funding for the work of Mr. Meadows.

The Workshop ended with the award of Certificates by the Guest of Honor.

Finally Elizabeth thanked all present on behalf of NYDA.

Participatory Evaluation

(20 participants - Anonymous forms used)

**Main Objective:** To develop Information and skills in NRM based on both people - and science - centered approaches.
**Sub-objectives:**
**(#1)** To provide demand-driven technical inputs
**(#2)** To provide a people - centered framework for planning sustainability
**(#3)** To commence an on-going process of sustainable NRM with all the people and stakeholders of the area.

***(1) How well did the workshop achieve its** Main Objective **?***

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | XXXX | XXXXX | | |
| | | | | X | | XXXX | XXXXX | X | |
| ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***8*** | ***9*** | ***10*** |

***(2) How well did the workshop achieve** Sub-objective #1 **?***

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | XX | XXXX | XXX | XXX | XXXXX | XXX | |
| ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***8*** | ***9*** | ***10*** |

***(3) How well did the workshop achieve** Sub-objective #2 ?*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | X | XX | XXXX | XX | XXXXXXX | XXXX | |
| ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***8*** | ***9*** | ***10*** |

***(4) How well did the workshop achieve** Sub-objective #3?*
***[One form unfilled]***

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | XX | XXX | XXXX | XXXXX X | XXX | X |
| ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***8*** | ***9*** | ***10*** |

***(5) How useful was the training for you personally ?***

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | X | X | XXX | XXXXXXX | XXXXXX | XX |
| ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***8*** | ***9*** | ***10*** |

***(6) How well did you think the facilitators explain the subjects ?***

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | X | | X | XXX | XXXXXXX | XXXX | XXXX |
| ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***8*** | ***9*** | ***10*** |

*(7) Would you have preferred more teaching or participation (More teaching =1 About right balance = 5 More participation = 10*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| XX | X | | X | XXX | X | X | XX | XXXXX | X | XXX |
| ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***8*** | ***9*** | | ***10*** |
| **More Teaching** | | | | **Balance was OK** | | | | | **More** | |
| **Participation** | | | | | | | | | | |

*(8) How well did the workshop meet your expectations ?*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | X | | XXX | XX | XXXXX | XXXXX | XX | X | X |
| ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***8*** | ***9*** | | ***10*** |

*(9) How useful were the regional videos/slides and information ?*
*[One form unfilled]*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | X | XX | XX | XXXX | | XXXXX | X | XXXX |
| ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***8*** | ***9*** | | ***10*** |

*(10) How useful were the handouts (printed training materials) ?*

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | XXXX | | | |
| | X | | | | X | XX | XXXX | XXXXX | XX | X |
| ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***8*** | ***9*** | | ***10*** |

*(11) Were the sessions too short (1) about right (5) or too long ?*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | XXXX | | | | |
| | | | X | XXXX | XXXX | XXX | X | X | | X |
| ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***8*** | ***9*** | | ***10*** |

*(12) How useful was the workshop for your future work in NRM with the community ?*
*[One form unfilled]*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | X | | | X | XXXXXX | XXXXXXX | | XXX |
| ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***8*** | ***9*** | | ***10*** |

***Participants were invited to add any general comments on the course content and methodology - a separate evaluation on practical issues was conducted by PENHA.***

**General comments added to the evaluation form:**

50% of the participants added General Comments, generally a single sentence or two.

These fell under a number of general headings:

- Some felt that the training should have included more pastoralists and/or have been extended to the 'grass-roots'
- It was felt that future sessions should include a stronger element of 'training of trainers'
- It would have been useful if the Training Materials were translated into the local language
- Many requests were made for further training
- It was suggested that Pastoralists from other areas should have been invited
- Two participants bemoaned the lack of field trip(s)
- A single participant, who gave by far the majority of low scores in the evaluation, added that Ugandan facilitators should be used and less 'abstract/imaginative' examples be used. (S)he also criticized the topic presentation, stating that better preparation would have allowed a systematic flow. This was the only truly negative comment
- Some comments were directed towards thanks and appreciation for the workshop

## Conclusion

It is clear from the evaluation that, particularly in the relatively brief time available, the course objectives were satisfactorily achieved.

