BULLETIN OF THE DRYLANDS: PEOPLE, POLICIES, PROGRAMMES

HARAMATA

No. 36, March 2000

Biodiversity and the Drylands

pages 12-15

IN THIS ISSUE

No. 36 March 2000

Cover: Woman cutting thatching grass near the village of Matetereka, Songea province, Tanzania, showing varied uses for 'wild' resources.
Photo: Helder Netocny/Panos Pictures.

Editorial

Well! We finally made it through the last few days of 1999 and into the bright new dawn of the new year, century, and millennium. So, does it feel any different? The transition into the year 2000, although arbitrary by nature, has created a sense of momentum in favour of initiatives aimed at making real progress at the dawn of this new era. For example, the Jubilee 2000 campaign to drop the debt of the world's poorest countries has benefited from a sense of renewed commitment to alleviate poverty. So far, formal agreement has been reached to cancel about one third of the targeted figure.

Standing on the threshold of a new millennium, there is, however, a lot wrong with the way the world works. I wonder if we will manage to steer spaceship Earth through the next few centuries without destroying ourselves. Our mad rush for global economic growth may bring material benefits and extraordinary new products. But we need to balance this with a greater sense of global responsibility. We need to create in the coming years a new paradigm to replace the current piecemeal approaches to poverty and the environment, and address huge inequalities in global economic, military and political might.

It never rains but it pours…

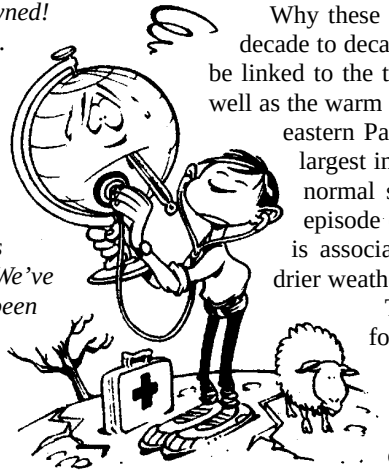
Last year's rains in the West African Sahel were remarkably good. Most areas received well above the long term average for 1961-90, although there were a few pockets of deficit in Senegal and Mauritania. It rained so much in some places that there were serious floods, but overall, farmers and herders seem well-pleased by the season. The harvest for the 9 Sahelian countries is estimated to be 11 million tons, which is 16% up on the average for the last 5 years, with both Mali and Burkina Faso registering a grain surplus.

Farmer Diabé Sow reports from Kounghani, on the Senegal River, as follows:

The floods of this last season have astonished everyone – we haven't seen such a quantity of water since the big floods of 1974. There has been some damage caused – our farmland is underwater – 60 hectares of maize and rice drowned! But we could sow again once the water subsided.

This last season has provided us with much floodplain land to sow with sorghum, maize, calabash.... Herds are fattening on plentiful grazing. We've not had much fishing since the dams were built – without a regular flood, the fish won't breed successfully. But this year, there are a huge number of young fish of many species which we had thought had disappeared forever. We've gone back to fishing methods which we haven't been able to practice for decades, and I have started weaving fishing nets again. Our young folk are learning to do things which they hadn't seen before.

Our valley needs a flood each year. We need the OMVS (River Valley Authority) to release water from the Manantali Dam each year to replenish our fields. They promise to do it, but then it never happens.



Source: Climate Change Information Kit

But unseasonal rains are currently far less welcome on the far side of the African continent. In Mozambique, continuous rains compounded by poorly timed cyclones have recently flooded the Save, Limpopo and Elephant river valleys, washing away large areas of agricultural land and leaving tens of thousands stranded on top of roofs and trees. Emergency funds will be needed not just in the rescue attempts but also to feed the population over the coming year following the destruction of a large part of the national harvest. South Africa and Swaziland have also suffered considerable losses. Yet in East Africa and the Horn the rains have been poor, and measures to handle the risk of famine are already being taken in parts of Ethiopia.

Why these great variations in rainfall from year to year and decade to decade? Rainfall in the west African region appears to be linked to the temperature of the ocean in the south Atlantic, as well as the warm El Niño current which periodically operates in the eastern Pacific Ocean. The 1997/98 El Niño event was the largest in over 100 years, and corresponded to a drier than normal season in Southern Africa. The current La Niña episode (a cooling of the Pacific, the opposite of El Niño) is associated with wetter weather in Southern Africa but drier weather in the East Africa and the Horn.

The Agrhymet service produces a general weather forecast for the Sahelian region based on sea surface temperature (SST) measurements and evidence of El Niño activity. Thus, for example, it is predictable that a high SST off the West African coast brings less rainfall in the Sahel and more to

the coastal region, while cooler SSTs will bring less rain to the coast and more to the Sahelian region. But what is it that brings higher or lower SSTs? No-one seems quite sure, although it may have something to do with a process of global warming as a whole.

The Climate Change Convention provides the forum for governments around the world to assess the changes taking place in our climate patterns, and to agree how we are jointly going to address the challenges raised. One set of agreements – known as the Kyoto Protocol, – aims to bring down emissions of carbon by means of several measures, which include the Clean Development Mechanism (CDM). This plans to offset any increase in emissions of carbon by increasing vegetative cover and carbon fixed in plants. In this way, it is hoped that the net balance of carbon in the atmosphere will be kept constant, thereby reducing further human–induced warming.

But there are still rather a lot of questions about the CDM which need to be answered. For example, can we make sure that plans to increase plant production will be done in a way which brings benefits to local people? How easy will it be to monitor such changes in plant production and assess their contribution to lowering CO_2 levels? Can the CDM also be used to generate broader environmental benefits, such as stemming erosion, improving soil moisture retention, and enhancing bio-diversity? And where will the money come from? Some of these questions may find answers in the next round of the Climate Change Convention negotiations, due for November this year in the Hague.

Contact: www.unfccc.org, www.agrhymet.ne/ or www.cru.uea.ac.uk.

Trade wars

As the last century and millennium drew to a close, 40,000 protesters hit the streets of Seattle, US, greatly interrupting the World Trade Organisation talks. What was it all about? Why was there such a fuss? What might new trade talks bring for African countries?

The WTO was set up in 1995, to follow on the work of the ad hoc organisation governing the General Agreement on Tariffs and Trade (GATT) and to look at a new comprehensive set of rules governing in investment, public procurement and competition policy. The WTO currently has 134 members, and its purpose is to establish the rules by which international trade will be carried out by different countries. It also has the task of monitoring compliance with these rules and providing a forum for resolution of any disputes. In addition to the GATT, the WTO also has taken up responsibility for two other international trading agreements on trade in services (GATS) and intellectual property rights (TRIPs).

The idea driving the WTO is that if everyone liberalises at the same time, there should be widespread gains to all. But, some people and countries are not convinced that completely free trade is a good thing. They argue that globalisation of economic activity will bring unequal benefits to countries around the world. The poorest countries will continue to suffer declining prices for raw materials yet see no prospect of establishing manufacturing jobs because they will not be allowed to protect their markets from cheap imports stemming from better established companies elsewhere. The Panos Institute estimates that Sub-Saharan Africa will lose around 1.2 billion US$ a year from freer trade. One of the reasons why trade liberalisation in the previous ‘Uruguay Round’ of negotiations has not benefited developing countries as much as it should is that indus-

trialised countries have protected themselves against the most dynamic exports of developing countries. These include textiles and clothing, agriculture, footwear, steel, consumer electronics and processed raw materials.

Equally, environmental groups and other NGOs worry that the big global companies will move their operations and jobs to places where labour is cheap, and there are few restrictions on job security, social provisions, or environmental controls. Companies will be able to operate at much lower cost than back home in the developed world, since they will not need to comply with legislation on air and water pollution, decent employment standards, and so on. Such NGOs see the need for international standards to be imposed on the activities of these companies through the rules established by the WTO and other frameworks.

At the moment, the only restriction which the WTO will allow to be imposed on imports is if a government has firm scientific evidence that a particular good is likely to cause a health hazard. Thus, for example, Europe's desire to ban imports of meat from animals in the US which have been subject to hormone treatment has been ruled illegal under the WTO rules, despite high levels of public concern. This is because there is not enough scientific evidence demonstrating that these foods damage human health.

However, the WTO is not the only international organisation with competence in matters of trade. The international negotiators discussing the Biosafety protocol under the aegis of the UN Convention on Biological Diversity (CBD) have reached agreement on the rules covering imports of genetically modified (GM) foods. It has now been agreed that governments will be within their rights to ban imports of GM seeds and crops, if they believe that they threaten the environment or health of the people. Critically, such a ban can be imposed on the basis of the precautionary principle. This means that detailed scientific proof of any adverse impacts, which could take many years to come through, will not be needed.

