

Enabling Local Institution Building: Reinventing or Enclosing the Commons of the Sahel?¹

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"All agricultural scientists, policy-makers, academics, and consultants, are politically biased." Piers Blaikie (1985:149)

Customary Organisations as a Resource: The Institutional Trend

It is now widely accepted that the empowerment of pastoral and village organisations, which would enable local communities to assume greater control over the management of local resources, represents the only viable alternative for development in the complex environments of dryland Sahel.

Several Sahelian governments have made local institution building a core element for natural resources management and rural development policies. Local organisations are seen as the focal points for land management, provision of services, and development. This matches the political rhetoric of decentralisation. New images are produced: customary

¹ An earlier version of this paper was presented to two different audiences of donors: 1) For NGO staff at a Workshop in Segou, Mali, 10-15th October 1994, 2) For bilateral donors 13-14 December 1993 to a Paris Pastoral Meeting of Donors organised by UNSO/UNDP. This early version of the paper is published in the UNSO-proceedings from the latter meeting.

"Sahel" refers to the dryland regions of West Africa (less than 600 mm rainfall/year). But the main arguments are also relevant for East Africa.

organisations are regarded as under-exploited political-economic forces - not as constraints to development. Customary or private organisations can take over responsibilities relinquished by the state. Such views mingle with a stronger 'anti-state' trend towards de-regulation of state services, privatisation and higher reliance on market forces. But rolling back an interventionist state will leave a 'power vacuum'. It will not *automatically* lead to improvements at local level. The civil society is often weak. Local leaders lack the required skills, capabilities and motivations to meet new demands. Customary organisations and institutions have lost authority and legitimacy. Private entrepreneurs are often not present or willing to invest in these risk-prone settings with less predictable market conditions.

This paper points to some of the possibilities and dilemmas that decentralisation and local institution building will face in Sahelian countries. The paper deals particularly with the creation of *new land tenure organisations* and conditions for efficient and sustainable management of pastoral and agricultural resources under common property regimes.² The paper draws upon experiences from creating *state-sponsored pastoral organisations* for common rangeland management in the Sahel (Mali, Niger, Mauritania, Senegal). Field-work among such organisations using guided questionnaires was carried out in 1990 and 1991. For the more detailed empirical findings underpinning the paper the reader is referred to Shanmugaratnam et al (1992) and Vedeld (1992 and 1993). The paper also comments on the newest approaches for integrated natural resources management in the Sahel: *the 'terroir*

² "Land tenure" refers simply to the terms and conditions on which natural resources are held and used. This relates essentially to rules (or institutions) for access, control, exclusion and management. A "land tenure regime" is the governance structure or organisational structure which execute the rules. Hence, it is a type of property regime. "Property" is not to be understood as an object but rather as a social relation; "a benefit (or income) stream, and a property right is a claim to a benefit stream that some higher body - usually the state - will agree to protect....." (Bromley 1992:2). "Common property" (or "controlled common property") could then be interpreted as "a complex constellation of rights, rules, conventions and contracts whose local structure is dependent upon the structure of local government and the incentives of individual resource users" (Swallow and Bromley 1991:3). "Natural resources management" includes the operation of tenure and land rights, water and land management (grazing management, soil fertility conservation, tree, vegetation and biodiversity protection).

approach' to land management and rural development. This approach is oriented basically towards settled village communities and the agricultural commons (e.g. in Burkina Faso, Mali, Niger). These comments are mainly based on reviews of second-hand material (Painter 1993, UNSO/UNDP 1994, Lund 1993) and World Bank documents. The two approaches to tenure reform have both been inspired and supported by the World Bank. Finally, the paper draws upon field-work I am presently doing among *customary tenure organisations* in Fulani dominated societies operating outside projects supported by the state (in the Inland Niger Delta of Mali).

Pastoralists and farmers in the Sahel often use the whole range of property regimes as part of their production and transhumance systems: common, state, private and non-property or 'open access' regimes. But common property regimes are the norm. Customary tenure organisations dominate the access to and allocation of the pastoral and agricultural commons. They exist to reduce uncertainties involved in human interaction under resource scarcity. These uncertainties arise as a consequence of the complexity of allocating household resources under extreme risk-prone ecological and socio-political conditions. The ecology of the drylands are dominated by highly variable rainfall and episodic events or risks such as drought. Human responses to variable production in time and space is to institute tenure regimes for flexible movement of animals and management of resources. Such tenure regimes are conditioned by the wider political economy, which also exhibit unpredictable, variable or 'non-equilibrium' characteristics. Given the constraints they face, local production systems may be both relatively productive and efficient. The productivity of pastoral production systems compare well with Western ranching under similar ecological conditions (Scoones 1994).

This paper questions some of the conventional and standard neo-classical assumptions behind tenure reforms in Africa. It claims that such assumptions have inspired the two approaches to tenure reform reviewed here. The paper provides a framework for a broader analysis of land tenure relations than is often used. It argues that land tenure reforms cannot be seen in isolation from ecological, socio-economic, *and* institutional factors. State policies, laws and practices, interacting with market forces, are central to the understanding of tenurial changes. Based on an

overview of new paradigms in ecology and common property theory, the paper outlines some of the main features of an *enabling environment* - or the overall institutional framework - required for the evolution of new tenure regimes. Effective management regimes will not emerge by simply devolving authority to customary organisations. Efforts to 'reinvent the commons' or strengthen tenure regimes at local level, require parallel efforts to reform and build responsive state structures. A strong and efficient civil society presupposes a strong and efficient state - and vice-versa. The paper points to a "co-management" model for natural resources, with re-defined roles for both the state and the local communities. A key message is that in the long-run, an accountable and efficient state is a precondition for more legitimate and efficient land tenure regimes at local level. A key problem is how enabling state structures can be built.

Both the land tenure approaches reviewed here attempt to introduce fixed territorial boundaries, legal land titles and enforce stricter legal regulations on pastoral and agricultural commons through state structures (or donors/NGOs). These regulations build enclosures around the commons. Experience with the pastoral organisations shows that the introduction of such land tenure reforms through an ambiguous and little responsive state has not made much difference regarding improved land management at local level. There are elements in these approaches which are both innovative and interesting. They explicitly address several important weaknesses identified in past development strategies. They may also give guidance to the road ahead. But the conventional/neo-classical assumptions underpinning the tenure components have been misleading. Pastoralists and farmers simply do not behave according to the predictions. There is clearly a knowledge gap between the planners and the local producers. The local communities do not respect the new enclosures and restrictions on mobility and resource-sharing institutions. If such tenure rights of collective or private type are strictly enforced, they are likely to entail in optimal use of the dryland resources.³ The paper suggests that dilemmas related to tenure security might be more efficiently and legitimately solved through procedural

³ Confronted with local people's disregard of the new tenure limits, the World Bank started to interpret these limits less rigidly (de Haan 1994).

law (rules of procedure), rather than through substantive law (rules of right which the court has to apply). Land tenure reforms would then be perceived as a long term political process embedded in the local culture, rather than as a blue-print intervention by an interventionist state. This requires a broad and flexible approach to local institution building.

What Type of Organisations?

A distinction should be made between organisations and institutions. Institutions are the rules of the game in society (norms, conventions, rights, contracts). Organisations are the teams within that set of rules: groups of individuals bound by some common purpose to achieve certain objectives (North 1990:3).

Pastoral, agro-pastoral or village organisations may be defined as institutional structures through which people individually and/or collectively interact to safeguard and promote their economic, social, cultural, and political interests.

Pastoral and agro-pastoral organisations, which is the main focus of this paper, may take on a variety of tasks (multi-purpose) or only a single task (single-purpose).⁴ These tasks can be grouped in two broad categories (Swift in FAO 1992): *economic and social* tasks, including natural resources management, provision of services, supply of inputs or consumer goods (food security), communication of information, and mobilisation and building of community cohesion and morale; and *civil society* tasks, including collective bargaining or political lobbying for land rights or other socio-political interests (Sanford 1983, Shanmugaratnam et al 1992). Village organisations may take on the same type of tasks.

⁴ Following Sandford (1983) "pastoralists" are defined as "people who derive most of their income or sustenance from keeping domestic livestock in conditions where most of the feed that their livestock eat is natural forage rather than cultivated fodder and pastures." In its broadest sense the term pastoralism refers to the way of life of pastoralists, their socio-economic institutions and land use systems. The definition covers "pure" pastoralism, and other mixed forms in which the pastoral component is dominant, for example agro-pastoralism and agro-sylvo-pastoralism.

Pastoral organisations exist in a variety of forms: customary organisations (e.g. lineage, clan) versus modern (e.g. cereal bank); and formal (e.g. legally recognised co-operative) versus informal (e.g. clan-based water point management group). Some are nested "enterprises" with units at local, regional and national levels. Some receive external assistance (state- or donor sponsored), others do not. Most pastoral organisations exist in "mixed" forms - as a combination of the above forms (FAO 1992).

State-sponsored formal pastoral organisations in West Africa are mostly multi-purpose associations involved in rangeland management, supply of services (animal health, feed supplements, credit), and political lobbying (e.g. Mauritania and Central African Republic). At local level they are organised along customary principles: residence, kinship and friendship affiliations. New leaders are normally elected among the customary leaders and elders. But new formal constitutions are introduced to guide the operation of the organisation. National level organisations have been created in several countries (e.g. herders' associations in Senegal and Mauritania). In eastern and southern Africa, formal pastoral organisations are often single-purpose institutions, preoccupied with land allocation and management and some input supply accompanying these activities. Pastoral organisations in Sudan have mainly been based on informal customary socio-political structures, dealing with input supplies and rangeland management (FAO 1992, Shanmugaratnam et al 1992, NOPA 1992).