Question #1 achieved particularly good results, with every participant rating the main objective as having been well met.
Question #2 on technical inputs shows a greater spread but still only two participants evaluated level 4 mild dissatisfaction.
Question #3 on people-centered planning fared slightly better with over half the participants rating levels 8 and 9.
Question #4 on commencing an ongoing process in the area was a particularly satisfactory result, as there was a strong theme that this workshop should be part of an on-going process. All participants rated this as satisfactory or better.
Question #5, the personal usefulness of the training also achieved entirely positive ratings.
Question #6 , evaluating how well the facilitators explained the subjects scored particularly well, 75% at level 8 or higher. This, it is felt, reflects the effort taken in preparation and assessing the appropriate level and content of training rather than a comment solely on the facilitators' abilities to convey information.
Question #8 (were expectations met?) produced a broad spread of positives, with only one unsatisfactory rating. However it may be that preparatory work and flexibility in course design, after expectations were sought from the participants, contributed substantially to this result.
Question #9 on regional inputs showed that these were very welcome, with 50% of the participants rating them at 9 or 10. This clearly demonstrates the validity of PENHA's approach to regional networking and information exchange.
Question #10 on the Training Materials, with one negative exception, showed they were extremely well received, with 60% registering level 8 and above. This reflects the intense work carried out in review a very large body of materials and selecting critical issues in simple, often single page, forms. Apparently the two practical handbooks (on Community based Indicators and Monitoring Sustainability) were also felt to be potentially useable in the local context.
Question #12 (usefulness of the workshop for future local NRM work) links with question #4 (ongoing processes) but produced an overwhelmingly positive response (with one single mildly dissatisfied participant), with 16/19 participants clustered at the 8-10 level (one form was unfilled).

Two questions that were not on the Bad/Satisfactory/Excellent continuum in the evaluation need specific consideration:

Question #7 (*Would you have preferred more teaching or participation (More teaching =1 About right balance = 5 More participation = 10)* demonstrates 65% preferring a more participatory approach, with a weighting towards strong demand for this. It must be considered, however, that such approaches are generally more time consuming than 'lectures.' Thus for example group

work was limited to one session due to time constraints, where otherwise it would have been applied to other topics covered by Mr. Meadows. Thought might perhaps be given to a more participatory approach to technical input delivery (although some was incorporated). Possibly the use of pre-prepared handouts on the topic readable prior to the sessions would have been preferable, enabling a more informed discussion of materials, techniques etc.

Question #11 on the length of sessions shows a clear feeling that they were somewhat too long, with clusters at the 6 and 7 level; only a single participant regarded them at level 4 (mild dissatisfaction) as too short. Unfortunately poor punctuality is a factor here, with more frequent breaks likely to lead to slow resumption of a session. However, while thought might be given to extra brief breaks between sessions, or longer tea/lunch breaks, it should only be done if punctuality can be rigidly enforced.

On the whole sessions of 90-120 minutes do not seem excessive as regards observed attention span or participation and it should be stressed that the clustering shows only a mild feeling that sessions were too long.

General comments (see above) included some realistic and some less realistic suggestions. In the time available, a field trip would have been extremely difficult and time consuming to arrange and been probably less productive than 'classroom' time. Involvement of more pastoralists would of course be advantageous, but would have (a) made the numbers unmanageable and (b) might have required translation. The suggestion that handouts should be translated was a good one and should be followed if budgets for future training include this.

Other suggestions relating to future needs for 'training of trainers' and a more 'grass-roots' approach should be considered; however this workshop's objectives and participant education/experience level was couched to commence precisely such future activities by laying a groundwork amongst persons active in NYDA and other organizations, and it is felt that this was achieved. The single negatively inclined participant should not be ignored, as suitably qualified Ugandan trainers are no doubt available. This is somewhat outside the remit of this author, as it includes funding issues and management-level decisions on use of non - local staff. It might be noted, however, that this workshop, with its extremely positive evaluation, involved well more than 50% of its time with non-Ugandan facilitators.