Same subject – different and contradictory outcome. How can this be? Essentially, the WTO is heavily dominated by US trade interests who are able to press for decisions to be made in their favour. By contrast, the UN system provides for a broader set of interests to be put into the balance. The US were not able to block agreement of the Biosafety protocol because of the very large number of countries arguing against them.

While developing countries have supported moves to block the safety of new and insufficiently tested biological products, they are less in favour of high environmental standards of production and employment conditions being used as a means to block their own exports. International rules which restrict trade in goods produced by cheap labour or subject to environmental monitoring would halt the flow of investment which poorer countries desperately want to bring in, so that jobs can be created.

The Seattle meeting was programmed as the WTO's third ministerial conference which might have instigated a new 'Millennium' round of talks to look at a new comprehensive set of rules governing trade issues. But many developing country governments wish to see the weaknesses in the existing system sorted out first, before any new negotiations are begun. With the disruptions to the Seattle meeting, no decisions were taken to start up new negotiations or to prolong the deadlines for the existing agreements.

For more information, contact: panoslondon@gn.apc.org or visit: www.oneworld.org/panos. See also www.wto.org which has details of the discussions at the WTO seminar on special and differential treatment for developing countries held on 7 March.

Professor Hubert Ouédraogo, a Burkinabè lawyer at the University of Ouagadougou, has recently established a group of researchers and practitioners – the GRAF (Group de Recherche et d'Action sur le Foncier) – which aims to network and stimulate debate on land tenure issues in the region. He has been deeply involved in land tenure issues for several years and in particular has been part of the process to draft a pastoral charter for Mali.

In the wake of the movement to reform the tenure system of farm and forest land in the Sahel, there is now a growing interest in pastoral land tenure. What has been happening lately in terms of pastoral legislation?

One of the first countries to take any far-reaching initiatives was Guinea in 1992/3, the work culminating in the enactment of new pastoral legislation in 1995. Mauritania and Mali then embarked on a similar path in 1998/9; the Mauritanian Pastoral Code has just been enacted, while Mali is working on its Pastoral Charter. Niger and Senegal have apparently also begun the process, but I have no definite information in this regard.

Why this sudden interest in pastoral laws?

Legislation is being framed in response to earlier thinking and discussion on pastoral issues. For example, the CILSS started a debate in the 1990s that led to the Praia Conference in 1994. That Conference stressed not only the links between land tenure and decentralisation, but also the essential role of rural associations, including herder organisations. PRASET[1], which was designed to increase security of tenure in pastoral areas and strengthen herder organisations, also played a significant part between 1995 and 1998. The FAO's conflict management programme in respect of natural resources provides further evidence of the growing interest in the pastoral sector in recent years.

Stakeholders have also played a key role. The livestock extension services, for example, realised that the tenure reform movement was not having any direct impact on the livestock sector, so they actively encouraged the process of framing pastoral laws. Furthermore, some development agencies such as the World Bank have recognised the inadequacy of their involvement in the field of pastoralism and are now trying to ensure that herders' interests are taken into account systematically when legislation is being mooted. On top of this, currency devaluation led many governments to weigh up the considerable role played in the economy by the livestock sector and decide to institute a legal and institutional framework conducive to its development. Finally, against a background of decentralisation enabling citizens to express themselves more freely, herder organisations are increasingly speaking up and calling for clear rules in their sphere of interest.

What do these "pastoral codes" contain?

First of all, let us clarify the distinction between pastoral codes and livestock codes. The former are laws relating to natural resources in pastoral areas, while the latter deal with livestock production and therefore relate to the problems of animal health, livestock marketing, etc. In brief, pastoral codes specify herders' rights and at the same time lay down ways of preventing and resolving disputes. The rights recognised in this way by the legislative and legal systems are as follows: firstly, the right of access to natural resources; secondly, the right to – not mere tolerance of – mobility; and, thirdly, pastoral usage rights over certain resources, combined with a right to com-

pensation when those resources become inaccessible as a result of wider development schemes.

What benefits can this legislation bring and what are the risks?

I see the development of pastoral laws as a positive step towards establishing the rule of law. Indeed, it is part of the process of clarifying the rules governing access to and use of natural resources. The Sahel is currently undergoing extremely rapid change. Yet the transformation is being achieved at the expense of pastoralists. Therefore, I think we should aim to use legislation to protect and guarantee pastoralists' rights. This means acknowledging that it is legitimate for a group of stakeholders who have thus far been marginalised to have access to natural resources.

To me, the fact that Sahelian governments are issuing unequivocal policy guidelines within which specific pastoral land-use practices can enjoy greater protection and security is a positive development. I think that the question is not so much whether pastoral legislation is a good idea or not, but what constitutes the best legislation. In my view, no-one really knows the answer to that. Neither the State nor the experts – perhaps not even the herders – know what form the best pastoral legislation should take. Appropriate solutions based on consensus can only come about through a process of consultation and dialogue.

It is obvious, however, that there are some risks in framing pastoral legislation. The first relates to the production-oriented policy currently being pursued by governments in the Sahel. Since money can be earned from livestock farming, they want to encourage intensified production to bring in much more foreign currency. This policy could degenerate into a rush for productivity at all costs, as has happened with livestock farming in Europe. The second risk is that lawmakers tend to have a uniform view of what solutions are needed. They generally try to frame legislation for the whole country, whereas actual situations vary greatly and it would be better to tailor solutions to local realities. Thirdly, there are still many prejudices concerning pastoralists. It is often said that "herders degrade the environment". There is a risk that lawmakers who are not familiar with the pastoral scene, having decided in advance that herders are to blame for environmental degradation and any damage caused to fields, will put in place a series of sanctions against them. All in all, the success of efforts to draw up pastoral legislation will depend on involving all the different stakeholders in the process, to ensure that their respective interests are taken into account and to achieve genuine consensus.

For further information on the Charte Pastorale *or the GRAF, please contact Professor Hubert Ouédraogo, 05 BP 6082 Ouagadougou, Burkina Faso. E.mail o.hubert@fasonet.bf.*

Postscript: IIED's Drylands programme is supporting a set of consultations in Mali surrounding the newly drafted *Charte Pastorale*, in which our interviewee Professor Ouédraogo has been heavily involved. Our work aims to support the implementation of the charter, by discussing the text with a range of stakeholders, to identify how, in practice, the provisions of the charter might be interpreted. We will report on these activities in the forthcoming edition of *Haramata*. Early findings suggest a number of interesting challenges which will need to be tackled, which include:

How will the pastoral charter link to existing legislation, in a way which minimises areas of ambiguity and overlap? What role might pastoral organisations themselves play in helping translate the provisions of the law into practice? And how can the pastoral charter best build on the newly established *communes rurales* in Mali?

[1] PRASET (Programme Régional d'Appui au Secteur de l'Elevage Transhumant).

Land in southern Africa

Land is a hot political issue in southern Africa. While a high proportion of people remain dependent on the land for food, employment and a place to live, the region is wracked by inequitable access to this basic resource. Such extremes of wealth are most marked in South Africa, Namibia and Zimbabwe, where white commercial farmers carved out large holdings for themselves and forced Africans onto poor, marginal lands. However, while race used to form the main basis for unequal land distribution, now this is linked increasingly to class, economic and political power.

ZERO is a regional environment organisation based in Zimbabwe, with a research and advocacy programme focusing on land issues. Their regular newsletter *Perspectives on land reform in southern Africa* provides an update on research findings, as well as views and news on these issues. Countries throughout the region are in the process of reviewing their land tenure policies, given the growing shortage of land and increasing conflicts over its use.

Research can demonstrate the range of possible options and models for land management. For example, there has been a tendency to think of private, individual title to land as being the one and only answer to tackling questions of land ownership. Yet a wide range of other possible models exist, in which community based organisations are the primary managers and decision-makers as regards land holdings. Equally, many people consider that customary rights should be done away with as being evidently out of date and unable to provide the basis for agricultural development and growth. Yet research demonstrates that, in fact, customary systems can provide a context for a very dynamic set of agricultural practices and are no disincentive to farm investment.

The overall goal of ZERO's research and advocacy programme is to improve the livelihoods of rural communities, by enhancing their capacity to contribute to debates regarding land policy and its formulation. It is paying particular attention to land distribution, access to land and land resources management.

First findings from the research programme show that land reform processes in the region seem to ignore the value of community based natural resource management systems, despite their potential for promoting sustainable livelihoods. It has also become clear that land reform alone is not enough, but needs to be accompanied by support in the fields of infrastructural development, credit, and marketing. In some cases, new institutions have been set up – such as local government structures – creating serious tension and conflict with traditional management systems, with both systems of authority claiming responsibility for managing access to land. At the same time, there is growing conflict between wildlife and tourism interests on the one hand, and local farmers and livestock keepers on the other. Given that the former are often backed by international money and environmental interests, the latter face a difficult and unequal contest.

