

Past Practices, Present Problems, Future Possibilities: Indigenous Natural Resource Management in Pastoral Areas of Tanzania.

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Introduction

The performance of development programmes in the pastoral sector has largely been a failure. Unless changes are made, the destructive processes under way throughout Africa will culminate in the demise of pastoralism and condemn many thousands of pastoralists to lives of dislocation and deprivation.

In the past, pastoralists dealt with changes and stress remarkably well. Over thousands of years they have developed complex natural resource management systems that until recently have ensured their survival. These systems are proving less effective today.

One reason for this is that the development process itself is operating to undermine these systems and reduce the capacity of pastoralists to cope. In this paper, attention will be drawn to some reasons for this, using examples from the Hanang district in Tanzania, and it will provide some possible ways that it might be changed.

Past practices.

What are natural resources?

Before any discussion of natural resource management, it is necessary to consider what is meant by the term "natural resource". This can mean different things to different people. In economic

terms natural resources are those things found in nature that have value.

However, this is not necessarily confined to economic value in the context of production and marketing. The value of a natural resource depends on how it is valued, who uses it, and for what purpose it is used. Different land users can place a different value on the same resource. To a farmer trees might seem useless as they hinder cultivation, while to a pastoralist they can have value as an important forage for livestock. Natural resources can also have non-use value (Lane & Scoones 1991). What is fertile ground for a farmer might also have important spiritual value to a herder (Lane 1991). For example, the significance of burial sites, sacred groves, meeting places, rest or shade areas, can be every bit as important to them as its economic value (Lane 1991).

These disparities of view might seem obvious but they reveal an important dimension of natural resource management that has yet to be fully understood by development planners in rangeland areas of Africa. The perception that very often prevails is that land is a uniform area of ground that people utilise with various production systems. However, for many indigenous land users, particularly pastoralists in Africa, land is much more than this. Land is made up of desegregated natural resources that can have both economic and non-economic value.

Pastoral land use systems.

The quantity and quality of forage over most of Africa's rangelands is determined by climatic factors, particularly the amount of rainfall that stimulates forage growth. Because of the often scarce and variable nature of natural resources, pastoralists have devised land use systems that reflect this diversity. By tracking resources according to seasons they are able to utilise forage when it is most productive, and then move on, allowing it to recover after use (Scoones 1991; Abel & Blaikie 1990).

This often requires the herder to move his livestock around the different resources, sometimes over great distances. The functional parts of indigenous pastoral natural resource management are non-equilibrium production through common property resource management that provides access to ecological niches when required with scope for reserving forage areas for regeneration.

Pastoral land tenure.

Pastoralists have evolved land tenure systems that reflect the diversity of natural resources and accommodate variable patterns of land use. To accommodate access to these resources by different users, through space and over time, various forms of common property rights apply. Because of the collective nature of rights to pasture this is often described as common land tenure, However, this description masks the different rights that apply to resources within the common. Within the common, access to natural resources spans the whole range of rights from open access where populations are low and resources plentiful, to individual tenure rights where resources are scarce and most valuable (Lane & Swift 1989).

Present problems.

Policy makers and planners in government departments and aid agencies have too often failed to recognise the diversity of rangeland natural resources or understand the complexity of pastoral land use systems that make use of them. This has led central governments to ignore traditional land tenure arrangements that in the past assured access to different resources and controlled levels of their use. Development interventions by governments and donors which have been designed to transform pastoral economies and privatise the commons.

Legislation has also tended to override the customary rules which control use of natural resources but have failed to replace them with effective modern provisions. As a result, chaos has often been created, in which resources are overused and land degradation follows. This has given credence to the theory of the "tragedy of the commons" which posits that common land tenure is incapable of efficient land use and has been widely accepted as an explanation of these phenomena (Lane & Swift 1989).

There has been a tendency amongst developers to regard pastoral systems as static and unable to adapt to changing circumstances, such as climatic stress. During recent droughts in Africa, pastoralists were not only seen as the victims of famine, but also

blamed for bringing much of the suffering upon themselves through inappropriate land use. However, recent historical analyses of pastoral systems reveal them to be dynamic and highly flexible, while constantly and effectively responding to crises (Stone 1990, Johnson & Anderson 1988).