The overall success of this workshop relied on a number of factors:

- The extensive consultations in both London and Uganda with both PENHA & NRI staff, as to their needs and expectations.
- The availability of an independent (NRI) review of PENHA training (commissioned by PENHA), and discussion of the applicability of its findings with PENHA's Director.
- Considerable preparation intended to balance both 'participation' and 'teaching', and of 'Technical' and 'people - centered' approaches.
- The considerable time allocated to needs assessment and the selection

and preparation of course content and materials.
- The availability (thanks to preparation time) of a very wide range of NRM materials from which to select approaches and content.
- The high level of flexibility demonstrated by the facilitators in responding to the expectations and needs of the participants.
- The prior discussion and agreement of clear Objectives and Sub-Objectives, and their centrality to course content and evaluation.
- The availability via PENHA of considerable regional input, particularly videos and discussions led by Dr. Fre.
- Excellent organizational skills of PENHA Uganda staff in identifying participants and running the practical aspects of the workshop.
- The eagerness to learn and contribute shown by the participants.

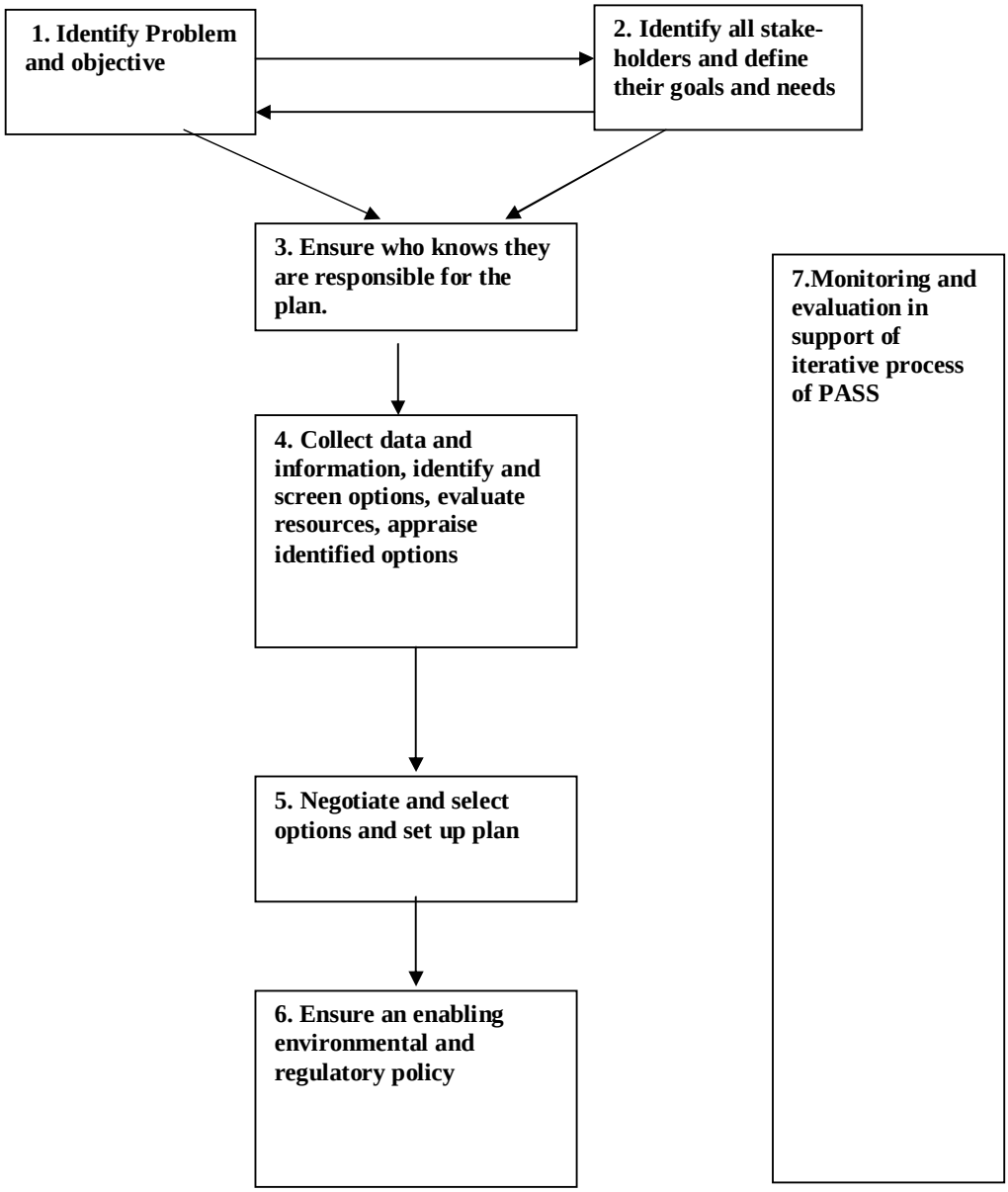
It is hoped that the lessons learned in terms of planning, organization, methodology and content will be useful in the ongoing regional training activities of PENHA and its partners.