The first volume of *Perspectives* provides a wide array of articles which include: the place of land in the sustainable development of southern Africa, training and research needs of the region based on the example of Mozambique, land reform developments in Zimbabwe and lessons from gender sensitive reform programmes.

ZERO
REGIONAL ENVIRONMENT ORGANISATION

For more information, please contact:
ZERO, PO Box 5338, Harare, Zimbabwe.
Tel:+263.4.700030 Email:zero@internet.co.zw

Desert negotiations

The Convention to Combat Desertification has generated a lot of new structures and activities. It has also inspired a number of people to undertake research on the negotiations themselves, by observing, recording and interviewing different stake-holders involved in the process.

The Negotiable Desert by Elisabeth Corell is sub-titled *Expert Knowledge in the Negotiations of the Convention to Combat Desertification*. It therefore examines the role played by the scientific advisers on the International Panel of Experts on Desertification (IPED) and the NGOs which took part in the proceedings. It aims to assess the areas in which each of the two groups was able to make a contribution to the text of the Convention to Combat Desertification (CCD), and the basis on which their views were listened to by the negotiators.

The Climate Change Convention is often taken as a model for how a multilateral environmental agreement should operate. The role of climate scientists has been critically important from the start in defining the nature of the 'climate problem' to be addressed, its underlying causes and, hence, the necessary course of action. By contrast, scientists have been far less significant in desertification related work, since there has been far less unanimity concerning what constitutes 'desertification' and hence, the best means of action. Corell argues that while the expertise provided through the IPED gave a sense of legitimacy and credibility to the CCD process, it was closely managed by the Secretariat to the CCD to ensure that the scientists didn't rock the boat.

The NGOs who participated in the CCD negotiations were largely those involved in development activities, with few environmental pressure groups present. NGOs brought to the negotiations a sense of field level realities. Delegates considered NGOs to be, in effect, representatives of the affected populations of the drylands. As with the IPED, however, NGOs were present at such events only as observers and, hence, while able to influence decisions through their advocacy role, they could not be part of the decision-making process itself. She concludes that NGO knowledge and wisdom played a more significant role than that of the formal scientific panel in terms of guiding the direction of the negotiations. This was because the NGOs present operated as an effective lobby group throughout the proceedings, and generated a lot of literature and activities during the sessions to attract attention to key issues under negotiation.

This interesting study is worth looking at both to find out more about the CCD negotiating process and broader questions relating to the links between science, society and policy-makers.

The Negotiable Desert is available from the Tema Institute, Department of Water and Environmental Studies, Linkoping University, S-581 83 Linkoping, Sweden.

Whither the CG?

The Consultative Group for International Agricultural Research (or CGIAR for short) brings together a large number of nations and international bodies in support of 16 high level research organisations working on agriculture. Building on the great successes which brought much increased yields of wheat and rice in the 1950s and 60s, these institutions now cover a very wide range of commodities, from fish

farming, beans, potatoes, livestock, chick peas, millet and sorghum. Examples include the International Livestock Research Institute (ILRI, based in Kenya), the International Crop Research centre for the Semi-Arid Tropics (ICRISAT, head-quartered in India), and the International Food Policy Research Institute (IFPRI, which is based in Washington, DC).

With a global budget of more than US$ 330 million, the CG centres can boast a cadre of highly trained scientists, up to the minute facilities and substantial gene-banks of plants from around the world. Yet, there is increasing concern about their future, what they do and how they do it, and the level of public support they should receive. Several western donors have cut back their funding and there is even talk of either closing certain centres, or amalgamating them into fewer, larger groups.

An email conference held in the first few weeks of this new century brought together many competing views about what the CG should be doing and how to provide greater focus. It showed the very clear need for publicly funded science at global level, but divergent views about how this should be done.

Several factors seem to have brought about this questioning of the CG system. First, the bio-technology revolution has been led very largely by the private sector who have scientific capacities far larger than those available within the CG and other publicly founded research centres. Some argue in favour of CG institutes negotiating deals with agro-business to gain access to their technology, trading access to gene bank material in return. But others see this as a betrayal of the trusteeship role which the CG institutes are meant to play on behalf of humankind as a whole.

Second, the CG has developed a very broad set of activities and has tried to span both high science and more farmer-focused participatory development activities in response to criticism that it was too focussed on work in the lab. Yet in both fields there are many other actors carrying out the same kind of work. Where should the CG concentrate its efforts? By trying to do too much, effort is spread too thinly. A greater willingness and ability to form partnerships with a range of other actors will be important for the CG's future.

Third, development funding has fallen and has been moving away from longer term commitments to core costs, with greater attention paid to new, in vogue topics – such as poverty, the fight against the world-wide drugs trade, and globalisation. Hence, fewer and fewer donors are willing to assure the long term secure funding needed to maintain a core staff of top quality scientists.

Yet the need for a global research system serving the public interest has never been more urgent. The challenges facing world agriculture have never been greater. We need to develop higher productivity systems for more marginal farming areas, and ways of making best use of agro-ecological systems to minimise environmental damage in higher potential areas. Whether in rich or poor countries we have to find ways of ensuring that our food industry is sustainable, provides environmental benefits – rather than damage – and can lead to improved and more secure livelihoods for rural people.

Equally globalisation is bringing great new opportunities but also huge challenges. It is not self evident that small, poor farmers will gain from the current wave of technical progress and market integration. How can we try to ensure that bio-technology and advances in genetic engineering bring fairer benefits for all? Maybe the CG should focus on support to poorer farmers who are much less able to benefit from and tap into private sector funding.

In a recent reflection on the links between agricultural research and poverty, the CG notes that higher agricultural productivity should boost farm incomes and employment, lower food prices in the market, support development of broader opportunities to make a living in rural areas and broaden economic growth at national level. Hence, the CG still has a critical role to play, if it can focus on those people and regions which will otherwise miss out on the bio-tech revolution.

For more details, visit the CGIAR website: www.cgiar.org. See also www.egfar.org for the global forum on agricultural research which is holding a conference in Dresden at the end of May to discuss a 'global shared vision' for agricultural research and development.

Environmental research in the Sahel

This special issue of the Danish Journal of Geography presents thirteen papers covering a broad range of issues important to the Sudan-Sahel zone. The introductory chapter examines the methodological challenges of conducting multi-disciplinary research, and the need to reconcile the often conflicting agendas and field methods of the physical and social sciences in order to carry out collaborative work.

Subsequent chapters provide a very comprehensive and wide ranging analysis of land use issues from political, economic, social, cultural, biological, historical and technical perspectives. At one end of this spectrum, a fascinating chapter explores the importance of politics and the art of forging and maintaining alliances that often transcend the "local" area of dispute, to secure control over key resources. In another chapter the issue of cultural identity is brought to light to explain in part why Rimaybe agro-pastoralists have generally been more successful in coping with periodic stress and food shortages than their former "masters", the Fulbe. Several other chapters assess the challenges of combining local technical knowledge with state-of-the-art technology to document environmental changes and trends.

Overall, the collection of papers demonstrates the extreme complexity and diversity of land use management strategies in the Sahel. They also bear testimony to the dynamic nature of the Sahel and its people who, in spite of many hardships continue to draw a living from difficult circumstances. Development assistance needs to recognise the former and build on the latter if it is to make a meaningful contribution to the livelihoods of the people who live in this fragile, but remarkably resilient, area.

Danish Journal of Geography – Special Issue Vol. 2,1999. To obtain a copy, please contact: Institute of Geography, University of Copenhagen, Oster Voldgade 10, DK-1350, Copenhagen K, Denmark. Tel: 45 35 32 25 00. Fax: 45 35 32 25 01

Biodiversity and the Convention: what does it mean for drylands?

The Convention on Biological Diversity has generated much interest in bio-diversity and agro-biodiversity. Similarly, related issues such as biosafety and the agreement on Trade Related aspects of Intellectual Property Rights (TRIPs) are being debated at inter-governmental levels. In this *Haramata* we give a brief overview of what is going on at international level around biodiversity and what the implications are for dryland areas.

Biodiversity is shorthand for biological diversity and refers to genetic diversity, the diversity of species, and diversity of ecosystems. The term agricultural biodiversity (or agro-biodiversity for short) is defined as "the variety and variability of animals, plants and micro-organisms which are necessary to sustain key functions of the agro-ecosystem, its structure and processes for, and in support of food production and food security" (definition by FAO-CBD, 1998). Preserving genetic variability is one key area of agro-biodiversity, but it also concerns, for example, soil micro-organisms which play a crucial role in decomposition, nitrogen and phosphorous fixation, and absorption processes. Agro-biodiversity also sustains other production functions in farming, such as pollination and pest control, as well as supporting rural development by providing a basis for tourism and other enterprises (Pimbert, 1999). By emphasising agro-biodiversity, the importance of preserving biodiversity in man-made ecosystems is underlined. These systems used to be regarded as lacking much biodiversity, being an impoverished echo of the original, natural situation. However, recent research has shown that certain agricultural systems can be as rich in species variety as natural environments.