Pastoralists have always operated over a number of ecological zones, regional economies and involved numerous social systems using a variety of networks, with linkages amongst and between groups for survival. Until recently, with these strategies, they were able to cope with environmental stress by adapting their means of production. This included adopting cultivation, and even intensive irrigation agriculture, as in the case of the Il Chamus of Baringo in Kenya (Anderson 1988).

In response to the 1883-1902 crisis in which some east African pastoralists lost up to 90% of their cattle from Bovine Pleuropneumonia and Rinderpest, the Maasai, particularly poorer households, responded by adopting a range of non-pastoral activities. These not only included cultivation, but also hunting and gathering, livestock raiding from less adversely affected groups, child pawning, prostitution, and military service in the colonial administration (Waller 1988). These and other strategies are still used today in hard times, as shown by the move towards agro-pastoralism found amongst the Barabaig (Kjaerby 1979), and Maasai adoption of irrigated agriculture in Tanzania (Potkansky forthcoming).

A new kind of crisis.

Despite the effectiveness of past coping strategies to deal with drought, pastoral systems have more recently proved unable to deal with environmental stress so effectively. This is due, not only to the deficiency of rainfall that has affected much of Africa, but is as much a result of the interplay of social, political and economic factors that culminate in compounding problems for pastoralists (Manger 1988). Foremost among these are the constraints imposed by policies for enforced settlement of transhumant populations, the 'modernisation' of indigenous production, privatisation of common land, the alienation of grazing land through appropriation for state farms, and the encouragement of encroachment by farmers in those areas with highest potential for pastoral production (Oxby 1989).

The combination of these policies is having serious negative impacts on pastoralist welfare, livestock production and rangeland environments. Yet these impacts are not sufficiently taken into account in policy formulation or implementation (Lane & Scoones 1991).

Despite the enormous amount of publicity associated with drought and famine in Africa, and growing attention being given dryland development issues, little is generally agreed amongst policy-makers about the causes and even less about possible solutions to the problems. Whilst a growing volume of written material is produced by research institutions it tends to be issue specific and have limited general application for more positive development action.

Theoretical discussion and a limited amount of information on issues related to pastoral land tenure are provided by compendiums of workshop papers (Ostrom 1990, Lane & Swift 1989, Baxter 1987, Raintree 1987, NRC 1986). Most empirical data available is much less up to date. This paper provides case material drawn from Barabaig areas in Tanzania. Their case has been selected because it provides a typical example of how national policies operate at the micro-level.

To date much of the analysis in Tanzania has been confined to an assessment of the implications of pasture land alienation (for example Parkipuny 1991, Lane 1991). This paper will go beyond this and look at the operation of policies that superimpose new administrative arrangements on indigenous natural resource management systems. Three case studies have been selected to illustrate how ill-conceived policies can undermine indigenous natural resource management systems and the implications this can have on pastoralists and their environment.

Case 1 - The Udawang valley.

Pastoralists in Tanzania have been the subject of attempts by the government to settle them in villages. The concept of 'ujamaa' and 'decentralisation' have converged in the requirement for villages to be self-supporting through communal economic enterprises. Consistent with this policy, a national directive was made requiring

every village in Tanzania to have a village farm to further the nation's socialist ideals, increase food production and provide revenue for villages to undertake their own development. In Hanang district, the mainly Barabaig villagers of Gehandu village attempted to arrange for the establishment of a "village maize farm" within the village boundary. The plan was to clear 100 acres of bushland for the production of maize. Because of their inexperience and lack of machinery, they would then invite an entrepreneur to cultivate it for them. The farm was to be divided into two equal parts of 50 acres. The village would be responsible for the planting, weeding, protecting the crop from wildlife, and harvesting the yield of its half. For this part, the entrepreneur would effect his own preparations and have total access to the whole yield from its half of the total acreage.