## Training Materials Distributed

### 1: PASS Diagramme

### *The PASS method*

First in diagrammatic form, the PASS method is shown in its seven steps. These are each numbered in brackets alongside their titles. All steps are to be practiced iteratively, but step seven is even more so. This is why the last step extends down the whole length of the diagram. Brief descriptions of each step are then given in the following notes. Further information about each of them can be found in the references given at the end of these notes.



**2: Inappropriate Land Tenure Policies**

Inappropriate land tenure policies are major contributors to environmental degradation, and specifically to overgrazing, in arid and semi-arid grazing systems.

Many of the present policies are out-dated and require to be adjusted to recent trends of an increased competition for remaining pasture resources and the evolution of mixed farming system and crop cultivation in former pastoral areas. Enforcement of existing rules and regulations is often incomplete, resulting in more illegal exploitation of vulnerable environment than organised use and protection.

The key negative features of many present land tenure policies that encourage environmental degradation are:

- that they treat rangelands as state property, or as empty land which can be claimed by the act of cultivation
- that they fail to recognize that geographical and temporal variability of rainfall and of key resources demands that management units on rangelands be of large scale
- that they fail to recognize the strengths and complexities of traditional pastoralist land tenure systems in allowing flexibility of resource use and avoiding resource degradation.

These features contribute to overgrazing in three ways, sometimes in combination:

- by taking land out of traditional pastoralist livestock production (for commercial ranching, or commercial or smallholder cultivation), and concentrating remaining pastoralist livestock elsewhere
- by breaking up communal land tenure systems, which allow the geographical mobility essential for sustainable arid and semi-arid livestock production, into individual or small-group plots
- by weakening communal land-tenure systems, turning controlled common-property regimes into open-access regimes allowing overgrazing by community members and others.

A process that has many of the effects of 2) above is the de facto privatization of grazing land by larger livestock-owners through government-supported (and sometimes government-subsidized) private borehole development, which can be used to exclude small-stock owners, causing knock-on effects on other parts of the range.

## Research/Appraisal Methods

To appraise the effects of land tenure policy on environmental degradation, the nature of the policies/laws has to be understood through document

review, and their effects on local institutions and local environments understood through PRA or similar techniques, using, for example, herder accounts of changes in mobility, resource use, and resource availability, possibly combined with participatory mapping. In some contexts, GIS could be used to map tenure classifications against bio-physical evidence of degradation, with (more speculatively) the inclusion of participatory or socio-economic information.

## Options

Related policy potions include:

- zoning of rangelands
- strengthening local natural resource management
- promoting conflict resolution mechanisms
- curtailing direct control of stocking rates
- introducing well-designed grazing fee regimes
- drought management policies

## Key References

Behnke, R. 1994. Natural Resource Management in Pastoral Africa. *Development Policy Review* 12: 5-27.
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Lane, C. and Moorehead, R. 1994. New Directions in Rangeland and Resource Tenure and Policy, in Scoones, I. (ed.) *Living with Uncertainty: New Directions in Pastoral Development in Africa,* Intermediate Technology Publications, London.

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3: Community Based indicators Handbook (only available in printed form attached)

## 4: Form for assessing a community meeting

Village name: Date: # men: # women: % of possible:
Where took place: Who facilitated:
Main topics NGO wished to raise:

Extra topics raised by community:

Seating: How were the people arranged? did the women sit separately from men ?

High or low proportion of those who usually attend, or are expected to ?

Agenda: Was there an agenda ? Were all items covered?

Discussions: Was the discussion open ? Which items had the most discussion ?

Was it calm, angry ? On particular subjects ?

Participation: Did the majority take part in the discussions? Did a few

Individuals dominate the meeting (who?). How much did women participate?

Interest: Was there strong interest in the meeting ? What subjects were men/women most interested in ?

Were some people bored or paying no attention, if so, who and why do you think so ?