Agro-biodiversity is particularly important for maintaining productivity and resilience of farming and livestock systems in marginal, risk prone and diverse environments, such as the drylands. Most farmers in these areas are very concerned with genetic diversity and will try to keep a large number of crop varieties, adjusted to particular soil types, and levels of rainfall as well as taste (e.g. Mortimore, 1998). People's livelihoods may also depend on the use of a range of 'wild' resources which can be found in fields, in the commons or along waterways. The stability of pastoral systems relies on access to a range of diverse eco-systems, so the loss of wetlands to farming seriously endangers their livelihoods. Biodiversity also has cultural values (sacred groves, totem animals) and its conservation may help to create alternative sources of income. Halting and reversing the erosion of agro-biodiversity can be achieved through various approaches, such as supporting participation and strengthening local rights to resources, promoting local, adaptive management and expansion of knowledge (Pimbert, 1999).

Marc Schlossman/Panos Pictures

Oldenoi L'engai, an active volcano regarded as sacred by the Masai tribe, Rift Valley, Tanzania

The Convention on Biological Diversity (CBD)

The issue of biodiversity has gained in prominence following the launching of the International Convention on Biological Diversity (CBD) in 1992 by the United Nations, in line with the principles of Agenda 21 and the Rio Declaration. The CBD's principal objectives are to promote: the conservation of biodiversity, the sustainable use of its components and the fair and equitable sharing

of benefits from the use of genetic resources.

The CBD has received widespread public interest and financial support. It has been successful in the sense that the CBD provided a place for discussion about biodiversity, what its importance is for people and how it could be used and sustained. The CBD was the first international treaty to acknowledge the vital role of traditional knowledge, innovations and practices in environmental conservation and sustainable development as well as the need to guarantee their protection whether through Intellectual Property Rights (IPR) protection or other means. Indigenous and local communities are seen as important actors in the implementation of the CBD and many indigenous groups are represented at the meetings of the Convention.

CBD and drylands

Biodiversity discussions used to focus essentially on conserving natural habitats, preserving their variety and preventing the extinction of species. Biodiversity was often associated with lush, tropical forest and coral reefs, teeming with exotic and endangered species. Drylands were considered as areas of limited interest for biodiversity and it was assumed that the CBD had not much to offer to them.

This perception of the limited importance of drylands has changed. Drylands cover a large part of the globe, harbour unique species with special characteristics and are also the origin of many important crops, particularly cereals and pulses, and remain a significant source of genes. It is home to many drought resistant species and varieties. Bioprospection of 'extremophile micro-organisms' is considered one promising approach (see Box 1 on bioprospecting). Drylands are also home to a variety of medicinal, aromatic and ornamental plants, while certain salt tolerant plants have the potential to become important food crops (UNEP/CBD/SBSTTA, 1999).

In the drylands of West Africa most species are very resilient to the combined pressures of climate fluctuation and seasonal grazing. They are able to recover after droughts, albeit slowly. The major causes of biodiversity loss are the expansion of cropping lands into forests and wetlands, often former grazing areas; increased use of tree species for construction and tool making; reduction of the wild animal population; reduction of genetic diversity for native crops and local varieties such as sorghums, millets and pulses. Significant international '*ex situ*' collections of genetic resources have been built up by ICRISAT (IPED, 1994) and other institutions (e.g. SEPASAL, Kew Gardens).

Biodiversity in the drylands is starting to receive more specific attention within the CBD, which is currently developing an "ecosys-

Bioprospecting

Bioprospecting refers to the successful exploitation and development of genetic resources and can result in considerable profits, although the risks of these commercial ventures are also high. Much of the world's biodiversity is found in the rural areas of developing countries. However, in the past, developing countries have received few of the benefits from bioprospecting, while successful companies in developed countries have reaped the profits. This concern about the risks of exploitation has led to emphasis throughout the CBD text on the "equitable sharing of benefits" and many provisions of the CBD concern fair access to genetic resources and to any technology derived from them, whether or not these are covered by patents. Several pilot projects are currently being carried out to set up information directories that take account of the rights and concerns of local peoples. See for example the People's Biodiversity Register in India and the use of Geographical Information Systems in database construction in New Zealand (Leonard and Toulmin, 1999).

Martin Adler/Panos Pictures

Harvesting grain in Akaki District, Shewa, Ethiopia

tem approach" whereby discussions will focus on eco-systems such as drylands, forests, inland waters, marine and coastal areas, etc. The next Conference of the Parties, to be held in Nairobi in May 2000, will address biodiversity in dryland environments, which are regarded as particularly fragile ecosystems. The CBD is also seeking to co-operate with the Convention to Combat Desertification (CCD) with a view to identifying common priorities.

Conflicts over the benefits of biodiversity and its protection

The negotiations on biodiversity, particularly in the context of the CBD, have generated major conflicts of interest over resources and triggered fundamental debate on the risks of technological change, ethics and equity. The most important bones of contention are: how to reconcile the CBD's aim of protecting traditional knowledge and community rights with the legal rules from the agreement on international property rights (see box below); how to address the concerns over risks and potential benefits of Genetically Modified Organisms (GMOs); and the ethical and commercial issues surrounding the existence and development of international '*ex-situ*' genebanks. There is also growing concern about the concentration of new technologies and patents in the hands of a limited group of transnational corporations.

Intellectual Property Rights

International treaties, such as the TRIPs Agreement adopted in 1994, protect rights over "intellectual property" by granting patents for any process, machine or "composition of nature" which is novel, capable of industrial application and involves an inventive step. Thus, the discovery of a naturally occurring process will not be patentable, whereas the invention of a way of extracting an active element within a plant or the development of a new use for a natural organism may be eligible for patent protection. Such IPR regimes serve to protect the rights of commercial breeders and biotechnology companies but are seen as inadequate for the protection of the traditional knowledge of local communities, despite the fact that such knowledge is increasingly the starting point in industrial research of genetic resources. Traditional knowledge rarely qualifies for patent protection, as it is not usually considered 'new'. Even where technologies are relatively recent developments, knowledge held by traditional communities is often held 'in the public domain' - that is, it is commonly known or shared amongst a wide group of people who may be very widely dispersed within a region. Such groups could only apply for patent protection if they could gain legal recognition as a unit. Equally, even where knowledge is held amongst only a few individuals, it is highly unlikely that the TRIPs could benefit them, due to the costs of applying for and enforcing patents.

The TRIPs agreement clashes with the principles of the CBD. Where the CBD is rooted in the principle of benefit sharing from the use of genetic resources, TRIPs promotes privatisation. The CBD endorses the rights of communities, while TRIPs protects the

rights of individuals (including companies). IUCN has launched a project aimed at achieving coherence between the CBD and the WTO seeking to avoid conflicts and reinforce synergies between the TRIPs regimes and the CBD, most notably in relation to the access to genetic resources and traditional knowledge (Leonard and Toulmin, 1999).

Biosafety and TRIPs are also issues about which the global movement towards free trade has clashed with groups expressing concerns on environmental, health and labour standards during the last WTO conference in Seattle, 1999. Some consumer concerns on GMOs are now addressed in the recently agreed Biosafety Protocol (see following box). However, the protocol does not address the issue of how to ensure safe experimentation with GM crops, which is taking place on an increasingly wide scale in developing countries. The CBD and issues linked to this, such as bioprospecting, TRIPs, genebanks and GM crops will become of increasing importance for the drylands for which both government and civil society should prepare themselves.

Biosafety Protocol

After five years of negotiation, Ministers from more than 130 countries finally reached an agreement on the Biosafety Protocol in Montreal on January, 29th 2000. This legally binding document aims to protect the environment from risks associated with the transboundary transport of living modified organisms (LMOs) created by modern biotechnology. The issue at stake was whether a country should be allowed to restrict the import of LMOs (including crops, seeds, viruses and viroids)[1] out of concerns for environmental risks and loss of biodiversity. Consumers, particularly those in the European Union and most developing countries, are demanding strict safeguards on trade in LMOs. Producers of genetically engineered (GE) crops, who are mostly based in the USA and Canada, were very much against such restrictions, insisting that their products are safe, while also arguing that the expressed risks are only a pretext to continue protecting 'inefficient' European farmers from competition.

The Biosafety Protocol is the first agreement regulating trade in LMOs. It requires exporters to label LMOs for "intentional introduction into the environment". The Biosafety Protocol allows countries to block imports of LMOs on a precautionary basis, where there is not sufficient scientific evidence about their safety. The burden of proof lies with the producers to prove the LMOs are safe. This is in contrast with the procedures of the WTO where the burden of proof regarding health or environmental risks of certain products (such as meat and milk produced using hormones) is placed with the government which is seeking to prevent such imports. Under WTO rule, states have no right to block the import of certain products unless they have scientific evidence of the risks.