The approaches to forming *state-sponsored pastoral organisations* in various World Bank supported projects have involved identification of largely coherent groups and spatial delineation of common pastoral land (according to kinship, social affinity and settlement patterns). The aim was to make these geographically and socially defined units the core element of a community-based system for natural resources management. The pastoral organisations were meant to be attributed collective water and grazing rights (i.e. formal legal land titles), legal recognition and provided development services (veterinary health, training, credit) and infrastructural support to improve rangeland management (water points, grazing schemes, fire control, tree planting). The '*terroir approach*' is also based on the provision of legal land titles to fixed territories. The approach is focused on village communities and

dryland agricultural commons. The main goal is to assist selected rural communities in different agro-ecological zones in designing and implementing village management plans for these common village territories ('terroirs') by providing technical, financial, institutional and legal support. Efforts to address environmental degradation are central to the approach.⁵

Assumptions behind the Building of State-Sponsored Land Tenure Regimes

In contrast to Asia and Latin America, the impetus for tenure reforms in Africa has often not come from popular demands to change unequal distribution of land (except in Ethiopia and some settler dominated states). Domination of farmers or herders by large landowners has been rare in Africa. Suggestions for land tenure reforms have rather come from foreign advisors and donor agencies through various programmes - inspired by Western models for development. But major conventional paradigms underpinning land reforms in Western Europe or North America have proved less useful in the Sahelian context (Hunter and Mobbs-Zeno 1986).

A standard neo-classical model would normally suggest that efficient resource allocation by individual optimizers takes place only under certain conditions, including exclusive, transferable, enforceable and individual ownership to land (and developed markets).⁶ Organisations, institutions, knowledge, skills are 'given' factors. Accordingly, common property would imply less secure individual land title. This would discourage effective use of labour, capital and land, and productive investments in agriculture. Customary common tenure regimes are *a priori* regarded as constraints to transformation of the agricultural sector and economic development. Such insecurity of

⁵ My comments on the terroir approach are particularly relevant in the case of Niger. Here the government embarks upon a country-wide tenure reform with individual and collective titling tied into a new large World Bank supported project for natural resources management of the 'terroir' type.

⁶ More precisely such conditions are referred to as 'non attenuated property rights'. They should be completely specified (i.e. inform clearly about rights, restrictions, penalties), and completely enforced (Randall 1987:158).

individual tenure is, furthermore, regarded as a major constraint to sustainable and long-term natural resources management.

Customary land tenure regimes in the Sahel, though extremely diverse in detail, expose some common themes. Despite the state claiming formal ownership, land is normally held in trust by the community or the (founding) lineage for future generations through some sort of common property. Customary rights to land is often acquired through long term occupancy or control (first arrivals). The rights to land around villages are normally divided between the founding families who will set conditions for later arriving families and/or families from other social groups/lower castes. New land must be acquired through the village chief or particular 'masters of land'. While the male paternal descendants of the founding families or the 'masters of land' own land according to customary law, people in general only have land in custody under a usufruct contract with the owners (UNSO/UNDP 1994). Land can often not be sold or transferred to foreigners. Throughout Africa, the power of the chiefs "derives, variously, from his personal lineage, his ability to satisfy family heads in his community, and his loyalty to a higher political authority. Use rights may be earned by clearing land or by inheritance. Generally, however, membership in the community and willingness to use the land are sufficient" (Hunter and Mabbs-Zeno 1986:110).

The two tenure approaches reviewed here have - to some degree - incorporated lessons from the failures of privatising land (for example through ranching models) in the 1960s and 70s. These new tenure approaches are partly modelled over customary tenure regimes. The territorial limits have been identified according to a combination of kinship and residence criteria. Customary leaders are elected to the board of pastoral and village management committees. But I will claim that the tenure components are in important ways still inspired by standard Western neo-classical models of the Hardinian type. A main goal of both approaches is to promote a 'balance' (equilibrium) between a biological carrying capacity, assumed to be more or less fixed, and human and livestock populations. It is assumed that such a 'balance' can be found. They both convey a notion of limited space, fixed territorial boundaries and strict control on the utilization of common resources. Exclusive rights - mainly collective - but also private - are to be enforced by the

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state (or an outside agency/donor). Contradictions arise in the encounter between this Western idea of 'privatising' or 'enclosing of the commons' and local demand for a genuine 'reinvention of the commons'. The new tenure regimes tend to develop as inefficient "mixed" organisations. They are constructed on state laws and regulations. But in practice customary rules for access and resource-sharing, embedded in the local culture, remain dominant. Both these tenure approaches assume a neutral state willing to devolve power to local communities and able to enforce new regulations in a fair and efficient manner. But the state is not perceived as neutral by local people. Hence, the new regulations are mostly not respected. The new territorial limits and organisations rest with unclear mandates and legitimacy. The additional channels for tenure dispute settlements may therefore add to local confusion. As tenure reforms, these approaches become less efficient than envisaged. And if the new tenure rights were to be strictly enforced, they would constrain mobility and flexibility, increase the number of tenure conflicts and transaction costs involved in conflict resolution. Moreover, they would most likely entail distributional inequalities and cementation of existing power hierarchies (Lund 1993).

Broadening the Analysis: an Enabling Environment

This paper suggests a broader and more flexible approach to analysis and promotion of local tenure organisations and institutions than provided by the approaches reviewed. The main challenge would then be conceptualised as building *an enabling environment for institutional development* in which local organisations are allowed to evolve at their own speed based largely on their own demands and choices. This entails an institutional framework which could be conceived as a "power-sharing contract" between the state and the local organisations. Under this "contract" the state agrees to dismantle policies and authoritarian practices which today disable local development. It agrees to develop new more accountable institutions, built on local demands, set up against the state's resources and capabilities. The local organisations agree to manage resources according to certain sustainability principles. Such institutional "contracts" are required for more effective and representative organisations - of all forms - both customary (informal) and

formal to evolve. A flexible system of organisations, involving different levels, forms and functions may best serve the pastoralists and farmers in a given locality. By consciously turning top down initiatives into bottom-up mobilisation of people, programmes initiated by the state and/or donors could allow solutions to local problems to emerge from below. Success is only possible if such programmes are sensitive to local conditions - as well as to the wider institutional and political contexts. At the broadest level, institution building encompasses all aspects of human resources development - health, education, infrastructure - at local and state levels. Is this a feasible agenda for development? A main issue is to what degree such policies are perceived by the state and the most powerful economic groups to serve their short and medium-term interests in the society.

Elements for the theoretical framework used in the analysis of these issues are provided in *Appendix 1. The state and new paradigms in common property*. This should be read for a more complete understanding of the arguments.

The State and the Crisis in Pastoralism and Dryland Development

The focus on devolution of power from central governments to local organisations in Sahelian Africa stems from concern over the state's inability to provide adequate services and support for local development and resource management. It arises from concern over degradation of range- and cropland resources, widespread food insecurity, declining civil security, and increased political turmoil. Conflicts over tenure rights and access to natural resources are major factors behind civil strife. Such conflicts affect whole regions and may destabilise nation-states (e.g. Mali). State legitimacy is weak among dryland communities in most Sahelian countries. To varying degrees, pastoralists (and dryland farmers) are caught in a protracted crisis due to a combination of factors. In brief, the cumulative effects of political, institutional and market forces and failures have led to a situation of unequal access to resources, erosion of tenure organisations and human resources capabilities, technological stagnation in agriculture and livestock, accelerated conversion of common rangeland to 'private' crop

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land, and population growth. Drought is a major factor contributing to the crisis.

Decentralisation of authority and responsibility is seen as part of the process of building more efficient, responsive and democratic institutions - both within and outside state structures. Such views are claimed also by the governments. The strengthening of local governments is part of the new agenda.

There are many aspects to this nexus of problems, mostly beyond the scope of this paper. Major factors relate to the interaction of state and market forces (national and international) which have produced unequal access to resources between farmers (agriculture) and pastoralists (livestock) - respectively. In turn, this has entailed changes in land use systems and tenure relations - most often to the detriment of rangeland tenure security and pastoralism.

Policy and Institutional Challenges

A further breakdown of customary authority and tenure regimes in the Sahel, would have severe negative effects on economic and environmental sustainability of the drylands. Political stability will deteriorate further. This raises crucial institutional dimensions. There are limited prospects of significant range or crop land productivity increases through technological innovations or expansion into new areas. On the contrary, the drought has often lowered land productivity and reduced areas available for grazing and crop cultivation.

1. Imbalances in socio-political structures

Even if drought is a key triggering factor, the present crisis in pastoralism and dryland development has other root causes. Of particular importance is the imbalance between the economic and the socio-political structures of the countries concerned. Although the economic base lies largely in rural areas where crop and livestock production occurs, their policies are mainly decided in the urban centres. This has created a general preference in law, policy and practice towards favouring urban vis-à-vis rural interests, consumption vis-à-vis investment, and promotion of agriculture (for export and subsidised urban consumption) vis-à-vis pastoralism and livestock production. In

Mali, which might be an extreme case, the livestock sector accounts for about 16% of GDP and 30% of export earnings, but government allocations for the livestock service represent less than 1% of the annual operation budget (OCDE/CILSS 1990). Such policies disregard the fact that pastoral production systems are relatively efficient and productive (Sanford 1983, Scoones 1994).

2. Dryland and pastoral administration

The state administration and legal frameworks for dryland management, superimposed on customary tenure regimes, have changed little since the colonial rule. Centralised state bureaucracies have aimed to control land, taxation and revenues from livestock (as well as from crop producers) - without quite succeeding. The state has facilitated the expansion of irrigation and large-scale agriculture at the expense of pastoral and small-scale farm development. In combination with market forces, state policies and practices have over time contributed to a shift in cost/benefit ratios away from livestock production and common rangeland management to crop production and more private ownership (OCDE/CILSS 1990, Turner 1992). Very little has been achieved regarding provision of extension, basic health, education and infrastructural services in the drylands. Regarding tenurial policies, conventional approaches have been highly interventionist, inefficient, and often directly destructive (Vedeld 1993). Customary organisations and tenure regimes governing the access to range and crop land have been slowly undermined, facilitated by changes in national tenure law. 'Outsiders' with favourable links to various state structures, have been able to obtain access to rangeland or crop resources previously under tenure regimes controlled by local communities (Moorehead 1991, Turner 1992, Vedeld 1993a, Lane and Moorehead 1993). The drought has encouraged widespread migration, colonisation and cultivation of new areas, including key dry season pastoral zones such as the Inland Niger Delta of Mali.