Decisions: Did everyone agree on decisions/points ? What did you think about the

Way people divided, was it always the same ? (e.g. rich/poor, men/women, educated/uneducated.

Other: What was your general opinion of the meeting; (e.g. polite, friendly/unfriendly, expecting too much).

## 5: Strengthening Local Resource Management

Inappropriate land tenure policies are key negative pressures on the rangelands, and strengthening local resource management is a key policy option.

Local management:

- builds on local knowledge of rangeland conditions
- builds on indigenous institutions, whose effectiveness is increasingly recognised
- motivates rangeland users to invest in range management
- provides a legal framework to resist encroachment by private ranchers or cultivation
- takes pressure off scarce administrative resources.

The arguments for local management of resources can be generalised into three principles:

- flexibility and diversity to respond to temporal changes and geographical variability
- subsidiarity or carrying out administrative tasks as near to user level as possible
- reducing transaction costs of administration.

In practice, strengthening local resource management is likely to mean building on indigenous institutions, but may mean establishing new primary-level institutions, such as herder associations. The arguments for federating local resource management institutions into regional or national bodies (not only on account of their resource management functions, but also their possible service delivery and advocacy functions) must be considered. Key tasks of a management system, at various geographical scales, must be apportioned in various degrees between different local institutions and the local representatives of central authority. In some areas, there will be difficult issues of reconciling the objective of strengthening traditional institutions with objectives of overcoming discrimination against women, and against formerly servile groups.

### Related Policy Options

- promoting conflict resolution mechanisms
- curtailing direct control of stocking rates
- introducing well-designed grazing fee regimes
- drought management policies
- zoning of rangelands

### Research/Appraisal Methods

The strengths and weaknesses of existing institutions and the socio-economic

context for local resource management can be assessed using combinations of anthropological research, PRA and more specialised techniques such as participatory SWOT analysis. The design of institutions for local resource management must be based on an understanding of the ecosystem dynamics [ non-equilibrium environments] and of the theoretical basis for understanding collective action.

**Key References**

Swift, J. 1994. Dynamic Ecological Systems and the Administration of Pastoral Development, in I. Scoones (ed.) *Living with Uncertainty: New Directions in Pastoral Development in Africa,* Intermediate Technology Publications, London.

Shanmugaratnam, N *et al.* 1992. Resource Management and Pastoral Institution Building in the West African Sahel, *World Bank Discussion Paper, Africa Technical department Series 175,* Washington.

**6: PASS - Planning A Sustainable System. Questions and exercises for working groups.**

Course participants can attempt these questions and exercises on their own as well as in groups.

1. If natural resources are essential for supporting livelihoods, why is this so?
2. What functions do natural resources have that make them important for sustainable livelihoods and sustainable ecosystems?
3. Produce examples from your own experience where you have noted pressures building up on the natural resources around you.
4. Why are natural resources being misused?
5. Divide the reasons for their misuse into those that are physical in origin and those that are social or economic.
6. What effects can you think that result from increasing pressure on natural resources?
7. Draw up a list of facts that indicate pressure on natural resources.
8. Indicate the state of the natural resources, and indicate responses people make to their worsening state.
9. What can people do about the situation? Look at different reasons why different groups of people cause different types of problems.
10. What are aims of a land use plan? Ensure that they have relevance to what local people will need.
11. Consider a project with a land use planning component, with which you have been involved, that has not to your mind been a success. Why was this? Was the failure due to technical reasons, policy mistakes, donor clashes, poor negotiations, lack of information, or what?
12. What levels of planning a sustainable system do you envisage as being important to distinguish?
13. What types of institutions are best suited to which levels of planning a sustainable system?
14. What to you are the key parts that must be in place for natural resources to be sustainably managed?
15. Think of problems that you have encountered when attempting to manage natural resources in participation with stakeholders. Expand your mind to think of different scales of working, types of organizations you have dealt with, different environments and land uses, and types of initiatives.
16. Who are stakeholders? Think of people who are directly affected by land use changes, agencies helping with their management, and informal networks that come together for a common purpose.
17. What type of concerns will be on the minds of different stakeholders as they start participating in planning for a sustainable system?
18. What would different stakeholders have at their disposal? Some will have very little to negotiate with; some will apparently be supported by many resources.
19. How could you go about ensuring that stakeholders who matter are actually involved in participating in a planning activity? What could be done to encourage the less enthusiastic or more reticent to become involved?