References

International panel of experts-subgroup on biodiversity (IPED) 1994. Biological diversity in drylands of the world. INCD.

Leonard, R. and Toulmin, C., 1999. Traditional Knowledge: building linkages between environmental conventions and initiatives. Report prepared for the Secretariat of the Convention to Combat Desertification. IIED.

Mortimore, M., 1998. Roots in the African dust, sustaining the drylands. Cambridge University press.

Pimbert M., 1999. Sustaining the functions of agricultural biodiversity. Gatekeeper series no. 88, IIED, London.

UNEP/CBD/SBSTTA, 1999. Assessment of the status and trend and options for conservation and sustainable use of terrestrial biological diversity: dryland, mediterranean, arid, semi-arid, grassland and savannah ecosystems. UNEP.

For more on the CBD see also: http://www.biodiv.org

Note: (1) "Living organism" is defined in the Protocol as "any biological entity capable of transferring or replicating genetic material, including sterile organisms."

By not moving you can kill an area

These words uttered by an Etanga livestock owner in Namibia capture the fundamental logic underpinning pastoral mobility and transhumant systems in the drylands of Africa. Uncertain rainfall means that natural pastures, such as grasslands, are widely dispersed and extremely unpredictable. Mobility, based on different degrees and forms of movement, is the critical factor allowing relatively large numbers of livestock to make use of what is a highly unstable environment.

Mobility is the theme of a new book edited by Maryam Niamir-Fuller. Eight case studies from the four corners of Africa present compelling evidence that pastoral mobility, far from being an outdated relic from the past, continues to be a core feature of pastoral land use strategies. The case studies highlight the diversity and complexity of customary management systems that continue to regulate livestock movement, resource use and access. In stark contrast, examples are given of how ill-informed government policies and land use legislation are destabilising these systems which in turn are undermining pastoral livelihoods, fuelling further conflict and contributing to increased resource degradation.

The need for pastoral mobility is increasingly recognised by policy makers as an essential ingredient for the sustainable management of Africa's rangelands. What is less clear is the nature of the institutional arrangements needed to ensure proper management of grazing lands both within and between countries, and the respective roles of government and pastoral communities. The book addresses some of these issues and concludes with a useful chapter identifying a number of principles and practical considerations necessary for the legitimisation of pastoral mobility as a drylands management strategy.

"Managing mobility in African Drylands. The legitimization of transhumance" Edited by Maryam Niamir-Fuller. IT Publications, 1999. Price: £17.95 or US$29.95. Copies can be ordered from: IT Publications, 103-105 Southampton Row, London WC1B 4HH, UK. E.mail:orders@itpubs.org.uk

Transhuming to wet season pasture in Nigeria. Source: 'La gestion des Fourrages' W Bayer, A Waters-Bayer.

Customary ways to manage conflict

The drylands of East Africa are characterised by persistent conflict. This is particularly true of the tip of the region that marks the point of convergence between Kenya, Uganda and Sudan; the area occupied by the Pokot and Turkana in Kenya, the Pokot and the Karimojong in Uganda, and the Toposa and Dinka in southern Sudan. Of all these pastoralists communities, the Karimojong appear

to have borne the brunt of the conflict over the years, although few people in the region would agree with this view. The Karimojong are commonly viewed not as the victims, but as the perpetrators of conflict, wreaking havoc on their neighbours.

The nature of pastoral conflict in Karamoja is, however, peculiar in that it is first and foremost an intra-ethnic affair, pitting Karimojong against Karimojong. Although the greatest hue and cry is raised when the Karimojong foray into neighbouring districts, or across the international border into Kenya, the reality is that clashes pitting brother against brother are the more numerous and violent, resulting in many deaths and severe destruction of property.

The influx of automatic weapons into Karamoja is partly to blame for the devastating nature of conflict in this area. During this period, the Karimojong acquired automatic weapons through various means and attempts by the Ugandan government to disarm the Karimojong in 1986 were abandoned when government troops suffered successive defeats. President Museveni subsequently declared publicly that the Karimojong were free to keep their guns. As a result, young warriors carry AK-47s in Karamoja in much the same way as the Maasai carry their famed sticks. This open and 'legitimate' ownership of guns has changed the social order in society, removing power and authority from the institution of elders and vesting it in the hands of young, armed warriors.

There are a number of organisations trying to strengthen traditional mechanisms for conflict management and build peace in the area. One such initiative is being implemented by the Karamoja Agro-Pastoral Development Programme in Moroto District, a Lutheran World Federation (LWF) project. A key issue for this project was whether it should work with customary institutions for conflict management and peace building. There was considerable concern within LWF and the broader development community of the wisdom of using customary institutions, which are clan-based, to address what are essentially inter-clan conflicts. It had been suggested that customary institutions that owe their loyalties to clan interests are more likely to exacerbate rather than contain conflict.

An external review of the project concluded that, while there are dangers inherent in using a clan-based approach in an area such as Karamoja, with its strong ethnic and tribal loyalties, they do not constitute sufficient reason to reject the approach. Of greater importance is the legitimacy accorded to these institutions by the people themselves who, whether victims or perpetrators, recognise that they are the ones who have to search for a solution. The review recommends an approach seeking in the long run to build a basis for positive engagement between the Karimojong and the wider Ugandan society; this cannot be done without addressing and diffusing the negative aspects of strong ethnic loyalties.

Article written by Michael Ochieng Odhiambo. For more information and a copy of the report contact: The Co-ordinator, Karamoja Resource and Policy Centre, P.O.Box 21, Moroto, Uganda. E-mail: moroto@lwf.bushnet.net

Managing change and recognising diversity

Successful rangeland management and pastoral development in the drylands is not about government telling herders how many animals they should keep or whether they can move freely with their animals to follow the rains and fresh pastures. Nor is it about projects investing in costly, improved forage production or management systems in an attempt to 'control' nature. All this, and much more, has been

tried often with very little impact on either the environment or people's livelihoods.

The challenge of the drylands is to put in place management systems that are sustainable in the face of great spatial and temporal variation. Monitoring this variation and diversity in such a way as to make it accessible to both policy makers and local people is crucial. Local people do it all the time in order to know where resources are from one year to the next and, on the basis of this, to make sensible decisions about where to take their herd in a particular year. Governments too need to do it on a larger scale, partly to ensure they are well prepared to cope with periodic crises, such as drought, and partly to monitor long-term changes in vegetation cover, ground water supplies, etc. as a result of longer-term climatic or man-made trends.

These issues were the focus of attention at an international workshop held in Saudi Arabia in 1996 on the sustainable use of rangelands and desertification control. The purpose of the workshop was to examine and exchange information on the potential of recent technological advances in rangeland monitoring: satellite imagery, aerial surveys, data collection and early warning systems. It also reviewed experience in sustainable rangeland development and desertification control from the perspective of customary management systems, and how the latter are affected by external influences.

The proceedings of this workshop have been published by IFAD and represent a very rich and diverse collection of papers divided into five major sections. Part one presents the issue of how to restore ecological sustainability to range and livestock production systems. Parts two and three consider the use of models and technology in environmental monitoring and their adaptability for local resource users. Part four assesses experience in sustainable rangeland management while the concluding chapter sets out some principles for the sustainable use of rangelands in the future. *"Drylands: sustainable use of rangelands into the twenty-first century" edited by Victor R.Squires & Ahmed E. Sidahmed. IFAD series: Technical Reports. 1998. To order a copy please contact: IFAD, Via del Serafico, 107 – 00142 Rome, Italy. E-mail: ifad@ifad.org*

Book announcement

"Working With Conflict - Skills and Strategies for Action"

This forthcoming book is a practical tool which offers ideas, methods and techniques for understanding and working with conflict. The book is based on the insights of practitioners and communities from their first-hand experience of working with conflict. The contents stem from the collective wisdom and experience of some 300 practitioners from all over the world who have worked with Responding to Conflict (RTC) since 1991.

About Responding To Conflict (RTC)

Responding to Conflict is an international not-for-profit agency, based in UK. It provides advice, cross-cultural training and longer-term support to people working for peace, development, and emergency relief in societies affected or threatened by violent conflict. RTC work in several languages, with partners at a variety of levels, from grassroots to governmental and international. If you are interested in making contact with RTC or to order their new book, please write to: Responding to Conflict, 1046 Bristol Road, Sely Oak, Birmingham B29 6LJ, UK. E.mail enquiries@respond.org

Micro-finance initiatives

Rural people need access to financial services to develop their farm or business, to spread risks and make provisions for future needs and expenditures, such as weddings and buying new equipment. 'Informal' financial services are available almost everywhere and are provided by traders, relatives, neighbours and credit groups or support networks.