Although drought is a common phenomenon in Sahel, one should not underestimate the effects of the drought in the 1970s and

1980s. It had disastrous effects on local production and land use. It is a major factor behind the many new tenure conflicts.⁷

3. Demographic changes and tenure

The effect of human and livestock population pressures on dryland degradation must be seen in conjunction with political-economic factors that influence technological innovations and land productivity.⁸ Growth of human populations in the rural drylands has often slowed down, due to migrations to urban and less drought-exposed areas. Cattle populations have also decreased, while the number of goats and sheep might have increased. Degradation of crop land and tree/bush vegetation might be of more concern than overgrazing of grasslands. Urban livestock raising has increased rapidly among more settled and urban communities and in the more humid areas. New conflicts arise regarding access to land and tenure rights. Rapid urbanisation also creates risks of degradation in peri-urban environments (- as well as problems of job creation and provision of basic services). Hence, the demographic picture has changed considerably both within the rural and the urban settings. These rapid shifts in settlement patterns could only be possible if tenure systems remained flexible and dynamic.

⁷ Droughts will re-appear, but there are great uncertainties about future rainfall patterns. The latest evidence from climatic research may indicate that a progressive aridification in the Sahel started 4500 years ago, coinciding with the beginning of a global cooling. Since then the desert front (Potential Desertification Front at 150 mm isohyet) has shifted several hundred kilometres to the south and pushed the savannah vegetation belts to the present position. This is a climatic-induced large scale spread of the desert and not a man-made phenomenon. But in between there has been both wetter and drier periods than today's long-term average with oscillations of the vegetation/desert front (Kadomura 1994, see also Toulmin 1993). The Sahelian region experienced a fall in annual rainfall from the 1931-1970 average to the 1961-1990 average of up to 30% (UNSO/UNDP 1994).

⁸ Compare for example Sahelian areas (2-20 persons/sq. km.) with the Machokos case from Kenya under similar rainfall conditions: Many observers in the 1930s and 1940s saw the Machakos District as suffering from significant resource degradation at a population density of 70 persons/sq. km. In 1990 degradation had halted at a density of 350 persons/sq. km. The lesson is that population increase might be compatible with environmental recovery, provided new technology develops, and market access improves and makes local production profitable and investment in conservation measures possible (see Tiffen and Mortimore 1994, see also Turner et al. 1993, and Boserup 1990).

4. Interlinkages between tenure, state policy and market incentives

As indicated above, it could be misleading to analyse tenurial changes at local level in isolation from historic and more recent changes in political and economic incentive structures, labour, credit, and barter markets. Such factors are closely interlinked and indicate the complexity involved in designing and building new property regimes.

For example, with unfavourable milk-grain barter prices, pastoral households have gradually been forced to sell more animals to ensure grain supply. Grain is the most important product for household consume, while milk is the main sales product. Pastoralists have bought grain from local farmers. Farmers, and also traders and government officials have been able to build up some economic surplus and relative wealth, which is often invested in the livestock bought from the pastoralists.⁹ During the 25 years of drought pastoralists have slowly been dispossessed of large shares of their livestock. This is particularly common in West Africa (Turner 1992, OCDE/CILSS 1990). Such impoverishment of pastoralists leads to loss of the socio-political power and legitimacy of their institutions necessary for maintaining control over pastures. Pastoral leaders and organisations are therefore less able to protect common pastures against encroachment and defend customary tenure rights.

Outcomes: Enclosure of the Commons and Tenure Conflicts

The pastoral crisis is foremost a crisis in loss of land (via alienation and agricultural encroachment). Its solution lies in protection of pastoral resources use (conflict

⁹ An interesting study from the Inner Inland Niger Delta claims that among rural producers it was mostly agriculturists who were able to obtain surplus in production throughout the 1950s and 1960s. This surplus enabled investment and accumulation in livestock acquired from pastoral groups. This situation changed in the 1980s, when also crop production was on decline. Only those with income from non-land based activities - such as government officials and traders - were now able to produce surplus for cattle accumulation. Pastoralists involved in small ruminants and camel raising have, however, been more successful in maintaining or increasing their herds (Turner 1992).

resolution/enforcement of tenure rights) and in smallholder mixed farming (agro-pastoralism). The crisis in extensive dryland farming is foremost the shortening of fallow cycles in relation to restorative needs of the soil. In both cases there is the need to maintain common property pasture and ensure transport of manure to the agricultural land (Mortimore 1991).

The flexibility of present tenure systems and lack of enforcement of tenure rules by state as well as customary leaders, encourage a continuous agricultural expansion. Dry season common pastures and "key resources" are converted to crop land under individual use rights. Arable encroachment was previously mainly an effect of state-sponsored irrigation schemes and wildlife parks. But today it increasingly follows from the millions of small farmers and agro-pastoralists clearing new land. In many locations, pastoralists have become the first to encroach on their own common pastures.

Pastoralists as well as farmers, facing the drought and drop in incomes from traditional activities, have adopted a diversity of survival strategies. Trading, urban employment and other non-land based activities provide an increasing part of household incomes (Moorehead 1991). This accelerates market integration and leads to less reliance on the commons, e.g. common pastures. It individualises production and erodes former reciprocal ties and patron-client relationships within and between 'village economies'. This reduces the authority of customary leaders. It may also reduce the interest of individual users to co-operate in common property regimes (Lawry 1989).

The move to crop cultivation may often seem like a necessary and logical response to external pressures, incentives, resource scarcities and food insecurity. First of all, productivity per hectare in crop production is normally much higher than for milk production on pastures. Secondly, by obtaining access to and clearing the land for crop cultivation ("developing"), producers acquire an individual customary use right to the land. This use right provides a firmer protection in both state law and customary law than what is provided by a tenure right for "undeveloped" common pasture land.¹⁰

¹⁰ Moreover, due to the smaller size, a tenure right to a crop field can be protected by a settled farmer at less costs (per unit of output) than what is required for protecting a tenure right to a larger rangeland area by a

But the withdrawing of key pastures and wetland resources from local production systems has severe implications for pastoral production. The full value of the diversity of traditional use of "wetland patches" is often not appreciated when governments encourage arable encroachment. These wetlands also have important ecological attributes. And often crop production, the way it is practised, is not environmentally sustainable. It also reduces the possible use of natural pastures now being used in the rainy season. This fodder has low-opportunity value and can only be used rationally if the key dry season pastures are protected. In the Inland Niger Delta of Mali, for example, researchers consider the livestock sector to be the most important contributor to regional monetary income, but pasture is still continuously taken into use for - often unsustainable - crop cultivation.¹¹

Governments may have good arguments for accommodating farmers seeking land for survival. But failures to recognise pastoral or local tenure rights may entail their own costs both to individual producers and to the society. Hence, in cases of land tenure conflicts, a careful assessment of the cost/benefits of alternative land uses is required. Tenure conflicts have become more frequent - both in-between pastoral groups and between pastoralists and farmers. Conflicts between pastoral groups concern disputes over access to water and scarce pasture - as well as cattle thefts. Wealthier more powerful pastoral groups sometimes privatise pastures or sell land for personal gains. Increasingly the state intervenes in tenure and land use conflicts with reference to state laws and regulations. But enforcement are of ad hoc nature and ambiguous. The administration tend to support the settled farm populations in their land tenure claims. Often decisions are guided by attempts to squeeze the conflicting parties through fines or informal payments. Those who are willing to pay win the case. Tenure conflicts remain unresolved and surface through different channels. The lack of appropriate mechanisms for tenure conflict resolution lowers efficiency, increases transaction

pastoralist, who is on transhumance several months of the year. Hence, a farmer may also be able and willing to pay more for the protection (per unit of land), for example from the local state administrator, if that is required to maintain the land right.

¹¹ In this area, grain production contributes less to generation of income at household level than livestock products - at 1990 price levels. But grain production is the most important source of energy in the local diets, and hence in securing subsistence (CABO 1991).

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costs of policing, entails land degradation, implies frustrations, and in serious cases - leads to loss of lives. In the 1993/94 season more than fifty people have been killed in conflicts over access rights to land in the Inland Niger Delta of Mali in-between Fulani pastoral groups and between pastoral and farm groups. Several hundred people have been killed in the more severe conflicts between the Malian state, Tuareg and Moors pastoralists and other agricultural groups. This conflict is also rooted in unresolved tenure conflicts and land claims.

Reinventing or Enclosing the Commons?

I. Agricultural commons and country-wide land titling: the 'terroir' approach

The 'terroir' approach to land management is relatively new. Few systematic evaluations have been carried out. It is therefore too early to draw firm conclusions about the future of this approach to development (UNSO/UNDP 1994). The first World Bank supported project using the approach started in Burkina Faso in 1985. Later the World Bank has started similar programmes in several Sahelian countries, including Mali (1990/91) and Niger (1994). There are now numerous donor-supported projects inspired by the approach. UNSO/UNDP claims the approach to represent the "latest consensus regarding rural development policy" (1994:3). The approach is built around the tenure rights and provision of legal titles to limited territories and village land management plans as tools for resource management. The plans allocate land to different uses. Land rights are mainly of collective type (crop land, rangeland, forest, water) to village communities. But private exclusive titles are not excluded. Land rights are supposed to be claimed through reference to customary rights. The idea is to avoid the state law to break with customary rules and regulations. But in practice conflicts arise. The approach also focuses on micro-projects aimed to restore the environment through proven methods - often based on improvements of indigenous techniques. The land management plan represents a contract between the outside agency - usually the state - and the local communities about rights and duties related to resource management (rules for resource use and access).

There are several positive aspects to the approach. It is based on principles such as security of land rights, flexibility and popular participation. It recognises to a large degree the complexities of village livelihood strategies. The approach is broad and aims to address both ecological, socio-economic and institutional issues. In theory, the approach meets important critiques of past rural development programmes in the Sahel. Some argue that the approach "probably represents the best starting point from which more complex arrangements can develop" (UNSO/UNDP 1994). But there has also been put forward critical comments to the approach (Painter 1993, UNSO/UNDP 1994). My critical comments are related to the tenure component. They become particularly relevant if new tenure access rights are interpreted and enforced strictly with a firm involvement of non-responsive state officials, and if focus is on controlling resource utilization rather than on resource access (see Appendix 1).