20. What types of participation do you think are effective in planning a sustainable system with stakeholders?
21. Do you envisage that compromises and trade-offs in negotiations will be the norm in any planning process? If so, bear this in mind as the process unfolds.
22. As a manager of a plan, list the key points about which you need to be aware as you link with the stakeholders who are involved.
23. Think of the different levels of planning that we have discussed earlier. For each of them, describe types of stakeholder groups that are best suited to participate with you in the planning process. This will need some thought and care.
24. What types of information do you consider are essential to have at your fingertips as you plan with the stakeholders to develop and manage an area? This will include technical, environmental, social, legal, economic, and institutional data.
25. How would you go about collecting some data that may be missing and needed? Reckon on having limited resources to hand, of manpower, finances or time, as is normal nowadays in planning exercises. Be careful to justify how you would make the best use of what you have.
26. Look at different scales of maps and determine what are the smallest lengths and areas you can see on them.
27. You are presented with a range of options as to the way forward a plan could go in managing an area with diverse natural resources and land use types. Think of criteria you could put forward for how to screen these options and arrive at one that is preferred by the majority of the stakeholders.
28. These criteria could include ensuring that there is technical feasibility, social acceptability and ecological soundness. What else?
29. Think back to the beginning of the process, which is first and foremost an iterative one. What kinds of questions were you seeking to answer when it was started?
30. What kinds of technical answers do you now believe you have to hand to the questions?
31. What could be possible social impacts if these technical solutions were implemented. It is unlikely that they will all be positive, so it is important that you can anticipate how less positive impacts will affect people.
32. What are the types of material that should be put on the table for the stakeholders to discuss? Remember that now is the time for negotiation to a decision, if it has not already been done during the ongoing planning work.
33. There may be a place and opportunities for providing incentives to see the natural resources being sustainably managed. What could you suggest as incentives, if the area is to be conserved as the priority or if the area is to be economically managed as the priority.
34. It has been said that legislation is there to be ignored, and that it is more flouted than followed. Do you believe that legislation can help management? If so, what types of laws and regulations can help to empower stakeholders in their management of an area?
35. Throughout the whole process of planning a sustainable system, it should be monitored carefully. What types of questions should it address, and

what types of tools can be used to monitor the progress of the plan?

36. Attempt to structure a set of instructions that technical support staff can use to evaluate how well a plan is being implemented, and that can act as an early warning system for problems that arise.

## 7: Overgrazing Policy Pressures and Policy Options

### Increased Overgrazing

The policy pressures that contribute to overgrazing in arid, semi-arid and sub-humid systems are of various types and include:

- Inappropriate land tenure policies that fail to respect local natural resource management practices and constraints
- Inappropriate financial policies, including for example:
  - ☐ subsidies on feed as drought relief
  - ☐ subsidies for dryland cropping
  - ☐ exchange rate and import/export policies
- Lack of encouragement of banking institutions

### Reduced Overgrazing

Policy options that can lessen the risk of overgrazing in these systems include:

- policies on land tenure and related issues
  - ☐ strengthening local natural resource management
  - ☐ promoting conflict resolution mechanisms
  - ☐ curtailing direct control of stocking rates
  - ☐ introducing well-designed grazing fee regimes
  - ☐ drought management policies
  - ☐ planning of water point provision
  - ☐ human service delivery to mobile pastoralists
  - ☐ zoning of rangelands
- financial policies to:
  - ☐ remove subsidies on feed
  - ☐ remove subsidies for dryland cropping
  - ☐ create price incentives for offtake and for stratification
  - ☐ establishment of pastoral banking systems

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- encouragement of non-pastoral employment

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## 8: Assessment format for evaluating a training course or innovation

The purpose of this monitoring is to quickly get feedback from all the participants in a training Session. You will also be getting ideas from the questions and comments people make, and these should also be written about in your report.

Method: One or more staff members attending the course will collect the information. At the end of the training, the trainer should announce that this person is going to ask each person attending their opinions on a few matters concerning the training, and that this will be done on a scale of one to ten. S/he can give an example on the blackboard (or flipchart etc.). A good one is just “did you think this was a good course?” and draw a line 1-10 and mark an x somewhere and explain why (i.e. an “x” at about 7 on the scale would mean it was a fairly good course.