Financial institutions such as banks and co-operatives are often scarce in rural areas. In the past, many governments created banks for providing agricultural credit, but they were usually highly reliant on subsidies. Many of these banks did not offer appropriate and accessible services for poorer farmers. Most collapsed when subsidies were cut back. Numerous NGOs have started credit schemes, but they tend to only function for as long as the NGO is present.

Since the 1980s new kinds of financial institutions have been emerging which explicitly focus on the poor. These so-called 'micro-finance' institutions first appeared in Asia and Latin America and used the lessons learnt from previous experience with delivery of credit to generate a better functioning, informal financial system.

The Grameen bank from Bangladesh is one of the best known examples, having started in the 1970s, as an NGO project, which gradually became a special kind of bank. It has had an explicit focus on the rural poor, not only in agriculture, but also channelling credit and savings through small self-selected groups to a variety of activities. It starts from the principle that the poor can be credit-worthy. Members have to assess if somebody in their group applying for a loan is creditworthy and are together responsible for repayment. They do not have to provide collateral for a loan but saving is obligatory.

Key lessons learnt during the past few years are that rural financial institutions need to consider their longer term sustainability. Credit and savings should be provided together, as a single package, as they are both key components of a wider financial infrastructure. Assuring high repayment rates and covering the costs of service delivery are essential; so is a group approach to micro-finance. These groups provide a first screening of the repayment capacity of potential borrowers and cover part of the transaction costs.

Market traders rely on credit and savings

Another principle is that micro-finance institutions should adjust their products to their clients' needs and not the other way around, and need to develop creative and cost-effective methods for service delivery. These new micro-finance institutions are also more conscious that barriers to access may exist for particular groups, such as women or mobile people, and must think of ways to improve access. Donor support has shifted from providing funds for cheap credit to building micro-finance institutions and systems. But, sustainable provision of financial services in rural areas remains a difficult task for these bodies. Most farmers need credit at the same period of the year, given the seasonality of their activity, while climate risks will hit many, resulting in the likelihood of widespread default on loans. This may pose serious problems for cashflow.

The field of micro-finance has generated a lot of interest. A number of websites are available and constitute a virtual library on micro-finance (for example: http://www.undp.org/uncdf and http://www.soc.titech.ac.jp/icm). Inter-réseaux also provides useful information on its francophone website: http://www.rio.net/inter-reseaux and has started a discussion group on micro-finance in relation to agriculture.

A new look at poverty

Studies of poverty, how to measure it and the best means to help the poor escape from it have been multiplying greatly in the last few years. The commitment by many OECD nations to halve the numbers of people living in absolute poverty around the world by the year 2015 has brought many additional resources into thinking about how to do this. This year's World Bank Development Report also has poverty as its theme.

Why this focus on poverty? For fairly obvious reasons. The experience of recent years has shown us that a large and in some cases growing number of people around the world continue to live in conditions which are very shocking, both in their low level of material well-being, and access to basic services such as clean water, as well as in the more intangible aspects of life. Thus, for example, it is estimated that almost one quarter of the world's population – that's as many as 1.3 billion people – live in acute poverty. This state of impoverishment needs to be understood as combining several dimensions, including assured access to productive resources, decent housing, being able to fulfil social obligations, and having access to social networks providing support and security.

It has also become clear that the market-based reforms introduced through structural adjustment measures in many countries have not had the hoped-for benefits in terms of creating better jobs and incomes for poorer groups. Market-led measures need complementary actions to ensure that poor people can take advantage of new opportunities which may open up. Thought is needed to ensure poor people can gain access, for example, to credit so they can move into new areas of economic activity.

Poverty as a term needs considerable 'unwrapping' since people may be poor for very different reasons and with different potential outcomes. Thus, for example, there may be systematic bias against certain ethnic groups, or against women which make it very hard for them to enter new areas of economic activity. Equally, it may be very difficult for those born into poor households to ever escape to a more productive livelihood, since they may not have access to the education and health care, nor the aspirations and expectation from kin which make such improvements in life chances possible.

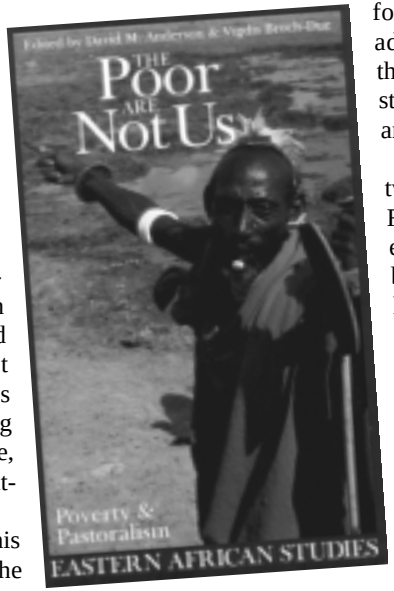
How can the voices of the poor be heard at all levels, from local government bodies, to national and international arenas? In global talks, poor countries feel their interests are ridden over roughshod by more powerful nations. Poorer groups in many countries feel the same. A number of countries have drawn up strategies to address poverty – such as Mali, Uganda and Ghana. These strategies combine the systematic collection and monitoring of poverty-related data to assess whether the strategy is working, with a cross-cutting ministerial review of policies and programmes to shift them in favour of a stronger poverty focus.

With attention placed on trying to achieve the halving of poverty in the next fifteen years, governments around the world are likely to pay greater heed to listening to poor groups. So innovative means for bringing such views together need further thought.

For information on poverty related issues contact: www.ids.ac.uk/ids/pvty or www.oneworld.org/odi. The World Bank have put together a sourcebook to guide countries in the development and strengthening of poverty reduction strategies (see www.worldbank.org/poverty/strategies/overview.htm). Comments on this sourcebook are actively welcomed. (Contact: prsp_sourcebook@worldbank.org).

***The poor are not us. Poverty and pastoralism in Eastern Africa*. Edited by David M. Anderson and Vigdis Broch-Due, 1999. 288pp. £14.95. ISBN : 0-8525-5265-3, James Currey Ltd, 73 Botley Road, Oxford OX2 0BS.**

What does it mean to be poor from the perspective of an East African pastoralist? For so long the western media have portrayed pastoralism as an environmental and economic failure, with herders clinging to archaic and inefficient practices which destroy the very basis of their livelihoods. These views are often shared by development planners and policy makers who, since colonial times, have tried to "modernise" pastoral people, get them to settle down, reduce their herd numbers and abandon their mobile lifestyles in favour of cultivation and schooling. And yet it hasn't worked – widespread poverty is still evident, and rising, among pastoral communities that have, and those who have not, benefited from "development".



So what is the problem? This book demonstrates that the dilemma is in part due to the perspective and understanding that people external to the pastoral system (development workers, planners, government staff, etc.) have of what constitutes pastoral poverty. This perspective fails to understand that poverty is not a single, easily measurable, objective condition but a complex and culturally defined concept involving social, cultural, moral and historical values as well as more conventional 'western' notions of lack of food or money. To address poverty one therefore has to understand it in its cultural and historical context.

The book tackles two central questions. First, are pastoral societies a lost cause because pastoral households have effectively lost control over their subsistence base? This question is looking at the extent to which pastoral groups' ability to weather periodic crises disguises a longer-term undermining of the production system. The second question looks at the impact of impoverishment on pastoral society. What impact has loss of livestock or the gradual replacement of cattle by cash, as a source of value and means of exchange, had on key pastoral institutions such as marriage, kinship support structures, or social relations between men and women? In short, how have herders themselves coped with the realisation that, contrary to their self-image, they have become part of the poor?

Through eleven case studies from Kenya, Tanzania and Somalia the myths of pastoral wealth are explored in the context of a situation in which poor pastoralists are getting poorer and the rich richer. It is argued that while the extent and effects of pastoral poverty are greater now than in the past, many of processes involved are not new and can be charted back to the last century and beyond.

***Fertile ground: The impacts of participatory watershed management.* Eds. F. Hinchcliffe et al. IT Publications & IIED, London. 1999. 285pp. £15.95. ISBN: 1853393894. Contact: iiedUK@iied.org**

Growing concern about environmental degradation, declining agricultural productivity and increasing population pressure has

led governments and agencies towards new approaches to natural resource management. This has produced a growing number of programmes aimed at improving livelihood security and better land management, through participatory planning of watershed management.

Fertile ground presents the findings of research into a range of watershed management programmes by reviewing their design, implementation and monitoring, from settings in Africa, Asia, Australia and Latin America. The 23 case studies presented here show a rich and complex picture of how local communities can be supported to engage in resource conserving practices, with substantial benefits to ecosystems. From Nepal, Rajasthan and Uttar Pradesh, to Western Australia, the Philippine uplands, and Burkina Faso's Mossi plateau, these case studies provide a fascinating and detailed picture of social development, self reliance, and sustained increases in agricultural productivity.

