

Theme V: Research, Development and Policy priorities (14-25 April)

Notes for the discussion by Moderator: PJ Wood

## **REMINDER OF THE OBJECTIVES**

Overall vision for the drylands workshop:

"African countries develop and agree clear national policies and strategies for addressing ecological degradation of savannah and dryland forests taking account of management and climate change"

The drylands workshop purpose is:

"Key persons in Africa explore key issues in the status and future potentials of dryland and Savannah forests, deriving realistic priorities for R&D 2003-2008"

## **DISCUSSION DOCUMENTS FOR THEME V**

1. The document by Chikamai and Kigomo "Rehabilitation of degraded lands of Africa" is available on the website. It includes three case studies from Kenya and a draft on "Gaps in Knowledge and Recommendations for Policy Management and Research" for the workshop.

2. The Workshop Proceedings from the VITRI Inauguration Workshop, "Tropical Dryland Rehabilitation" (2002) and Sudan Workshop "Management of trees for farmland rehabilitation and development (2000) are also highly relevant and available. Both of these contain valuable focussed Recommendations from the participants at those workshops.

## **INTRODUCTION**

3. This theme is directed at two main issues:

- identifying gaps in knowledge that research can fill
- identifying enabling policies and political initiatives

Both of these are necessary bases to facilitate development actions to address the rehabilitation of degraded dry lands in Africa. We have to start, however, by asking whether research and policy for dryland forests is essentially different from that for trees and forests in general. I believe that there are some real differences that we can take account of in our discussions:

- Although forest research in general is not well funded, arid land research has always fared even worse - though in west Africa the Guinea/transitional savanna zones have been well-studied
- In countries with both humid/sub-humid and dry lands, the policy and development initiatives have always favoured the most productive zones
- The much lower potential for biomass production of the dry lands is reflected in the lower potential financial returns and role in carbon sequestration
- The people in dry lands tend to have traditional lifestyles, are often nomadic and often, vis-à-vis wetter zones, they have less political voice

4 The major outputs from research are

- information; -the end user of the information seeks Reliable Knowledge.
- technology (for extension and or adoption by end users)
- occasionally materials (eg improved germplasm).

## **TYPES OF RESEARCH**

5. In agricultural research we can simplify three phases of research:

- Basic research producing information about the biology of systems

- Applied research producing usable technologies for defined production
- Adaptive research developing extension packages from the applied outputs

There are, I believe, good reasons for moving on from this fundamentally top-down approach. Sutton, in New Zealand, has proposed that all research should essentially be applied. Most of us are familiar with the "Diagnosis and Design" process of ICRAF, which took an approach analogous to that of medical science, which has always been based on human health.

Sutton's suggestions were (for forestry) that the following types of research should be identified:

- Problem solving research  
The problem is clearly formulated and much (though by no means all) of the work tends to be shorter term. It produces easily applied results, the benefits of which are relatively easy to quantify. High political value
- Optimising research  
Aims to improve existing systems incrementally. Usually longer term and the results are less spectacular (eg tree improvement programmes). Good political acceptance. Often high commercial returns. Often ignores the need for a holistic approach to multifactorial systems to be improved.

"Blue Sky" research Somewhat risky research often with little immediate practical benefit. If successful has a very high political profile and wins Nobel prizes and renown but more often leads to failure.

I suggest that our discussions concentrate on the first two.

## **DERIVING RESEARCH PRIORITIES**

6. Putting together research priorities requires the collaboration of many people, although it is too often the case that only researchers are consulted. Problems are seldom simply technical or social - in most cases there will be a technical plus a policy (enabling) facet to each topic. We might consider, (yet again!) who the stakeholders are with regard to dryland degradation and how we find out about their needs. Is the idea of classifying stakeholders in terms of their "distance" from the research group a valid one?

There is a logical sequence

What are the needs of the end-users of research? (eg poverty, rural livelihoods)

What interventions and changes might meet these needs? (eg has forestry the potential to solve these broader problems?)

Having identified interventions been discussed and agreed with end-users?

What are the gaps in (reliable) knowledge need to be filled to enable the interventions to be applied? (note that research may be needed to apply what is already known). These then give a range of research topics, which can be prioritised.

The resulting knowledge must, as far as possible, applicable at the local level. Yet there is a danger in following this too closely since the result can be an endless collection of case studies. The utility domain of the research should therefore be as high and as wide as possible. This could lead us to recommending a proportion of formal experimentation and/or modelling.