The form is then taken around and each participant asked to say where they would score on each question. The interviewer then marks ‘x’s.

For Example:

How useful was the training for you personally?

1 2 3 4 5 6 7 8 9 10

How well do you think the teacher explained things? (0= badly, 10= very well)

1 2 3 4 5 6 7 8 9 10

How likely is it that you personally would adopt this idea?

1 2 3 4 5 6 7 8 9 10

If it will cost you something (depends on subject, this question might be more detailed about percentages etc…) would you be prepared to pay for the input?

1 2 3 4 5 6 7 8 9 10

How interested would you be in learning more about this subject?

1 2 3 4 5 6 7 8 9 10

How much do you think this subject would help you in your daily life/farming, etc.?

1 2 3 4 5 6 7 8 9 10

and many other possible questions, depending on the course. The interviewer asks each question and marks an “x”. Then at the end you can examine the form and from the grouping of the “x’s” you can write qualitative comments in your report, for example that people found it interesting but would not adopt the idea … or they would mainly not adopt the idea, but were interested in learning more. It is not difficult to analyze!

## 9: Promoting Conflict Management Mechanisms

New understandings of pastoral land tenure suggest that boundaries between user-groups (usually tribal or ethnic groups), particularly but not only where the resources concerned are non-limiting, are likely to be "fuzzy". Attempts to draw and enforce boundaries between user groups may be ineffective in terms of resource management, and exacerbate or create conflict. In view of this, and of the realities of administrative resources in developing countries, it has been suggested that external authorities should concentrate on developing and strengthening processes of conflict management so that pastoralists can manage conflicts as they arise, rather than assigning resources a priori to one group or another.

There is a growing body of literature on conflict resolution or conflict management. Important concepts are those of *trade-offs* between different stakeholders, and *consensus* in which the basis of decision-making is widened by looking at underlying needs rather than immediate demands and thinking creatively about solutions. Grazing conflicts, where a grazing area may be of use to two groups at different points in the year or for species with different feeding behaviours, *may* be amenable to the latter approach.

Key points about conflict management are:

- the need for "conflict management assessment" to identify the costs and benefits of intervening
- the range of options for improved conflict management which may include no action, use of force, compromise or consensus; and direct or facilitated negotiation
- the need for capacity building of local institutions (traditional or innovatory) and sometimes the provision of third-party mediation.

### Related Policy Options

strengthening local natural resource management

### Research/Appraisal Methods

Conflict Management Assessment is itself a framework for combining a number of methodologies, such as stakeholder analysis, PRA and institutional review. The results of a programme of capacity-building in conflict management should be amenable to participatory monitoring, and possibly to more conventional M&E approaches based on indicators of conflict.

### Key References

Behnke, R. 1997. Natural Resource Management in Pastoral Africa. *Development Policy Review* 12:5-27
Warner, M., and Jones, P. 1998. Assessing the Need to Manage Conflict in

Community-Based Natural Resource Projects *Natural Resource Perspectives*, No.35 http://www.oneworld.org/odi/nrp/35.html

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**10: Pressure-State-Response Indicators:**

**An Example for a Semi-Arid Grazing System**

One of the risks associated with Semi-arid Grazing Systems is land degradation as a result of overgrazing. However there may be other factors involved or contributing to overgrazing such as climate change. In addition the root cause of overgrazing may be different, stock numbers may be increasing, there may be a loss of grazing area to arable farming, seasonal mobility may be restricted by political unrest or changes in access to water resources may be restricting movement.

A livestock planner may suspect that there is a problem of accelerated erosion resulting from overgrazing. And if there is overgrazing he needs to find out why it is happening.

Pressure State Response Indicators need to be looked at in linked sets. They link physical indicators of change with socio-economic indicators of pressure and political/institutional indicators of response.

The following indicators may be appropriate for his situation

**Pressure**:

Why is it happening?
Is there overgrazing?
and what has caused it?

**Increase in Animal Numbers** - has there been a change in animal numbers or the type of stock held. Census data may be freely available. However figures may have to be updated with a field survey combined with local consultation with herders. In some cases aerial counts may be available, or may be carried out to establish present stocking densities. The complexity of the survey work will depend on the availability of existing and historic data.