Before the start of the 1987 growing season the village had failed to clear the land of trees in preparation for cultivation. As a consequence the village leaders decided to relocate the farm to the Udawang (crowned crane) valley, and change the crop from maize to wheat. The arrangement with the entrepreneur was also changed so that he would be responsible for all the cultivation and harvest all 100 acres. For making the land available to him for two years the village would receive a payment of 1 bag á 100 kg from each acre cultivated in each year. It would not matter what yield was attained or whether or not there was a harvest. The village would be assured 100 bags of wheat for the use of their land. This seemed a mutually beneficial arrangement.

The attraction of the Udawang valley lay in its inherent fertility, and being open grassland it required no clearing. Traditionally it constituted a valuable forage regime (*muhajega*) with a good stand of highly productive grasses (*nyega nyatka*). However, it also had great cultural and religious significance. The small marsh called Nyahamara at the head of the valley was the location for the ceremony that created Barabaig generation groups. Relations between these groups determine much Barabaig social interaction, determining levels of authority and social relations between individuals and groups within the community. Even though this ceremony is no longer conducted by the Barabaig, the land with which it is associated is regarded as sacred.

In September 1987, without prior knowledge of the wider community, the entrepreneur's tractors arrived at Udawang and started ploughing the land. The sight of this abuse of a sacred location prompted the women of the area to convene a women's council (gigwageda gademg). Over four hundred women withdrew from their households, leaving only one young girl in each household to attend the minimum of domestic duties, and met in the bush for ten days at a place called Danyokt. They demand that their menfolk provide an ox a day for their sustenance.

The village leader were called to stand before them and account for their behaviour in allowing the entrepreneur to cultivate this land. In fear of the women's power to curse them, the village leaders conceded that their decision to allow the valley to be cultivated was a religious offence. They were fined and agreed they would stop the cultivation and plans for the farm would not go ahead. The women disbanded confident they had saved the valley from further desecration.

The entrepreneur then made a complaint to the district leadership. He had expended funds in the cultivation already undertaken and wished to be compensated. Hanang district government officials went to the village and announced to a public meeting that the entrepreneur must be allowed to continue cultivations or be paid full compensation for the cultivation made. The villagers complained they were absolved of responsibility for this as they were not consulted on the change in location of the farm by their leaders. As such they believed the leaders were responsible, and should be held accountable for the cost of compensation. The village leader refused to accept responsibility.

Confronted with this impasse, the villagers pleaded that the land be farmed only for one year and thereafter be allowed to revert to grass. The district leaders, however, insisted that the original arrangement be honoured and the land be farmed for the period of two years as originally agreed.

The insistence by the district leadership that cultivation proceed, despite the knowledge that it amounted to the desecration of a sacred site, is indicative of the insensitivity and inflexibility of government in circumstances where customary laws come into

conflict with modern institutional arrangements. It also exposes the stark contrast of views as seen from central authority in relation to local perspectives. Despite a policy for 'decentralisation' authority, district councils have in effect actually extended the aims of central government to the local level. It also exposes the prejudice of government officials who regard pastoralists' perspectives as inferior to those of an entrepreneur who is thought to be promoting national objectives.

Case 2 - Mureru Forest.

Mureru village is located 15 kilometres due south of mount Hanang between lake Balangda Lelu to the east and Dirma village to the west (see Map). Village land is broadly divided into a grass plain interspersed with Acacia and Commiphora woodlands to the north, and open deciduous woodland to the south. This Miombo (Kis.) woodland is dominated Brachystegia tree species, but the drainage lines support dense bush thickets, and other tree species, including Dichrostachys cinerea, called Mtundurajeg (pl.) by the Barabaig. This species is of particular interest to them for the forage value of its seeds in the height of the dry season, and its suitability for providing upright beams for the construction of homesteads and fences being a very hard wood resistant to termite attack.