Let us take one step back. Have tenure reforms under similar conditions been successful in the past? And what type of tenure reforms might be required? Generally speaking, privatisation of rangeland and crop land or exclusive collective titling, as suggested in Niger, has not met with much success in dryland Africa. Exceptions are in more limited large-scale commercialised farm or ranching areas: e.g. South Africa, Botswana, Namibia, Zimbabwe. More exclusive or private titles have neither improved small farmers' or pastoralists willingness to invest in productive measures or conservation nor improved access to credit, which are often the main economic arguments for introducing private titles (Berry 1994). Customary tenure arrangements often seem to provide sufficient tenure security to promote productive investments. Moreover, customary tenure arrangements are in general dynamic in nature and do evolve in response to changes in relative factor prices. They also evolve in relation to changes in local power structures and demographic patterns. Hence, they do often not represent a major constraint to agricultural development. Moreover, extensive shifting cultivation systems with long-term fallowing require large areas and flexible tenure rules. Land is still not the most scarce factor in production in the Sahel, even if high potential land is increasingly scarce. Access to labour, credit, productive technology and markets may often be more important constraints. There are also large scopes for land productivity increases in the long-term. At this stage of development in the Sahel, *country-*

wide land registration and titling programmes are probably premature on economic grounds and controversial on political grounds. Evidence suggests that unless other improvements take place in provision of rural infrastructure, price and market efficiency, and access to technology the rate of development in agriculture (intensification) would be constrained under any tenure regime (Migot-Adholla et al 1991, Hunter and Mabbs-Zeno 1986, Wachter 1992, Berry 1994). But the *pastoral tenure issue*, due to the various pressures on pastoral resources and the many conflicts over tenure between pastoralists and farmers, is a *particular problem* that requires special (and urgent) attention in many Sahelian countries.

Hence, it might be difficult to argue for immediate and wide-scale tenure reforms which follows the 'terroir approach' as suggested by the World Bank. First of all, the approach is often biased towards patterns of resource use that are typical of the more sedentary farmer communities. There is particularly the anti-pastoral bias which is critical to be aware of and very difficult to address in practice. The approach will easily enhance the conflicts between herders and farmers - especially if the herders are no longer allowed to use the agricultural zones around villages as a buffer zone in periods of pasture scarcity. This includes access to pockets of pasture in-between the crop fields as well as access to crop residues. The pastoralists often have time honoured customary rights to these resources. Enforcement mechanisms of such secondary and third party rights to common property resources are required above village level organisations.

Secondly, the 'terroir' approach tends to focus too much on the resources within the territory of the villages concerned and too little on the broader range of resources in the whole 'action space' of the village. Hence, the approach does not appreciate that people - as a result of the drought - are more opportunistic and mobile in their coping strategies and have adopted new more diverse production patterns (transhumant agro-pastoralists, transhumant fishermen, wild-land resource collectors). They have also become more reliant on livestock and non-land based activities. Planning and management organisations are therefore also needed at the broader district or region levels. Thirdly, the 'terroir' approach is overly focused on the agro-ecological diversity of the villages. Too little

attention is accorded the socio-economic diversity and differentiation in terms of social and socio-professional classes, castes, age-groups, gender (Painter 1993). It is, for example, often the village elite (the aristocracy) which controls land (hence controls ownership rights), while the ordinary villagers have access rights only. Finally, the 'terroir' approach may, with its titling system, create problems for migrants and new settlers to acquire access rights in an area. Land rights for women is another area the approach avoids.

2. Pastoral commons:

State-sponsored pastoral tenure organisations

Now, what are the experiences with more recent attempts to build pastoral organisations and rangeland tenure regimes through external initiatives?

An evaluation of pastoral and livestock development programmes in Mali, Mauritania, Niger and Senegal, supported by the World Bank, indicates that there are positive achievements in the formation of pastoral organisations, but that their performances are mixed (Shanmugaratnam et al 1992, Vedeld 1992 and 1993, see also Sihm 1989, de Haan 1990, Cernea 1993, Bonte 1991). The formation of such organisation has proved to be a complex task. There were particular problems with the introduction of the tenure regimes based on fixed grazing territories and exclusive tenure rights. First of all, governments were initially reluctant to provide such tenure rights to the pastoral organisations for various political reasons. Secondly, the pastoralists were simply not willing to interpret the boundaries as rigid tenure limits. Often the average members of a pastoral organisation were not even informed about these limits. They maintained resource-sharing ties with neighbouring groups. The limits remained as vague indications of which settlements/villages belonged to which pastoral organisation. Only the project in Senegal did have some success in rotational grazing and mechanisms for negotiation of access to pasture between different pastoral groups. In Senegal the pastoralists were mostly settled agro-pastoral people (Wolof, Mandinge, Fulani) - and ecological conditions basically 'equilibrium' (700-1400 mm/year). But the efficiency of these grazing schemes fell during the second phase of the project, when project focus shifted to crop cultivation and project staff paid less attention to the schemes.

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Confronted with local realities, the World Bank and the project agencies - over time - started to interpret these tenure limits less rigidly. Less emphasis was put on attempts to control stocking rates and grazing. This change of attitudes to the grazing schemes happened despite a lack of internalisation of new theories in ecology and property rights in the World Bank (Gilles and de Haan 1994). More attention was accorded the organisation of the pastoralists around services (animal health, human health, literacy) and water points. Efforts went into transfer of water rights to pastoral organisations. This was made a condition for construction of new wells on cost sharing basis. More attention was accorded the policy and institutional framework (de Haan 1994).

Despite the failures of the grazing schemes, pastoral organisations reacted positively to other initiatives. Pastoral organisations do organise various natural resource management activities (awareness raising, bushfire control, water resources management) and provide development-services for local communities (animal health, training, provision of food and animal feed). There is some indication that water point management might provide a basis for small cohesive groups. Water-point management groups could become the first level and the main activity in an improved regime for common rangeland management. Control of access to water is often the key to control over the larger pastures. This is reflected in customary ownership systems for traditional wells, which are more exclusive than for the pastures. They are often controlled by a family or a smaller kinship group. It may therefore make sense to institute more exclusive tenure rights to traditional wells, and transfer the ownership of public wells to private pastoral organisations. This may stimulate investment and maintenance. Today public wells are badly maintained. The water point organisations can give the members leverage to raise charges for water and herding services for absentee herd owners (farmers, government officials, traders). Exclusive rights to wells do not preclude access rights for different groups to different resources in the rangelands (split-rights), much the way customary tenure systems operate today. Hence, a tenure regime based on water rights would be more in line with customary rights. The registration and enforcement of such a system would also be less complicated and costly than one based on (range-) land rights.

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Many of the pastoral organisations are able to run certain economic activities with some profit (e.g. veterinary drug stores). But in general they have very low income-generating capacities and financial viability, and many depend on continuous external assistance. Mauritania provides an exceptional case as a dynamic set of pastoral association presidents - after only a few years - established a National Herders Association. This works as a pressure group, and represents a political movement from below. There are also signs of success in Senegal (Cernea 1993) - and isolated cases in Niger and Mali. The main achievement of these programs might be that pastoral institution building have been set on the political agenda at local and national levels. New fora have been created for internal discussions about collective concerns, such as how to come to terms with the government, to negotiate for more secure property rights, and to bargain for improved allocation of resources to pastoral development.

It seems that influential, competent and responsive customary leaders, relatively homogeneous social groups, in combination with appropriate and responsive government services (extension and mobilisation, literacy training, human health) and genuine governmental commitment, are all crucial for successful formation and operation of these organisations.

3. Overall assessment of the two tenure approaches

Compared to past interventions in African tenure regimes, the two World Bank supported approaches reviewed here includes institutional elements which are both innovative and interesting. They both give directions for future development. But in all the four projects aimed at building pastoral organisations, there is evidence of state and project failures which need to be addressed if institution building is to move forward. Modifications might also be needed in the "terroir" approach. My main concerns are with the type of tenure regimes proposed and with the reforms of the state structures. The approaches assume an efficient and responsive state structure. Experiences show that state agencies often lack the capability, credibility and financial resources required to play an effective role in empowering local organisations. Moreover, the geographical division of the larger ecological systems and provision of exclusive tenure rights to common range and crop land to rather small management units risk to exclude many

temporary and seasonal users to these resources. There are other ways of dividing the benefits from these resources, recognised in customary institutions. Such enclosures on the Sahelian common properties seem to be based on weak empirical and theoretical evidence. And "Ideologically guided land titling has failed in most cases" (Wachter 1992:6).

First of all, security of tenure in the Sahel is not guaranteed by the passage of law, but is maintained through negotiation and political manoeuvre. Law enforcement by the state is often weak and ambiguous. Secondly, customary tenure regimes are mostly sufficiently flexible, dynamic and secure to promote agricultural development. Boundaries of the sort proposed would be more relevant in areas of higher rainfall, denser populations and more commercial agriculture. Thirdly, there is no clear-cut empirical evidence to suggest that the provision of state-guaranteed 'private' or 'collective' titles to land in the Sahel, at present stage of development, is a necessary (or sufficient) requirement to improve productive land investments or natural resources management. Tenure security to key pastoral resources is a particular problem, however, which might require other solutions than tenure to crop land. The tenure contracts under the pastoral organisations provide some leverage for protection against neighbours 'poaching' pastures, but they do not protect against arable encroachment from 'within', internal tenure conflicts or state expropriation. Fourthly, there is great scientific uncertainty regarding the scale and irreversibility of range and crop land degradation in the Sahel. Assumptions about wide-scale and accelerated 'desertification' and land degradation caused by man have been the main motivations for introducing these land tenure approaches. Natural resource restoration is often not a first priority among local people. Fifth, a tenure reform that fixes exclusive private or collective title deeds on a wide scale may have negative distributional effects and end up benefiting the rural elite rather than the rural poor. It may enhance the number of landless (Painter 1993, UNSO/UNDP 1994). This has become a real problem in Niger, where a country-wide tenure reform of this sort has created confusion, conflicts and inefficiencies at local level, without contributing much in terms of higher tenure security for the majority of the population (Lund 1993). Finally, land tenure restructuring is both difficult and costly. The transaction costs of diagnosing, identifying, implementing and enforcing new title

systems may easily become larger than the projected benefits from more efficient land management. Other more immediate effective policy reforms or project investments may warrant higher priority.

An attempt to characterise the conventional/neo-classical and the institutional way of thinking is provided in the *Box 1*. below. This represents an oversimplification. As Scoones (1994:31) indicates, very often the 'new' is not so new and the 'conventional' is quite rare. The two approaches reviewed have adopted several of the new principles. But regarding environmental status and causes, programme goals and tenurial reforms the new thinking has not been internalised. The overview may serve as an easy reference for further debate on the practical implications of the new 'institutional' directions for dryland management.