***Good Practices in Drylands Management*. Ragnar Øygard, Trond Vedeld, and Jens Aune. 1999. Washington, DC: World Bank. Contact: Noragric, The Library, PO Box 5001, N-1432 Ås, Norway. E.mail: library.noragric@nlh.no and the World Bank Drylands Management website: www.worldbank.org/drylands**

This volume is the result of a study to analyse and synthesise the experience of the World Bank and other agencies in drylands management, placing a special emphasis on Africa. It provides a series of recommendations on "good policies and practices" in drylands management that can be supported to fulfil obligations arising from the UN CCD. The book looks in turn at good practices in the management of the rangelands and pastoral development, dryland farming, community based natural resources management in dryland agriculture, drought preparedness and risk mitigation. It is based on the recognition that drylands have a high degree of resilience to human interventions and that although land degradation does occur, much of the vegetation change observed can be attributed to long term fluctuations in climate rather than human resource use. It provides many examples which show that dryland populations have developed well-adapted and efficient resource management and utilisation practices and their participation is crucial for improved drylands management. This book could be of use to policy makers concerned with developing strategies for dryland management as it provides both a discussion of the global and national policy issues and some useful examples of successful activities from Africa, India and elsewhere.

***Green Land, Brown Land, Black Land: An Environmental History of Africa 1800-1990*. James McCann. 1999. James Currey, Oxford. 201pp. £12.95. ISBN: 0-85255-774-4**

This book sets out to explore the process of interaction between the physical world of plants, soils, climate and animals, and human action and responses over the last two centuries. Many writers have described the change over the late twentieth century as degradation, rather than merely change. Thus, deforestation, erosion, loss of soil fertility, increasing drought, and the loss of biodiversity are commonly assumed, and the blame for these ills has been placed on local mismanagement. Aimed at non-specialists and students, McCann's book provides a synthesis of the evidence which challenges such assertions of environmental decline and illustrates the processes that shaped sub-Saharan Africa's environmental history over the period 1800-1990. It is based on the author's research in Ethiopia, Lesotho, South Africa and Ghana and a review of a new generation of empirical field based studies on historical patterns of land use by

documenting past conditions of African natural resources and human response to environmental change. The book explains how the myth of a lost Eden has been dispelled and a more workable hypothesis is being established which suggests that Africa's past landscapes were generated through the impact of human activity. The relevance and resilience of theoretical paradigms – most notably those of Malthus and Boserup – that have driven assumptions about the dynamics of population and natural resources use in past time are re-examined. More recent alarm about degradation of Africa's natural and human resources is also confronted.

***Ecole aux champs: pour une démarche de communication*. Hugues Dupriez. Terres et Vie. 269pp. ISBN: 2-87105-19-8. Available from: Terres et Vie, 13 rue Laurent Delvaux, 1400 Nivelles, Belgique. Fax: +32 67 217 149. E.mail: terres.et.vie@linkline.be.**

"People here feel their land is no longer their own". "*Ecole aux champs*" opens with a collection of tales from farmers and local NGOs about their experience of "development". It shows how farmers have often felt let down and disempowered by agricultural development projects which ignore their priorities and force them to change the way they farm.

The second part of the book provides an overview of how approaches to rural development have changed in the last decade. In the 1980's, a more promising direction has been taken. This tries to change in a radical way the nature of relationships between farmers, emerging farmers' organisations, and other support institutions. The idea was to create opportunities for farmers – men and women – and development practitioners to learn together and exchange their experience and knowledge, putting everyone on an equal footing. This approach is known as the *Diobass démarche*, named after a workshop held in the Diobass valley, Senegal, in 1987. Drawing on stories from Zaïre, Burkina Faso, Chad, Cameroon and Senegal, the book constitutes a compelling and lively account of how this approach has developed since then. It also presents case studies, discussions of methodologies and a range of useful training materials and practical advice.

Other titles we enjoyed reading

***The political economy of democratic decentralisation*. James Manor. The World Bank. 1999. 133 pp. ISBN: 0-8213-4470-6. Available from: The World Bank, 181 H Street, N.W., Washington, D.C. 20433, USA. Fax: +1 202 477 6391. E.mail: books@worldbank.org.** What promises does decentralisation hold for rural development? This book provides an overview of decentralisation, its origins, its conditions for success, and discusses ways of bridging gaps between regional and local levels, facilitating poverty alleviation, and promoting fairer representation for the poor and for women.

***Managing agricultural biotechnology: Addressing research program needs and policy implications*. Edited by Joel I. Cohen. ISNAR, The Netherlands. Biotechnology in Agriculture Series, No.23. 1999. 323 pp. ISBN: 0-85199-400-8. Available from CABI Publishing, Wallingford, Oxon OX10 8DE, UK. Fax: +44 1491 833508. E.mail:** cabi@cabi.org**.** This book addresses key management and policy issues related to agricultural biotechnology, building on case studies from Latin America, Asia and the United States. It provides a wealth of information on a range of issues, including setting research priorities, maximising benefits from resources, the effect of biotechnology on the environment, public acceptance and property rights.

Capacity building for environmental management: a best practices guide

This guidebook is based on the practical experience in capacity building for environmental management gathered in the course of the multilateral Mediterranean Environmental Technical Assistance Programme (METAP) launched in 1990. In four parts, it firstly defines the approach taken and spells out its own operational definition of sustainable human development. The second part outlines the six step capacity building process used by the Programme. The stakeholders, activities and instruments of an effective capacity building programme are illustrated with examples in part three. Finally, the guide looks at the benefits of the Programme to the Palestinian Environmental National Authority and outlines the results in terms of institutional capacity building.

Contact: UNDP/METAP Regional Capacity Building Programme, 30 Misr-Helwan Road, 7th floor EEAA Building, Maadi, Cairo, 11728 Egypt. Email: metap@metap.org or UNDP, Regional Bureau for Arab States (RBAS), 1 UN Plaza, New York, NY 10017. Website: http://www.undp.org/rbas

Woodless construction in the Sahel

An international study visit is being organised for 4-10 December 2000 to the award winning Woodless Construction Programme in the Sahel. Woodless construction is a low cost roofing option which involves fabricating a vault and dome roof using earthen bricks. Over 700 masons have been trained in the building method since 1980. The purpose of the visit is to obtain an in-depth understanding of the building techniques, training methods and project management approaches used in the programme. Intensive site visits will form a major part of the study visit providing an opportunity to study all aspects of the programme and to meet those responsible for its success. No conference fee will be charge. Bursaries to help meet travel and accommodation costs may be available to persons from developing countries who wish to participate in the study visit.

For details contact: Diane Diacon, Deputy director Building and Social Housing Foundation, Memorial Square, Coalville, Leicestershire, LE67 3TU, UK Tel : 00 44 1530 510 444 Fax: 44 1530 510332 Email: BSHF@compuserve.com Web: http://www.bshf.org/

IER's participatory approach to soil fertility management

In response to growing demand for guidance on methodologies for improving soil fertility management, the ESPGRN (Farming Systems Research and Natural Resource Management team in Mali) have written a short booklet based on experience from southern Mali. With plenty of diagrams and illustrations, it guides the reader through ESPGRN's participatory methodology for improving soil management.

To order write to: ESPGRN/Sikasso, BP 186, Sikasso, Mali. Tel: (223) 620 028 / 620 346. Fax: (223) 620 349. Email: espgrn@ier-sik.ier.ml

Training courses

The Pan African Institute for Development, central Africa division based in Douala, Cameroon, continues its training programme over 2000-2001, with two new 4-week short courses on Gender, Microfinance and Development, and Gender and Community Forestry. Three other courses have been reviewed and adapted so that the Institute will now offer a 7 month Microfinance and Development course, plus two short courses on Training the Trainers and Population, Health and Development both of 2 months. Costs not including board and lodging range between 1300 and 2900 Euro per student.

Contact: Ernest Zocli, PAID, BP 4078 Douala, Cameroon. Fax: +237-40 30 68 Email: ipdac@camnet.cm / ftppass@camnet.cm

New forests project

Since 1982, the NFP has assisted more than 4,000 villages in over 120 countries to reforest their land. The project supplies tree seeds, technical information and training materials free of charge. Through the World Seed Program, it promotes the planting of fast-growing, nitrogen fixing species, such as *Leucaena*, and *Gliricidia*. Local farmer training centres and solar-powered cookers are key elements of the programme.