For the Barabaig, access to trees and tree products within the commons is generally free to everyone and anyone, even to those outside the community. However, limits apply to the kind of use that can be made of them. There are trees that cannot be harvested in any way at all. These include sacred trees (generally Ficus spp.), and meeting trees (generally Acacia spp.). Also some individual trees become the private property of the household by virtue of their proximity to the homestead. Anyone may cut a tree, but it is expected that, as far as possible, the tree is lopped and not destroyed in the process. A tree may only be felled if it is not for a domestic purpose and does not adversely affect anyone else. Commercial exploitation of communal tree resources is not permitted within traditional arrangements.

When in 1987 the residents of the village found the trunks of 100 of these trees stacked-up outside the mission house at Balangda, they were alarmed to think that someone was cutting this valuable

resource without their knowledge. After approaching the district authorities for an explanation, the village chairman was told the ward secretary had given permission to a nearby mission school for girls to take 700 trees from the forest for the construction of a perimeter fence at the school compound located outside the village. The village was to be paid TSh.3/- per tree. ¹ The villagers learnt that apart from the 100 trees discovered at the mission, the school had already delivered 200 trees to the school and wanted to cut another 400 to complete the fence.

The village leadership convened a public meeting where the traditional leadership expressed dismay at the infringement of their customary rights. It was agreed to allow the school to retain the 200 trees already in their possession, but they would be asked to stop further tree-cutting. This decision was conveyed in a letter to the Principal of the school, copied to the District Commissioner and other relevant district officers. In the DC's reply he advanced four reasons why the village should allow the school to take all 700 trees; 1) they were for a public project in support of the nation's educational development and of direct benefit to the village, 2) "no damage" was caused by removing the original 200 from the forest, 3) there was no sense withholding the 100 trees already cut, and 4) the villagers should allow the school to extract another 400 trees and benefit from the income for the construction of a village office and primary school. ²

The villagers found it hard to understand why they should agree to the DC's wishes when it was contrary to both customary law and the provisions of the 1972 Village Act and 1982 Local Government Act which conferred power on the village council to administer forest areas as with other natural resources within the village boundary. They also found the DC's logic difficult to reconcile with the knowledge that there were only six Barabaig students at the school, and only one from Mureru village. ³ They therefore made the decision to withhold permission for the felling of the extra 400 trees. Their decision was overridden by the DC and the village had to stand by while the trees were cut down.

¹ At the time this amounted to about US 30 cents.

² District file DC&HAN&E.1&8 of 23 November 1987.

³ One reason for the low attendance of Barabaig girls was because the school had an agricultural curriculum with little to do with traditional livestock husbandry.

Case 3 - Dirma village demarcation and land use plan.

Dirma village is about the same distance south of Mount Hanang as Mureru village, but lies further to the west (see Map). The land area is also divided into grass plains and forest areas. It is distinguished from Mureru village by having extensive fertile **muhajega** land. The Barabaig value them as a most productive fodder resource. They are also known to produce high cereal crop yields. It was this land type that was acquired by the government from the Barabaig for a large scale wheat scheme on the Basotu plains above the Rift escarpment. This scheme, described in detail elsewhere, has had negative impacts on Barabaig livestock production and wellbeing (Lane 1990).

Dirma has few permanent water sources, apart from a silted-up dam and a dilapidated gravity fed water system from mount Hanang. To gain access to water in the dry season, up to 50 % of herders from Dirma choose to move east into Mureru and Balangda villages to be closer to the wells on lake Balangda Lelu (Johansson 1991). Conversely, to avail themselves of the rich pastures afforded by the **muhajega** land, herders from Mureru and Balangda move west to Dirma in the wet season. This reciprocal arrangement is well understood and accepted by residents of both villages.

Since colonial times Dirma's **muhajega** pastures have also attracted cattle from the agropastoral community in Gitting 50 kilometres to the north. More than 8,000 head enter Dirma, Nangwa and Gisambalang villages in the wet season swelling cattle numbers very greatly. Cattle counts in Dirma show an almost threefold increase from 4,678 in 1977 to 12,100 in 1988 (Johansson 1991). This intrusion is resented by Dirma residents as there is no reciprocal arrangement to gain access to grazing or water in Gitting, and overgrazing in Dirma is thought to be encouraging scrub encroachment of once more productive grasslands.