I would like to give high priority to formulating problems and to distinguishing the different elements in them. If we ask development agencies, they will tell us that the major problems of today are mostly related to policy and marketing failures, rather than lack of technical or biophysical knowledge Why is so much of this knowledge unused?:

So we can discuss:

- Policy
- Institutional needs (including the need for multi-sectoral approaches)
- Communication and extension
- Technology

See also Box 1 on the Integrated Ecosystem Management Approach which highlights some considerations for research, development and policy.

## **GAPS IN KNOWLEDGE AND POSSIBLE WAYS FORWARD**

6. Chikamai et al have listed a number of gaps in knowledge and has raised several other key points which we can discuss.

These include:

- the dynamism of dryland climates;
- the tendency to use average conditions when local site variations are often considerable;
- poor monitoring of drylands and lack of knowledge for policy makers;
- lack of strategic plans to deal with hazards such as erosion and fire;
- continuing massive deforestation with almost no replanting/regeneration;
- lack of land use planning in which "forestry" plays a role;
- benefits from international conventions (CCD, CBD, CCC) and the UNFF are slow to become apparent;
- the establishment of many regional networks for Africa (AFORNET, FORNESSA, SAFORGEN and NGARA) together with ETFRN and IUFRO offers many opportunities that have only been partly taken up so far.

7. We can add to the above and derive some broad recommendations I would draw attention to a few topics,

- political will for forest conservation and sustainable management;
- empowerment of local communities, the de facto land managers;
- proper stakeholder consultation at all levels;
- tenure security of trees and lands;
- dryland environmental monitoring;
- need for integrated land management planning;
- poor dissemination of existing knowledge;
- ex-post evaluation of past programmes and projects;
- continuing training needed at all levels;
- the priority of addressing poverty reduction and gender equity issues

Unless the topics are prioritised, however, we run the risk of listing everything we can think of, and getting no further forward. John Palmer of FRP suggests a priority matrix for problem classification as follows:

Major problem, more soluble -----> Major problem, less soluble

Subsidiary problem, more soluble -----> Subsidiary problem, less soluble

## **AN INTEGRATED ECOSYSTEM MANAGEMENT APPROACH?**

8. The FAO has recently begun to use the integrated Ecosystem Management Approach" for its programmes. The dry zones of Africa deserve this kind of broad and understanding approach to their development and below (Box 1) is an outline of the principles involved in IEMA which I recommend that we try to bear in mind when suggesting policy formulation and change.

## **Box 1**

IEMA A checklist when working towards a shared vision with groups of stakeholders. This is not a one-off activity and should be developed over an extended period. Mindmaps ([www.mind-map.com](http://www.mind-map.com)) are one of the most efficient ways of exploring root causes of development problems

IEMA stands for "Integrated Ecosystem Management Approach". The IEMA goal is sustainable management by people of renewable natural resources, and it draws upon a variety of tools, scientific, sociological, economic, cultural, religious and political, to move towards that goal.

It has, inter alia, the following features:

1. It takes as its starting point the ecosystem, which is based on the interaction of land, water, the atmosphere and living organisms (nearly always including human beings) and human objectives, for the provision of benefits (goods and services).
2. It encompasses "Ecosystems" on any scale, depending on the objectives being addressed and accepts that they can be natural, modified, derived or artificial - or even, on occasion, destroyed
3. It identifies "Benefits" also on any scale and very broadly e.g. a benefit can consist of effects on climate (micro-, meso, macro), conservation of biodiversity or genetic resources, production of harvests, or combinations of any of these. The key element of IEMA is that the ecological processes and interactions which deliver the benefits are the basis for planning and action.
4. It is based on the principles of fair and equitable sharing of benefits by human society and gender-sensitive management, in the belief that these contribute positively to sustainable management.
5. It recognises that costs and benefits must be identified for decision-making at national, community and personal levels, and wherever possible quantified in economic terms to provide a common basis for rational comparisons between alternatives
6. It recognises that ecosystems are dynamic, it adopts flexible management and a precautionary approach to deliver the desired benefits and it incorporates regular monitoring
7. It takes account of the impact of change in one ecosystem upon others
8. It recognises uncertainty and risk to ecosystems, and adapts management practices accordingly
9. It recognises that sectoral, political and social objectives may differ and addresses conflict resolution principally through the free exchange of neutral, timely and transparent information and knowledge
10. It incorporates training as an integral part of the IEMA process, at all levels

These ideas (Wood, 2002) have been discussed within FAO but do not form part of FAO's published policy.