For more details on the project, seed availability and possibilities of support, contact: icnfs@erols.com, fax: +1.202.546. 4784 or http://www.newforestsproject.com

A network of networks for rural development

The Rural Development Inter-réseaux is made up of over 5,000 French speaking professionals from North and South, including farmer organisations, institutes and universities, solidarity movements, and donor agencies, as well as researchers, trainers, administrators, and civil society representatives. All members join as individuals rather than on behalf of their organisation in order to promote greater freedom of expression. The *Grain de Sel* bulletin published every three months is distributed to members of this network. The "Bobo-Dioulasso network" on tools and management methods, set up in 1996, held a workshop in June 1998 to bring together key groups to reflect upon and exchange experiences concerning the organisation of professional farmer associations and tools for improving farm management in the region. The proceedings have just been published, containing a number of brief case notes from the experiences of different organisations in six West African countries. In another publication, the farmer and rural organisations support group has also brought out the results of its deliberations on training farmer group leaders. *Please contact: Inter-Réseaux Développement Rural, 32 rue le Peletier, 75009 Paris France. Tel: (33-1) 42 46 57 13 Fax: 42 46 54 24 Email: intereso@imaginet.fr Website: www.rio.net/inter-reseaux/*

Coming off the rails

Once upon a time, the French colonial administration planned to build a railway from the Atlantic Coast to Lake Chad. In the 1950s, a report was carried out on ways to take this project forward. This detailed description of the Bangui – Chad region has now been published and presents a valuable presentation of the area more than forty years back. *Un projet colonial sans lendemain: Le chemin de fer Bangui-Tchad*, by Gilles Sautter is available as Dossier Africain from the Centre d'Etudes Africaines, 54 boulevard raspail, 75006 Paris, France and costs 150FF.

Village Participation training manual

An illustrated manual for trainers and trainees in participatory rural development has just been published in French by the World Bank and the Dutch Royal Tropical Institute (KIT). A collaborative effort by six national teams from Benin, Burkina Faso, Côte d'Ivoire, Guinea, Mali and Madagascar, this instructive manual describes a practical and applicable participatory rural development approach. The manual is still being tested in various African countries which are carrying out decentralised development programmes. An English version should be out soon. *For details please contact: Aad Blokland, KIT, Mauritskade 63 BP 95001 1090 HA Amsterdam, the Netherlands. Tel: (31-20) 568 8711 Fax: 568 8498 Email: a.blokland@kit.nl Web: www.kit.nl*

Resolving water conflicts

The Ben Gurion University of the Negev is organising an international conference on **Water and Environment: Resolving Conflicts in the Development of Drylands**, June 4-7 Beer Sheva, Israel.
For details please contact Mrs Shira Horowitz-Mizrahi, Center for Water Science and Technology, Ben-Gurion University of the Negev, Sede Boker, Israel 84990 Fax: 972-7659 6703 Email: jgat@bgumail.bgu.ac.il

World Water Vision

A number of development agencies (eg World Bank, SIDA) have initiated a consultation process on water called, appropriately enough, World Water Vision. Based on this Vision, an agenda has been drafted for the coming decades: the Framework for Action. The results of the WWV and FFA will be presented during the second ministerial World Water Conference and the parallel World Water Forum, in March this year in the Netherlands. So far, the involvement of NGOs has been rather marginal, so BothEnds, a dutch NGO, has drafted an NGO Vision paper on Integrated River Basin Management with emphasis on the politics of decision making and paying particular attention to gender issues.
Please contact: water@bothends.org Fax: 31 20 620 8049. The draft official report of the World Water Commission "The World Water Vision: Making Water Everybody's Business" can be found on www.watervision.org

Environmental Information Systems for Africa

The EIS project, set up by the World Bank, is now based in South Africa. It aims to provide services to improve the management of the environment and natural resources in Africa, as well as opportunities for professional development and support for EIS practitioners. EIS have the aim of ensuring better targeted information reaches decision-makers, and allows for better monitoring of changes to land use and natural resources. *For more information and news about the programme, contact: eis.program@mweb.co.za or http://www.grida.no/prog/global/eis-ssa*

By-laws and conventions

Haramata readers may remember in number 34 we described a series of new initiatives in Issues & Programmes involving local resource management agreements, or local conventions, in Mali and Ethiopia. These agreements usually comprise a formal arrangement whereby the government recognises the rights of a collective group – perhaps a village or set of several villages – to manage and control access to a given resource. Many of these agreements have centred on woodland management, since firewood and timber can be of considerable value. Equally, in southern Africa such agreements have covered wildlife. But these agreements are now branching out to cover a range of other resources, such as grazing lands and water.

IIED's Drylands Programme is looking for examples of these kinds of agreement, and collaborators with whom to examine their various aspects. We would welcome receiving your views and information on questions such as those below.

- What resources are covered by the agreement?
- What form does this management agreement take? A paper document? And of what length and detail?
- What was the process by which it was drawn up? How long did it take, and what were some of the sticking points during this process?
- What right and responsibilities are given to the local people through this agreement?
- Can local people control access to the resource and prevent outsiders from using it without their agreement?
- Can they impose fines and make new rules? And will the local government officials back them up in the event of dispute with an outside user?
- Has the agreement brought changes in the state of the resource? And how can local people monitor whether the resource is being used in a more or less sustainable fashion?

Lots of questions! We would welcome your answers and hope we can identify ways of working together on this topic with our readers.

Write to: Thea Hilhorst & Camilla Toulmin, IIED Drylands, 4 Hanover Street, Edinburgh EH2 2EN, UK. Fax: +44.131.624.7050. Email: drylands@iied.org

HARAMATA

is published by the International Institute for Environment and Development (IIED)
3 Endsleigh Street,
London WC1H 0DD, U.K.
Tel: (+44 20) 7388 2117
Fax: (+44 20) 7388 2826
e-mail: drylands@iied.org
http://www.iied.org

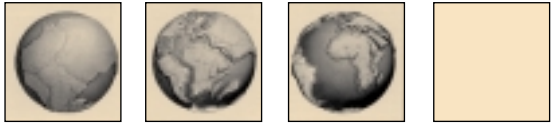
Editorial team:
Ced Hesse, Thea Hilhorst, Judy Longbottom, Nicole Kenton, Camilla Toulmin, Bara Guèye, Rebeca Leonard, Christèle Riou

Production: Bridget Tisdall
Printed by Russell Press, Nottingham

Subscriptions:
High-income countries/individuals: 1 year (3 issues in 2000), US$33/£stg.20/FF.200, incl. airmail postage. Africa and the South: free on request.
* Subscriptions include at least two Issue Papers distributed with each issue of the bulletin.

Haramata gratefully acknowledges the financial support of the Ministry of Foreign Affairs, Denmark.

ISSN 0964-6973
IIED is a registered charity. Charity No. 800066.



A big bang on the way?

Ever heard of super-volcanoes? You probably won't find them in your children's geography textbook. Hidden deep beneath the Earth's surface lie a small number of these little-understood natural phenomena. They are unlike any volcano the world has witnessed in recent centuries. The explosion of a super-volcano would be heard around the world, and the Earth would be plunged into darkness as ash covered the sky. According to scientists, the signs are that we are due for another super-volcano eruption any day now...

Normal volcanoes erupt when molten rock mixed with volcanic gases such as sulphur dioxide become highly pressurised and are pushed up through a fault or channel in the earth's crust, when they break through the surface, and harden in layers down the sides. This forms the familiar cone-shaped mountain we associate with volcanoes. Around 50 of these 'normal volcanoes' erupt around the world every year.

Similarly, super-volcanoes begin when a column of magma rises from deep within the Earth. Under certain conditions, however, rather than breaking through the surface, the magma accumulates as much as 8 km underground and proceeds to melt the Earth's crust, turning the rock itself into an ever thicker magma. A vast reservoir of molten rock eventually forms. The magma becomes so thick and sticky that it traps the volcanic gases building up from below, generating colossal pressures over thousands of years, until finally... it erupts!

Scientists have revealed that the US Yellowstone National Park lies on top of one of the largest super-volcanoes in the world. The magma chamber appears to extend beneath half the entire park – some 40-50 km long, 20 km wide and up to 10 km deep. According to geological evidence, the Yellowstone super-volcano has followed a regular cycle of eruptions, of around 600,000 years. The last eruption was 640,000 years ago. Ground levels in parts of Yellowstone have risen over seventy centimetres this century which researchers think may be a sign that magma is beginning to build up underneath. The impact of a Yellowstone eruption would be terrifying – huge areas of North America would be destroyed, and its effects would be felt globally.

Climatologists now know that the last super-volcano to explode, 74,000 years ago in Sumatra, threw up ash and sulphur dioxide into the stratosphere blocking out the sun, and causing the Earth's temperature to plummet. Some geneticists believe the global freezing which followed this massive eruption may have caused the population on Earth to fall to just a few thousand people. With a big bang like this is the offing, it somehow puts most of our other problems in perspective.

For more information on the big bang, contact: http://www.bbc.co.uk/horizon/supervolcanoes_script.shtml