Dirma residents are torn between the need to allow migratory intrusion of cattle onto their pastures in the wet season in return for access to permanent water in the dry season, and the need to prevent the depletion of range resources. This is a dilemma for Dirma pastoralists as their traditional land tenure arrangements provide no restriction of access to resources so that herders can

operate their grazing rotation (Lane 1990). This ecologically sound arrangement has become problematic. In Dirma due to the imposition of new land tenure arrangements, following from village demarcation.

Consistent with national policy the Hanang district government has demarcated village boundaries and drawn up a land use plan for a number of villages. In 1990 a Rapid Rural Appraisal was conducted by a World Bank mission team to study the impacts of this exercise in Dirma. The study revealed that the survey process had failed to identify the diversity of natural resources within the village boundary, and provide for the complexity of the traditional land use pattern or accommodate the interrelationship between resources within and beyond the village boundary. It treated the village as a homogenous group and gave no recognition to the different interest groups within the village. The final plan was found to be too rigid in its form based on a static picture of natural resource use.

The Land Use Plan was initiated by district officials, carried out by planning officers using provisions under the Town & Country Planning Ordinance (Cap. 378) with the cooperation of the District Council Planning Committee. This Ordinance had hitherto not been applied in the rural planning context. The map of the "planning area" constitutes the final product of the planning process, and designates fixed "land use zones" that effectively extinguish the flexible, multiple land use options provided for in customary arrangements.

The study team concluded that the planning exercise was inadequate as local residents were not sufficiently involved in the planning process and planners were able to impose their perspectives on the planning process. As a consequence of this, their plan does not reflect the villagers' interests. Very little attention was given to understanding and taking account of local land use requirements. The basic assumption on which the plan was based regarded the traditional grazing pattern as haphazard (*kiholela*) and inconsistent with development.

"The planners have arbitrarily assumed that current land use is inadequate and destructive to the environment and the plan prescribes replacement of existing agricultural and pastoral practices

with 'modern' and 'scientific' methods (*ya kisasa* and *ya kitaalamu*), without elaborating on what these concepts mean." (Johansson 1991).

The team also found that the different interest groups in the village had different points of view as to the value of the exercise. District officials saw the planning as a way to get Barabaig pastoralists to settle and facilitate district administration. Some of the village leaders saw the plan as a means to acquire title to land so as to protect it from further alienation by outsiders. Others wanted security of tenure so that they could take-up rich *muhajega* land themselves and sub-lease land to commercial farmers for the benefit of the village, as was done at Gehandu. Many villagers, on the other hand, were interested in the plan as they thought it would protect their land from further encroachment by outsiders. What they did not know was that this same process could also restrict their traditional migration pattern and deny them access to permanent water in the dry season.

According to Johansson (1991) the planning process was not "transparent and intelligible" to the villagers, and as so little account was taken of their perspectives or detailed environmental knowledge the plan was likely to damage the local pastoral economy, degrade the environment and prompt outmigration of pastoralists from the area.

Future possibilities

Pastoral organisation

These case studies provide evidence of the way policies are being applied to undermine pastoralists' systems for managing natural resources. These policies run counter to the growing body of knowledge that reveals pastoralists to be not only efficient producers, but also skilled environmental managers.

Hanang district provides a typical example of how these policies and the programmes they engender undermine pastoral production systems and contribute to environmental degradation.

How can the potential viability of pastoral land use systems be recognised by policy makers, project planners and development

practitioners? What can be done by those people who are interested to support pastoralists resolve these problems and maintain their livelihoods in those places they regard as their homelands?

The answer to these questions lies with a change of approach that shifts the analysis of the "crisis" on the rangelands from the perspective of outsiders, to one that recognises the value and need for local perspectives to be more fully taken into account.