In many instances common property regimes are likely to continue to evolve into systems of more individual tenure in the Sahel as a response to market integration, state interventions, diversification, reduced reliance on the commons, and erosion of customary authorities and institutions. Evolution of more individual rights to agricultural land is common throughout the Sahel. Regarding rangelands, there are few signs of such evolutions. The ecological variability seems to make the rangeland production systems relatively indivisible and management as a common property most effective. The exception is for water-points, which enjoy more exclusive ownership. Is this an indication that investments (e.g. in wells) incur more exclusive rights - even in rangelands? Collective titles could perhaps be considered for water-points. In general, collective titles make sense when encroachment and degradation follow more from outside interventions, than from failures of internal governance.

An important lesson is that the factors behind tenure changes are many and diverse. Hence, tenure systems are not likely to evolve through simple transformation by way of titling - neither by collective nor by individual titles. More profound reforms are needed. Part of the answer might lie in the introduction of procedural law (see below).

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Box 1. Comparing the institutional thinking and the conventional / neo-classical models for development (adapted from Scoones 1994:31)



Domain	Conventional / neo-classical thinking	Institutional thinking
Perceived environmental status	Widespread environmental degradation: due to destructive man	Degradation less serious: follows eroded capabilities for coordinated actions / drought
Problem focus rangeland / cropland Causes of degradation	Overpopulation leading to overgrazing and soil mining Causes are internal: 'prisoners in a dilemma'	Dissolution of tenure regimes and means for secure livelihoods Causes are external: policy, institutional failures
	Control resource utilization:	Control resource access:
Pro-gramme goal	Reduce populations of people and animals in relation to carrying capacity Increase productivity of commodity production (livestock / crops) and restore environment	Enable institutional frameworks for co-management under uncertainty: focus on livelihoods and empowerment
Planning	Blueprint development planning: top down	Flexible, adaptive planning: participation
Land management	Range: open range improvement (grazing schemes, rotation, legumes, fodder trees) Crop land: controlled irrigation, hybrid varieties, fertilizers, ban on shifting cultivation	Range: focus on key resources, protection and natural regeneration Crop land: mixed farming, manure, composting, indigenous varieties/ knowledge
	Restricted movement: 'fences'	Mobility and flexibility: no 'fences'
Tenure regimes	Fixed tenure regimes: private or exclusive community rights	Flexible tenure regimes: complex mix of overlapping rights
	Tenure conflicts ignored	Conflict resolution focus
Tenure law	Substantive law - embedded in state institutions	Procedural law - embedded in customary institutions
Drought	Drought relief and long term development separated	Drought preparedness an integrated concern
Policy and institutions	Getting prices right Delivery of technological packages through centralised extension	Enabling institutions at central and local levels Local extension agents as mobilisers of organisations

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Enabling Institution Building and Mobilisation: A Macro-Framework

The overall institutional framework determines in many ways the distribution of costs and benefits between different land right holders. By attributing rights to local organisations the state reduces its own powers and income opportunities. There are winners and losers to any tenure reform, also locally. This makes it a powerful political act.

Both tenure approaches reviewed here, seem to assume a neutral state willing to relinquish power without much resistance. But the state and the state elites have strong interests in trying to maintain certain powers and functions. These constitute their own basis for income and influence. States are not neutral. The state elite may not perceive their short-term interests being served by these tenure reforms. In the short and medium-term there may be little surplus to extract from the dryland producers, even if they become more efficient in managing natural resources and production. Effective and responsive state institutions are seldom present in the Sahel. For example, in all four countries the states were reluctant to providing the pastoral organisations with new tenure contracts. If the states are not committed to local empowerment, local communities might be best off if the state withdraws from dryland management and interferes as little as possible (Swift 1993, Scoones 1994). But perhaps, in due time the state elite may realize that their long-term political and economic interests might be served by strengthening the civil society and mobilising local organisations. There are signs that new attitudes develop to this end, influenced by popular demands and by debates with various donors.

In this regard it makes sense to present some requirements for *an enabling environment for local institution building* (see Shanmugaratnam et al 1992, FAO 1992, NOFA 1992). *Box 2.* and *Box 3.* provide some elements of a new policy, legal and administrative framework. An institutional framework of this sort must ensure tenure security by providing political and judicial stability, mechanism for resolving conflicts over land rights, and effective enforcement of property rights. Price policies, access to credit, technology, markets - as well as literacy, health and infrastructure - are all crucial ingredients of the broader agenda for institutional development. Open,

responsive, accountable and efficient state institutions are likely to provide the most effective support.

A first condition for successful property reforms is that they are formulated as a response to local demands. They should not be designed and implemented by 'well-meaning' donors. A second key requirement is that there exist governmental commitment and effective policy action, including the will to empower minority pastoral groups.

So far state law in most Sahelian countries have disregarded the recognition of customary tenure law, and especially pastoral access rights. It is important that in many African contexts, security of tenure is not guaranteed by the passage of law "but must be maintained through negotiation, adjudication and political manoeuvre". "If rights in land are defined through on-going, open-ended debate over authority and obligation as well as rules and practices, the security of farmers' rights (*or* pastoralists rights - my addition) depends on the terms in which they participate in such debates and in the domestic, judicial and bureaucratic arenas in which they occur." (Berry 1994:11).

Box 2. Possible strategies towards a policy and legal framework for local institution building

National policy and legal reforms: good governance

- 'good governance': creating governance practices that are legitimate and effective related to local empowerment and mobilisation
- review of tenure laws according to principles of procedural law
- building of efficient governance structure for law enforcement
- legal approval of local organisations to function as autonomous bodies in economic, resource management and tenorial affairs
- new tenure regimes to be based on principles of subsidiarity: management tasks should be carried out as near to the level of actual users of resources or beneficiaries as is compatible with efficiency and accountability (Swift 1993:3)
- upgrading of social services and basic infrastructure

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Economic policies: efficient and fair

- review of the impacts of macro-economic policies on vulnerable livestock and dryland
- producers who operate under extreme risks make local organisations focal points for the provision of social services
- privatisation and cost-sharing of production services when feasible and when present
- services are inefficient
- establishment of financial institutions (rural banks, credit and insurance mechanisms)
- legal recognition of local organisations as credit takers for defined investments and activities make drought contingency planning an integrated concern of economic policies

Pastoral and village organisations - in collaboration with local government - could play a constructive role in conflict-resolution among opposing groups, and in controlling banditry. For this, an organisation needs delegated authority from the state. The ultimate responsibility for resolving conflicts and maintaining peace would always rest with the state.

Economic policies should mirror that pastoralism and livestock contribute substantially to national income and often represent the most economically and ecologically appropriate production in the drylands. Policies should focus more explicitly on institutional dimensions as an integrated concern of any pastoral or dryland development programme. They should meet intersectoral and integrated livelihood needs. Programmes should not be based on uncoordinated sectoral and commodity approaches to development (FAO 1992).

Conventional dryland management schemes have often been interventionist and inefficient. The ability of a government - central or local - to guarantee access rights to drylands depends largely on the degree of coherence between the national property laws and the common (or customary) tenure rules. A tenure regime would therefore have greatest chance of success if it can be founded on or legitimised through local norms and rules.

Box 3. Strategies towards responsive state administration and dryland management

- encourage decentralisation and real devolution of authority to facilitate genuine dialogue, flexibility in interventions, and reduction of overall costs to the central government
- develop local governments parallel to building of private organisations
- focus on timely administrative interventions, protection and investments in key rangeland resources (wells, wetlands, fodder banks) and crop land
- water point construction and animal health remain as important interventions to maintain healthy and high animal populations
- ownership of water points should be transferred to local organisations to avoid open access following the construction of public wells
- abandon fixed, exclusive land tenure titles, including ranching models in the Sahel
- build institutions for resolving tenure conflicts based on procedural law
- let organisations evolve around productive enterprises and technological change in crops and animal husbandry, fodder harvesting and processing (silage), dairying, meat production, and milk marketing
- private animal marketing should be strengthened to facilitate rapid destocking in cases of drought; measures for fast restocking is another concern
- drought preparedness: enable local organisations to play a key role in early warning systems, food security, fodder banks, feed supplements, and emergency animal treatment and destocking

But unless tenure reforms are more or less conducive to both customary tenure rules *and* market forces (as adjusted by state policies), it is likely that the transaction costs of enforcement will be insurmountable in the long term. It is for example difficult for a state to completely stop conversion of rangelands into crop land if the demand for new crop land is high. A new approach requires that state institutions and staff develop a good rapport and more positive attitudes towards dryland producers and respect for ethno-cultural identities of minority groups. Staff should act as facilitators, catalysts, convenors and colleagues (UNSO/UNDP 1994) (see *Box 3*).

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Building Human and Organisational Capabilities at Local Level

If natural resource management shall become an efficient rallying point for local organisations it is important that some common rules and regulations are developed within the local groups. Customary tenure regimes in the Sahel have often evolved from patterns of behaviour that are informally agreed upon over long periods of time. Hence, new formal rules or state laws may be difficult to introduce and get acceptance for.

The complexity of the customary tenure regimes is another difficulty. This is difficult to catch in statutory or substantive law as well as in donor-financed tenure reforms. These regimes have evolved from conditions of erratic rainfall and flood patterns, integrated production strategies, multiple species (animals, crops, trees, wild land resources), multiple ethnic groups and multiple ownership regimes to land, natural resources and animals. Access rights and control over resources are conditioned by complex socio-political structures. Local power-structures may shift rapidly to change rules of the game. In various and often unpredictable ways the state structures and market factors intervene to change local institutions and practices.

Individual use rights under the community-based tenure regimes are appropriated in a variety of ways. Access to commons depend on ethnicity, residence, kinship, family, friendship, and gender relations. Access to new land might be free of charge or involve payments in cash or kind to the 'land owner'. Informal land markets have developed in many locations. Both customary leaders and state officials are involved in informal and often 'illegal' transfer of land rights. Payments for land may range from symbolic gifts to more substantial amounts. Many farmers use land under tenancy arrangements with aristocratic - sometimes pastoral families. Some of these contracts still resemble 'slavery'. Former dependants of land 'patrons' have been able to break away from "share tenancy" arrangements. They now cultivate land previously under customary control by their former masters. There also exist other important resource-sharing institutions between farmers and pastoralists with implications for tenure rights, such as exchange of milk and manure for water and crop residues. Pastoralists often have time

honoured rights of transit or access to pastures in zones dominated by farm land.