**Reduction in Mobility** - a change in mobility is often an underlying cause of overgrazing. Historic records may be compared with present information on herd and herder mobility. Consultation with stakeholders will provide good information.

**Reduction in Communal Grazing** - often linked to the conversion of the better range areas to arable production. Information may be available through the same remote sensing data sets as used for vegetation cover. Additional information may be available on land registration from land authorities. And again consultation will be an essential part of the process of establishing the extent of the problem.

**State**

What is happening?
Is there an indication of a major increase in erosion?

**Changes in Vegetation Cover** - could be assessed from a time series of low resolution satellite images using a change in the vegetation index to indicate a change in biomass. The information is freely available, but the analysis will have to be carried out by an agency with experience of this technology.

**Changes in Vegetation Species** - invasion of weed species and loss of key species, may be recognised by local herders and/or botanists from a local institution. The analysis is more subjective unless previous survey work on species distribution is available. But the analysis is relatively low cost and can be combined with other discussions with herders and other stakeholders on pressure indicators.

**Indications of Accelerated Erosion** - field surveys can establish that accelerated erosion is taking place through the identification of key erosion features such as root pedestals. Again subjective unless it can be compared to previous survey work, but still has the advantage of allowing discussion with herders and other stakeholders. Additional data on sediment load in stream may also be available from hydrological institutions, indicating changes in erosion. And again the assessment should not be a major cost.

**Climate Data** - generally readily available, a look at a time series data set should indicate whether a change in weather patterns is a potential contributing factor to land degradation.

**Response**

What is being done about it?
Or in this case were there contributory political or institutional reasons for overgrazing to have taken place?

**Policy Changes** - a review of policy will indicate whether there has been a policy of encouraging arable expansion into range areas, or a privatisation of some communal areas. Other policy changes may relate sedentarisation of pastoralist groups for social development reasons or as a result of insecurity.

*The outcome of the analysis will be an answer as to whether overgrazing is taking place, which stakeholders are involved in the process, probable causes of overgrazing and will point to possible options to alleviate the situation.*

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**11: Monitoring Sustainability Handbook (only available in printed form Attached)**

**12: Sedentarisation of Pastoralists: Policy Pressures and Policy Options**

Sedentarisation of nomadic and transhumant pastoralists can take place for a

number of overlapping reasons:

- Explicit government policy to settle pastoralists because mobile pastoralism per se is perceived as "primitive" or as a problem (for the environment, service delivery, taxation, law and order and national security). In some cases this has involved settlement of pastoralists on new irrigated schemes. Such explicit policies are now rarer than they were in the 1960s and 1970s.
- Inappropriate land tenure policies and insecurity that inhibit mobility
- Pastoralists voluntarily settling to get easier access to government services, wage employment
- Destitute pastoralists settling quasi-voluntarily to get access to relief food (often on a long term basis), food-for-work etc.
- Pastoralists settling in sub-humid areas made available for year round settlement by the control of human or animal diseases
- Pastoralists settling pre-emptively in areas where available land is rapidly being claimed.

The first policy responses should be to:

- discontinue any policies which are designed solely to end pastoralist mobility: under a range of environmental and institutional conditions, mobility is a rational strategy that maximises welfare and minimises negative impacts on the environment
- explore alternatives for human service delivery to mobile pastoralists
- and strengthen pastoralism as a productive system in a number of ways:
- strengthening local natural resource management
- promoting conflict resolution mechanisms
- curtailing direct control of stocking rates
- introducing well-designed grazing fee regimes
- drought management policies
- zoning of rangelands

Beyond these policies, it is important to analyse, preferably using PRA among other methodologies, the specific processes behind any local example of sedentarisation, determine immediate needs of sedentarising pastoralists and other stakeholders and address those needs alongside environmental sustainability.

Many of the general policies that relate to crop-livestock integration are likely to be relevant.

Policies that specifically relate to sedentarising pastoralists may include:

- Careful planning of water point provision
- Strengthening of pastoral associations at regional and national level
- Land tenure policies relating to sedentarisation.

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## 13: Course Notes: Natural Resources Management in Pastoral Areas in Uganda

NOTES AVAILABLE FROM PENHA-UGANDA OFFICE