One way this can be achieved is by providing support for pastoralists to organise themselves and improve their capacity for better representation of their interests. This process is already under way in Tanzania as elsewhere. There are currently at least three pastoral organisations: Korongoro Integrated People Oriented to Conservation (KIPOC), the Maasai development organisation Olkerie Moipo, and Inyat E-Maa which focuses on culture as a vehicle for development, and a national pastoral network, PANET. KIPOC also has a branch in Hanang district with Barabaig representation.⁴

Because of the state's role in the alienation of pastoral resources and the failure of many development initiatives in rangeland areas, it is inevitable in the first instance that pastoral organisations will want to achieve greater land security and challenge the state to redress their grievances. In some cases this has led to litigation that brings pastoralists into direct confrontation with the state as in the Barabaig case (Lane 1991). However, direct confrontation has limited utility in the longer term. Given the clear provision in Tanzanian legislation for customary law, the challenge for pastoral organisations will be to seek to clarify the legal ambiguities on customary and common land tenure (Tenga 1992), and explore how local customary arrangements can be accommodated within the national legal code.

The reticence of the authorities towards pastoral organisations has its origins in the fear that these organisations will try to limit state power to determine the nature of development. As is revealed by these case studies, the government's interpretation of the 'national interest' is often at odds with local interests. Because of the state's

⁴ Despite KIPOC being a legally registered organisation at national level, the district authorities have as yet not allowed the Hanang branch to operate.

role in the alienation of pasture resources, pastoral organisations inevitably present a challenge to the state's authority. However, once this initial period of conflict is passed, pastoralist organisations could play a constructive role in national development. With their knowledge of the local environment and other ecological factors, they offer the expertise with which policy-makers and planners can design development initiatives that build on the best of existing land use systems and avoid many of the failures of the past.

The prospect for the emergence of more pastoral organisations has been enhanced by the push for democracy and greater respect for human rights (including land rights) going on throughout Africa. Advances in the wider political arena are likely to result in a devolution of power from the centre to the periphery where greater account can be taken of local interests.

Expanded knowledge base.

An expanded information base is a prerequisite for the resolution of current conflicts and the design of appropriate policies. More empirical knowledge of the variety and complexity of indigenous pastoral natural resource management systems is required if policies, projects and legislation are to be tailored to support sustainable production systems in pastoral areas.

There is also a role for further theoretical analysis. The theory of the "tragedy of the commons" has been very powerful in the push for privatisation of the pastoral commons, and it provides conclusive evidence of how theory can be used to support particular actions. Fortunately, the debunking of the "tragedy of the commons" has largely been achieved (see for example Bromley & Cernea 1989, Runge 1986). Now, alternative analyses available to development practitioners in countries with pastoral commons, must be made to understand how pastoral land use systems operate.

Advocacy role.

Pastoral interests need to be better represented in the political and administrative arena to ensure their views are heard. Relevant education has a role in achieving this in the longer term. However, before pastoral representatives attain the numerical level needed to compete in the corridors of power, they will need external support to have their interests clearly expressed and heard. Relevant

education has a role in achieving this in the longer term. However, before pastoral representatives attain the numerical level needed to compete in the corridors of power, they will need external support to have their interests clearly expressed and heard. Pastoralists as cultural minorities can be effectively supported by human rights organisations, drawing on the international community to bring pressure to bear on governments to desist from human and land rights abuse (on the Barabaig case see Africa Watch 1990, Survival International 1990).

Development organisations.

Development organisations have often been the intermediate players in the poor performance of pastoral development initiatives (see for example Parkipuny 1979 on the USAID, Maasai Range Project). While many agencies, particularly NGO's want to address the problems outlined above, they have yet to make much impact. This is partly due to political factors that constrain their freedom to act independently of government and on sensitive issues, and also due to constraints imposed on them by lack of funds.

Despite a growing awareness of the issues, many development organisations have yet to take on board new ways to address the problems that confront them. For them to become more effective in challenging the status quo they will need where possible to be more open and collaborate with governments at home and abroad, relate more directly with pastoralists and unite with the whole range of organisations working in this field. It will be particularly important for a connection to be made between donor activities and research findings. This can only come about if genuine empirical research and not simple appraisals and project evaluations are viewed as an integral part of the development formulation process.

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