Institution building programmes need to reflect the local complexities. But this cannot easily be done. Customary rules are never clear cut. As a minimum new tenure organisations need to develop some common understanding of who is and who is not a member, what access rights to resources the membership conveys, what duties must be fulfilled, how decisions will be made regarding co-ordinated actions, and how conflicts over these patterns will be solved. The rules governing behaviour must be clearly understood by everyone (Ostrom 1990 and 1992). The system of "membership" must guarantee members certain tangible benefits that non-members do not obtain, and rules must be enforced efficiently. Furthermore, decision makers among the appropriators - as well as within the government - should be accountable to some degree to the members. The organisation also needs sufficient autonomy in the management of its resources, in the determination of priorities, and in the collection of revenues. This raises the issue of leadership quality and capability to mobilise people, to deal with external relations, and to meet 'modern needs'. It is important for members of the organisation to be literate, informed and possess particular skills. This also relates to the issue of how the customary organisations operate and to what degree these institutions can serve as basis for improved management regimes (Swift 1988 and 1989, and Niamir 1990 and 1991). These organisations are often hierarchical and lack accountability, and representativeness. Customary leaders are generally not literate and may be unable to fulfil the new roles demanded of them. They can, however, be successfully replaced by the more literate and skilled (Vedeld 1992, UNSO/UNDP 1994). New organisations often evolve (or can be formed) if customary institutions fail completely in meeting new requirements. Special attention are needed to encouraging the participation of women in formal and informal organisations with decision-making power in land management. Women seldom have rights to land.

Ultimately, the viability of a local organisation will depend on its efficiency in providing food and resource security for its members. If it is a new formal organisation established through external initiatives, it must also be able to maintain a certain economic and financial independence from this assistance. This

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would require the introduction of income generating activities, water and grazing charges, or membership fees. This also requires provision of services or other benefits to members.

Hence, institutional reforms in dryland development are not related only to tenure and natural resources management. Institution building must deal with a host of problems ranging from policy incentives and tenure laws to the socio-economic and civil security of pastoral and agro-pastoral groups. Dryland producers today find themselves in a world which demands new skills in management of range and dryland agriculture. They need knowledge of the official language to communicate with the government, to comprehend the official tenure laws, to deal with political organisations, to struggle for better marketing facilities and more reasonable terms of trade, and to relate to rural banks and other sources of credit. Overall they need new skills in management of new local institutions, including simple book-keeping. They may also need skills to become more attractive in labour markets outside the land-based sectors. Finally they need organisational structures that can promote their economic and political interests at local and national levels (Shanmugaratnam et al 1992, Vedeld 1992).

Programmes for strengthening human and institutional capabilities should first be directed towards the potential leadership, but should also reach the ordinary members. In addition to skills listed above, focus should be on paralegal training in national legislation and administrative procedures, and ways of mobilising people for collective activities.

Box 4. Possible stages in formation of pastoral organisations (POs) through state- or donor-supported programmes (Shanmugaratnam et al 1992):

Experiences with formation of pastoral organisations in four West African countries indicate that there is no simple model for POs for natural resources management (NRM). The sequence, timing and introduction of new activities in the formation process will necessarily change from one locality to another, depending on local resources, site-specificity of the development problems, and on external factors. The institution building process may be conceived as a continuum involving five main stages.

- **stage 1: identification (1-2 years)** initial dialogue and mobilisation, agreements on problem areas and general principles for NRM, assessment of local capacity and priorities for NRM, election of PO board, identification of key resources and wells (types, ownership, functions, maintenance needs) and needs for new wells, establishment of Management Committees at settlement level particularly for water point management - but in general as building blocks for NRM at the higher level, principles for tenurial contracts to key resources (e.g. wells), animation and introduction to principles of resource management, health service and literacy training through national programmes, support to basic infrastructure and other services;
- **stage 2: motivation and mobilisation (2-3 years)** introduction of membership rules, establishment of PO bank account, training and mobilisation of board members and traditional leaders, training of pastoral agents, remuneration systems for pastoral agents, establishment of low cost pastoral centres on cost-sharing principles, identification of sites for well construction, assessment of principles for transferring government wells to PO managed wells ;
- **stage 3: introduction of other income generating activities and NRM (3-5 years)** intensive training of Management Committees and PO board members, introduction of revolving fund for veterinary pharmacies to the best functioning POs, water development, transfer of government wells to PO wells, introduction of simple grazing management principles, systems of water charges, grazing fees, and fines for illegal actions, more intensive government support;
- **stage 4: consolidation and further expansion (5-10 years),** training and government services to continue at high intensity, new activities to be introduced depending on performance and needs e.g. food security, gardening/agro-forestry, marketing, animal fattening, milk production and marketing;
- **stage 5: self-management (10-20 years)** gradual reduction of government support according to the economic and financial viability and performance of the POs in NRM and other activities.

Pastoral women need particular encouragement in training and mobilisation. Where large dryland populations exist, local organisations could unite to form regional and national organisations - as nested enterprises. The mandate of such organisations could be to act as lobby groups and advocates for rights of minority groups, to be an intermediary between local organisations and technical services, to provide legal advice, to stimulate action by different technical services, to disseminate information and research findings (FAO 1992:13, see also Shanmugaratnam et al 1992). *A tentative model for formation of*

pastoral organisations for natural resources management through state- or donor-supported programmes is provided in *Box 4* above. This builds on the World Bank approach, but avoids the land titling exercise and broadens the scope of the exercise. It does not involve the preparation of any sophisticated land use plan.

Conclusions

1. Procedural law rather than substantive law

In order for customary tenure regimes to be recognised in state law, they must be described in one way or another. That also means they must be categorised. But the complexity and flexibility inherent in customary law make generalisation and categorisation according to recognised legal concepts - or social science concepts - difficult. On the one hand, such customary tenure regimes cannot be described by the general categories of non-property, common property, state and private property. Such simplified and Western categorisation will not catch the local diversity and dynamism. These customary institutions are continuously reworked and reinterpreted (Berry 1994). If rigid tenure categories are enforced by the state flexibility would easily be constrained.¹²

On the other hand, our understanding of how common property regimes operate, even under less fluid and more predictable conditions than in the Sahelian setting, is still insufficient. A tenure reform through substantive law presupposes - to some degree - that tenure organisations and institutions are more or less permanent, when in fact no condition is permanent. Everything is open to negotiation, particularly in times of resource scarcity (e.g. drought). A tenure conflict settled through one channel, might often be re-opened through other channels.

Rather than introducing rigid titles through *substantive law* (*rules of right which the courts are called upon to apply*), solutions to tenure policy dilemmas might lie in the introduction

¹² The effect of the state initiated tenure reforms of the 'terroir' approach might, however, be more positive under conditions of high potential agriculture, with for example 100 persons/sq. km in the higher rainfall areas, more commercial agriculture, with good market access, and access to technology (fertiliser, irrigation) as compared to areas of 5 persons/sq. km with marginal crop yields, more herding and little surplus for sale (see Tiffen and Mortimore 1994).

of *procedural law (rules of procedure)* (Vedeld 1993). Instead of legislatively dictating detailed property rights to pastoral or agricultural resources, the procedural law could specify an enabling framework within which the concerned parties could legitimately put forward their claims to a certain resource. It would include rules for which type of conflict should be solved through what channels and at what levels in an institutional hierarchy. This institutional framework would be embedded in the local culture and customary law. A point of departure would be a better understanding of 'local law' as practised today. 'Local law' represents the outcome of the encounter between state law and customary law in mediation over tenure disputes at local level. This would imply a recognition of land tenure reforms as a continuous participatory process - not as a top down exercise initiated by the state and embedded in state law and practice. In order to become legitimate, solutions to land use and land tenure conflicts should evolve from local struggles and processes. The state is often too authoritarian and too weak (administratively, economically and professionally) to carry out efficient law enforcement. The building of independent 'land tenure commissions' at district levels with majority representation from local and pastoral communities and/or special 'land tenure courts' could facilitate the process. These institutions could be assisted by staff trained both in customary and state law. Local pastoral and village organisations could be delegated adequate authority to form the basis for such institutions. Over time, a jurisprudence would develop and competence in the processing organisations be built. Certain general laws or regulations could be developed based on principles of customary laws and institutions, which would catch local complexities while giving guidance on how to judge between opposing parties. The more precise modalities for a procedural institutional framework would have to be worked on further. A key issue is the role of the state within such new tenure institutions.

2. State, markets and local regimes

The devolution of control to local organisations and institutions, needs to strike a balance between the state, market, local government and other actors. Decentralisation, more reliance on the market, and establishment of local organisations to assume responsibility for land management should not become an excuse for the central government to withdraw its services and support

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to dryland communities. On the contrary, the government has important roles to fulfil, among others in enforcing property rights, providing services, maintaining civil security, and ensuring that the market operates efficiently and fair.

The political and economic signals from dryland communities of the Sahel might have been strong enough to induce certain policy and institutional changes among governments. But whether this will also entail significant change of practices with real improvements at local level is still an open question. State policies tend to be implemented selectively according to the interests, powers and tactics of competing groups within the state institutions (Blaikie 1985). The new agenda for dryland management is not likely to attract the full or required attention from the central governments. And if the agenda is perceived to run counter to most powerful interests in society, limited success will be achieved, especially if programmes are implemented within the state structures. Still there might be scope for pilot operations to further a continuous change of attitudes and ideas about the potential benefits from such programmes.

Many donors and NGOs have seen the limitations of working with or within inefficient state structures. Some projects may stand a better chance the less they have to do with the state. But working outside the state structures has also its limitations. The local communities are diverse and heterogeneous representing people of different ethnicities, socio-professions, social status and wealth. Local groups face conflicting interests, which cannot always be solved locally. Customary organisations of paternalistic, feudal and tribal traditions are not necessarily accountable to the local people, nor to the government in a 'democratic' sense. It may be dangerous to be romantic about the role of customary leaders regarding efficiency in management of resources, equity and civil security. In order for new decision-making structures to become legitimate under changing political climates, more democratic institutions are often required. This means that also young educated men and women, and minority groups need firmer representation in new organisations dealing with the management of vital resources. But customary leaders cannot easily be by-passed.

Box 5. Institutional programme design principles in uncertain environments (adapted from Scoones 1994:30, and Vedeld 1992:43)

- ensure that governments have fulfilled certain minimum requirements regarding an enabling framework for local institutions, and commitment to the programme
- adopt a long term, broad and flexible approach to development (min. 15 years)
- start small and build up, focusing on the strengthening of institutional capacities at local level
- acquire a good information base on the local ecology, communities, and production systems
- resist unrealistic investments and disbursement targets
- build sufficient internal competence in the implementing agencies to deal with local institutional issues; institution building is complex and time consuming
- learn from experience; adopt flexible institutional and organisational models; avoid instituting rigid tenure limits; be prepared for unexpected events (drought)
- a diversity of different organisations at different levels and with different functions may best serve the local communities - customary, mixed, NGOs, private entrepreneurs, local government, state agencies; improve co-ordination between actors
- literacy and skills training (also for women), health services, and infrastructure are important ingredients of institution building
- make realistic and broader assessments of economic and social costs involved in the conversion of commons (grazing) to individual tenure (crop land)
- efforts to influence the policy, institutional and infrastructural frameworks, might require more attention than project-related interventions like rangeland management schemes or diffusion of technologies for land productivity increases
- support legal cases, policy advocacy and lobbying in order to counter an otherwise disabling political-economic environment

A real empowerment of farmers and pastoralists means more power to ethnically and regionally based organisations. Decentralisation of authority and political-economic mobilisation of dryland populations carry seeds for progress. The encouragement of struggles for powers and interests from below is a vital element of a new agenda. Local movements may change governments, which are never monolithic. Societies often develop through solving conflicts of interests. But recent events, in Africa and other places (e.g. Eastern Europe), show that there are potentials for open conflicts and even civil war when authoritarian states withdraw and leave more power to local

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organisations and market forces. African countries have great ethnic diversity and a long history of tribal rivalry. These conflicts may grow worse if the right balance is not found in the sharing of rights, duties and powers between state, market and private agents.

There is an obvious role for donors and NGOs within the new agenda as financiers, facilitators and technical advisers. A new and more difficult role might be as mobilisers and mediators between conflicting interests - within the state as well as between state and various local or private interests. But dealing with conflicts is a delicate and complex business, which requires new skills, tact and new approaches. Hence, donors will also need to take a fresh look at internal capabilities. Some general principles for institutional programmes that follow from a new agenda to dryland management is provided in *Box 5*.

There is little proof in recent literature on tenure reforms in Africa to suggest that a state guaranteed land title will change investment or management strategies much among pastoral and agricultural producers in Africa. But there might be more fundamental reasons why a recognition of local tenure rights is felt needed by local communities. **I believe that more than this is related to the need to safeguard particular natural resources investments, it goes to the heart of the relation between the state and the people.** The main thrust of the official tenure laws in Sahelian Africa is state ownership. There is nothing in the official land tenure laws telling the people that the state will stand up for people's customary tenure or territorial rights which they have fought for through history and which is by and large recognised locally. On the contrary the state has in laws and practices often made property rights and relations less predictable and secure. People perceive the state to expropriate land for irrigation, to penalise people for slash and burn cultivation and for cutting trees, and to unduly restrict transhumance. In tenure disputes people perceive the administration and the legal system to judge in favour of the most influential part. People distrust their government, the judicial system and have no notion of a constitutional (democratic and 'fair') government.

What is needed in terms of tenure reforms is therefore a legal change in text and *practice* that may start the long path of building trust - trust in the administration and in the legal

system. The broader agenda for development is how to build a constitutional (democratic) government that guarantee the 'Rule of Law'. Hence, a change in the legal system, as proposed by the new law texts prepared under the tenure reforms of the projects reviewed here, may not change much at local level unless state practices change. Again this is a concern beyond what the projects can expect to address.¹³ Yet these tenure approaches need to consider these broader concerns to become effective. It is of no use and can even be harmful to introduce a legal text if it doesn't match *both* national and local interests.

In order to ensure that new tenure legislation is designed and enforced to meet local concerns in an efficient manner, we also need to know if the legal reform is mainly meant to solve inter or intra-village tenure conflicts or to protect against state interventions/expropriation?¹⁴ Everyday tenure problems and conflicts are often site-specific and related to particularities of ecological and socio-political conditions. Hence, different legislative measures are needed in different zones. Particularly in pastoral zones or zones where pastoralism and crop cultivation compete for the same land tenure, conflicts are mostly associated with contests over historic rights between different ethnic groups more than in between individuals of the same community. But such historic conflicts are not easily solved through the rapid diagnosis of these tenure approaches. Moreover, these tenure conflicts *between* villages seldom threaten the general tenure security of individual land users *within* the village communities.

Generally speaking, there are often local rules which guarantee a minimum of tenure security needed for most inhabitants (except for women) and for most types of resources. These rules may be unfair, contested and conflictual. But these conflicts are mostly

¹³ It is increasingly recognised in the literature that the constitutional government and a predictable and fair legal system is an important precondition for sustainable use of resources and for economic development in general. Some researchers even suggest as a working hypothesis that the wealth of nations depends more on the constitutional government and the 'Rule of Law' than on 'free competition' between economic actors. An actor can be free only to the degree the constitutional government gives all citizens freedom within the limits of the law.

¹⁴ What interests would the state, generally speaking, have in expropriating an agro-forestry or an anti-erosive plot? Only in particular cases, for example where the state has interests in irrigation will the local tenure security be threatened.

solved within the realm of the community. What is really needed is tenure conflict resolution mechanisms that can *facilitate* the *negotiations* that are continuously going on over tenure rights. A land tenure reform that follows principles of **procedural law** could be made more in tune with local realities and practices. It could also avoid becoming a top-down legal reform.

Appendix I: The State and New Paradigms in Common Property

Rules governing the use of natural resources generally depend on the customary tenure regime and the state's laws, policies and practices. Such rules interact with market forces to create the institutional framework within which individuals or groups may act.¹⁵ Two important issues arise from this. The first concerns the more precise relations between rules for holding and using the common rangelands and the degree of sustainability and efficiency of the resources. The second is what role the state ought to fill, versus the market and private agents and organisations, in creating an enabling environment which allow new tenure rules to evolve.

¹⁵ Effects of the international and national markets on input and output prices in livestock and crop production respectively - will not be treated here. But the market - adjusted by state policies - have significant effect on local land use systems - and in turn - on tenure relations. Important premises for national prices are set internationally. For example, the market for livestock products in coastal West Africa dropped substantially due to increasing imports of frozen meat from EC countries, and due to these countries developing their own livestock sector. This has direct repercussions on pastoral producers in the Sahel, who often sell a considerable share of their livestock for these markets (Turner 1992, OCDE/CILSS 1990). The recent 50% devaluation of the FCFA (January 1994), pushed through by IMF/World Bank, has now re-opened the market for cattle in Côte d'Ivoire. Sahelian meat now compete with frozen meat imports, and cattle prices have doubled in Burkina Faso (Haramata, no.24, 1994). Moreover, subsidised world grain prices and agricultural products and food-aid, lowers producer prices and changes local price relations (decided in Brussels). And budget deficits in the US create high world-wide interest rates which discourage productivity investments in Third World countries and enhance resource-mining (decided in Washington) (Lipton 1992).

1. The developmental state

There are differences in perspectives about the role of the state in development between liberal and structuralists schools of thought. But "both agree on its decisive importance" (Berge 1991:159). Tilly (1978) suggests that the state can be regarded as a special type of organisation distinct from the surrounding society. The state has its particular interests and has established almost complete hegemony over a given territory. This hegemony, according to Tilly, should be regarded as being continuously challenged from within and/or from outside. The legitimacy of this state should be perceived as an empirical problem, something which the state administration normally does not have, but which it can achieve (through various, not always commonly acceptable means). Related to local or pastoral institution building a main point would be to investigate:

- if the state is able or willing to encourage, liberate and mobilise individual and collective forces latent in the local communities necessary to build new dynamic organisations, and
- if the local organisations develop competence and capability in resource management and voice demands (or defect) in relation to how the state acts and organises itself.

When popular movements gain power and become an integrated force of the nation-state it is often a consequence of a power struggle vis-à-vis the state under which the state provides services, allocates economic resources, solves conflicts and grants privileges or rights as response to local demands or compensation for contributions provided by the organisation (Gran 1989). But the state is not neutral. It plays ambiguous roles and has its own interests. It controls economic, fiscal and tenurial policies. It sets premises for development programmes. It enforces property rights. It claims ownership to most of the pastoral and agricultural resources (while its management of these is inadequate and unpredictable). It aims at a feasible maximum extraction of surplus from local production systems, while there is little surplus to extract from poor and drought stricken dryland producers. It has monopoly in use of physical violence and maintenance of law and order. The Sahelian state elites are typically recruited from agricultural or non-pastoral ethnic

groups. (Mauritania is an exception.) Dryland minority groups have very weak representation in political and administrative institutions. The state and state elite will mostly have greater interest in an investment programme for (irrigated) rice development, where it can control a larger share of both the input and the output streams, than in a livestock development programme among "un-captured" pastoralists producing milk or meat for markets outside state control. Many officials of the state elite are absentee owners of livestock and investors in agriculture with interest in easy access to common resources. A cynical perspective would be that a country-wide strategy for building new property regimes to arrest or mitigate environmental degradation would be launched only if the accumulation possibilities of the dominant economic and political interests are perceived to be seriously threatened (Blaikie 1985). And it would be designed by these interests first of all to meet their own needs.

This paper does not treat the role of the state at any depth. But looking at the history of state intervention in the Sahelian countries, more attention should be directed to the role of the state and the state elites in decision-making and development. It has to be explained why so many governments persistently maintain policies and practices which encourage unsustainable resource use.

2. The commons

Behaviour and processes at local levels are conditioned by the external institutional structures. Pastoral and village organisations and individuals react to these structures in different ways. Some are able to change rules of the game to their own benefit, but the majority seems to fail.

Study of organisational change is analysing governance structures, skills, strategies, coordination and how learning by doing change organisational success over time. Organisational changes are fundamentally influenced by the evolution of the institutional framework (North 1990:3). Hence, the formation of a new organisational structure, say a new tenure organisation, will not necessarily lead to change of practices. Practice changes would also require changes of tenure rules and relevant institutions. These might be firmly embedded in the deep culture. They may not necessarily evolve with the

organisational changes, especially if the organisation is constructed through initiatives external or foreign to the local culture.

At household level, the most important determinants of status and decision-making influence, for example in defending a tenure right, would be the household's combined entitlements and capabilities.¹⁶ These decide capacities to command and use the local resources. The most critical entitlement would be access to arable land and/or common pastures and control over the stream of benefits deriving from its use. Such entitlements are received by virtue of one's status as member of an ethnic group, a local (customary) organisation or as a citizen (Shanmugaratnam et al 1992a).

Economic models, based on neo-classical and/or institutional economics, have been developed for predicting resource use under various property regimes: state, private, common, open access. A recent overview article outlines different schools of thought on common property theory related to dryland management (Lane and Morehead 1993). This shows an advancement in theory from early-Hardin to the "assurance problem" school. Hardin and early game-theoreticians portrayed pastoralists as 'prisoners in a dilemma' based on a non-co-operative/one-game model and standard neo-classical economy. Under the "assurance" model, influenced by institutional economics, pastoralists would be assumed to learn from earlier experiences and therefore begin to predict the decisions of others. They would create institutions to co-ordinate their actions (Runge 1981 and 1986, Bromley 1992, see also Lipton 1993). Efforts during the 1960s and 1970s to introduce tenure reforms in the common rangelands of the Sahel were inspired by Hardin's (early) "Tragedy of the Commons" theory. The pastoralists were viewed as destructive in their patterns of resource use, involving rapid build up of high stocking rates in good years.¹⁷ Factors behind the overuse were conceived to be

¹⁶ Entitlements of a person refer to the capability to command goods and services within a given legal and political-economic context. Capabilities are dependent on resource endowments (labour, capital, land), knowledge and skills (Sen 1987, Drèze and Sen 1990).

¹⁷ The theoretical foundation for Hardin's model was provided through the prisoners' dilemma argument in game theory. If two herders with privately owned cattle compete for the same common resource and have a choice between protecting or degrading, each will rationally choose to degrade for immediate benefits. If he protects the other is likely to choose

mainly *internal* to the local communities. Rangeland management policies involved settlement and private or group titling to rangelands modelled over Western meat ranches. This would, according to theory, allow a better control of livestock numbers below a defined carrying capacity for the rangeland resources and improved willingness among pastoralists to invest in range productivity measures.¹⁸ Efforts to privatise common rangelands often failed to stop overuse, while contributing to increased inequality in resource distribution and tenure conflicts. Management focused on keeping factors stable, while the productivity of these ecosystems was highly variable and dynamic (Sanford 1983, Shanmugaratnam et al 1992). Small farmers have also been seen as practising destructive shifting cultivation systems involving deforestation and depletion of soil fertility on common crop land. Neither the pastoral nor the agricultural commons in the Sahel are as a rule held under 'open access' regimes. They are normally under some sort of 'controlled' common property regime. Due to failures of understanding local tenure regimes and ecological characteristics, and an overriding concern of governments to increase control over pastoralists and farmers in the name of development, such state-induced tenure interventions tended to fail.

The 'new paradigm' of the assurance game "suggests that cooperative institutional rules are endogenous adaptive responses to the problem of uncertainty about expected actions of others" (Runge 1981). Runge claims that there are "a number of reasons why common property may continue to be both efficient and equitable, complementing and combining with private rights in a way consistent with the resource endowments of village economies" (Runge 1986:623). 'Village economies' are characterised by strong social interactions and interdependencies. Under such conditions individuals are likely to act for the common good in response to the assurance that others will co-operate in the management of scarce commons. Local organisations would respond to increasing pressures or to

to exploit - partly at the first one's expense. The costs (in terms of pasture degradation) of each individual adding cattle are shared by the whole community. This would - theoretically - lead to 'overstocking', 'overgrazing' and tragedies seen as widespread 'desertification'. "Each man is locked into a system that compels him to increase his herd without limit - in a world that is limited" (Hardin 1244:1968).

¹⁸ This would also imply firmer political and economic control with the pastoralists and pastoral production.

changing incentives by new institutional innovations to reduce uncertainty and co-ordinate expectations.¹⁹ Pastoralists and farmers do - by and large - have tenure rules and systems for regulating access to resources.²⁰ But pastoralists seldom have institutions for regulating internal stocking rates. In times of resource scarcity, pastoral communities often attempt to expand their territories and resource entitlements, or expel their neighbours/kins, rather than to destock and adjust numbers to available grazing within their territory (Behnke 1994). This may reflect that stocking rates are normally controlled by factors such as drought, disease and fire. Overgrazing leading to desertification does not seem to be a widespread phenomenon. When overgrazing does appear, it would according to the theory first of all result from inability of interdependent individuals to co-ordinate their actions. This would occur if uncertainties arise as to which are the legitimate authorities or rules to control access and resource use. Empirical studies, underpinned by new theories, suggest that customary common property regimes are often undermined by factors *external* to the local community, such as state policy, law and practice in combination with market integration, drought, and arable encroachment on the rangelands. If local regimes break down, tragedies are likely to occur. But the "Tragedy of the Commons" is not a useful generalization of local patterns of resource use (Moorehead 1991, Vedeld 1993a).

¹⁹ Lawry (1989) provides some critical remarks to this theory. He argues that 'village economies' are not so isolated as suggested by Runge's model. They are continuously opening up due to increased market integration. Moreover, individuals have alternative income resources to declining common property resources - including income from non-land based activities. For many individual users the economic returns to collective action will be marginal or even negative - especially related to low-value commons (pastures). Finally, customary authority is losing ground to state authority. Such factors reduce the stimulus for collective action, and can lead to greater competition and not co-operation in the use of the commons. While Lawry emphasises market integration as a major factor in opening up the village economies and access to the commons, Moorehead (1991) tends to focus on the interventionist state, which erodes the authority of local tenure regimes, provides powerful 'outsiders' access to the local resources, and enhance tragedies.

²⁰ These systems may be non-stratified, flexible and dynamic almost to the point of being fluid. But they may also be centralised, rigid, sophisticated and relatively robust, like for example the Dina system in the Inland Niger Delta of Mali (Moorehead 1991).

The 'new paradigm' provides arguments for a shift in policy prescriptions away from viewing pastoralists as 'prisoners in a dilemma'. This points to a more fruitful research and development agenda. Focus would change towards the analysis of policy and institutional conditions which may enable interdependent producers to co-ordinate actions in the use of common property. Part of this agenda involves the analysis of design principles for tenure regimes that avoid tragedies and enhance capabilities to manage resources (Ostrom 1990 and 1992). But in detailed design of programmes, the general theories are still of "limited usefulness for guiding livestock and rangeland policies because they fail to account for the diversity of institutions, government structures, production techniques, and environmental conditions that characterise those regimes" (Swallow and Bromley 1991). The models are not yet conclusive and do need further empirical testing (Lane and Moorehead 1993).

Recent research linking ecological theory to property theory, has brought us closer to understanding why the customary common property regimes are relatively efficient adaptations to the non-equilibrium and risk-prone ecological systems of the Sahel (Swallow and Bromley 1992, Moorehead 1991, Behnke et al 1993, Behnke 1994, Lane and Moorehead 1993, Swift 1993, Cousins 1993, Bonfiglioli and Watson 1993, NOPA 1992, Shanmugaratnam et al 1992, Vedeld 1992). The rangeland ecology exposes great spatial heterogeneity of production, which presupposes high animal movement and flexibility in tenure rules as a precondition for efficient exploitation of the local resources.²¹ Opportunistic pastoral production systems, with their boom and bust cycles, make economic sense. If these

²¹ Current research on rangeland ecology stress that the ecosystems of the drier Sahelian rangelands are often never in balance, but exhibit great variability in production more or less independent of the grazing pressure and number of cattle. In African dry savannahs, rainfall variability and other episodic events (disease, fire) more than anything control plant and animal populations. As rainfall becomes lower and more erratic, and pasture production more variable in time and space, non equilibrium dynamics appear. The grazing systems may be in constant disequilibrium. In such situations, destocking and removal of grazing pressure will not necessarily lead to restoration of vegetation and a new balance (Ellis and Swift 1988, Behnke 1992, Behnke and Scoones 1992, Behnke et al 1993, Behnke 1994, Scoones 1994). I would add however that degradation could occur under conditions where animal mortality is efficiently checked and animal numbers continue to grow even during events like droughts (through provisions of e.g. wells, feed supplements, animal health service).

new ecological theories prove valid, it should also be accepted that the drier rangelands are mostly relatively robust and resilient. This presupposes rangeland policies that are more concerned about resolution of resource access conflicts/equity/civil security/drought preparedness and economic efficient management - and less concerned with the regulation of 'overstocking', rangeland degradation and 'desertification'. Strict regulatory measures would be unrealistic and inefficient under the drier rangelands with ecological conditions of great variability (less than 3-400 mm). Law and governance structures of rangelands would be more focused on regulation of *access rights* to key resources rather than on *controlling resource utilisation* and stocking rates on a wide scale (Behnke 1994). Management should be limited to focused interventions related to key resources coinciding with key events, for example a drought or disease, combined with periods of minimal administrative interference. It requires a "focus on *timely intervention*, in the sense that intervention at some times is pointless, at other critical" ... for example, "removal of grazing may not cause any shift from a degraded condition, unless and until some other combination of other conditions, such as fire and rain, allows a re-establishment of lost plants" (Behnke et al 1993:219). Under the wetter rangelands, the regulation of stocking rates according to available pasture and estimated carrying capacities of the range would become more of a concern (Behnke and Scoones 1991:22, Behnke et al 1993, Behnke 1994). Overall, there is little evidence of 'overgrazing' being a major *environmental* problem in the drier rangeland areas, except for the destruction of trees and bush vegetation by goats. But pastoral and woodland resources are dwindling, soils are being mined, and there are frequent periods of fodder scarcity. (To what degree this follows from acts of man or change of climate is uncertain.) These *economic and institutional* management problems require regimes that can minimise economic loss and resource use conflicts under uncertainty. Here lies the major management challenge.

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