


7-6

Policy Measures for Pastoralists in Niger

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Executive Summary

Pastoralism is often misunderstood, labeled “backward” and “irrational,” and considered environmentally destructive by many policy makers. Bias toward settled farmers has historically dominated research institutions, governments, and development nongovernmental organizations (NGOs), and some countries have attempted to forcibly settle their pastoralist populations. In many arid and semi-arid regions, however, pastoralism is the best or only way humans can make productive use of natural resources. Pastoralists have adjusted to some of the harshest conditions in the world and have well-designed, adaptive livelihood strategies. In addition, pastoralists contribute to one of the strongest export sectors in certain countries—the meat market.

Over the past few decades, multiple factors have threatened the livelihoods of Niger’s pastoralists, causing pastoralists and agropastoralists to be some of the most food-insecure populations in the country. These factors include severe droughts, a decrease in accessible grazing land due to increased land pressure from growing farming populations, conflict over land, environmental degradation, and changing land tenure laws, which often bring ambiguity and a bias toward settled farmers. Mobility and access to grazing lands and water are essential to pastoralists’ livelihoods and are their most important risk management strategies. Even with well-designed livelihood strategies, if pastoralists lack access to secure grazing areas and water points, their livelihoods are in jeopardy.

In an effort to better manage natural resources and protect its public goods, Niger’s government has created a law that redefines who can claim land, who can use land, and who mediates conflicts over land. This law follows a trend among countries in the region, which have created laws devolving natural resource management to local communities, placing more control in the hands of community members themselves. Often, however, such laws have led pastoralists living in agropastoral zones to lose access to grazing land.

Today, some policy makers ask if pastoralism can evolve, possibly by being integrated with farming, or if it is bound to fade away, consumed by modern society. Vital policies for sustaining and improving pastoralists’ livelihoods include drafting

realistic laws or mechanisms to facilitate ease of mobility and access to land. Other policy options include designing strategies to help pastoralists out of emergency situations caused by drought, improving market possibilities for livestock, promoting cooperation between settled and nonsettled groups, and conducting research into livestock management and mixed farming systems improvement.

Your assignment is to create a policy package that would preserve the livelihoods of Niger’s pastoralists. You must take into account the multiple interactions, needs, and priorities of all stakeholders and design policies that can support the livelihoods of all of these groups. You must also consider who has the capacity and which party or parties are best suited to enact these policy options.

Background

Arid or semi-arid lands cover 43 percent of Sub-Saharan Africa (SSA), with 50 million pastoralists living in these regions (Dixon et al. 2001). Pastoralists’ main source of livelihood is the raising and sale of livestock. They often move seasonally with their herds in search of fresh pasture and water, but there are many types of pastoral systems, ranging from completely mobile to completely sedentary systems, including nomadic or transhumant¹ and agropastoral transhumant systems. The United Nations Development Programme (UNDP) considers a household “pastoralist” if more than 50 percent of its gross household income comes from livestock goods (milk or meat) produced and consumed using unimproved pastures (UNDP 2003). “Agropastoral” households earn more than 50 percent of their income from the cultivation of crops and 25 percent from livestock (UNDP 2003). Pastoral and agropastoral systems produce about 70 percent of the milk and meat in Sub-Saharan Africa (Ibrahim and Olaloku 2000).

Niger’s Pastoralists

The northern four-fifths of Niger is semi-arid or arid and is not habitable by agriculturalists because

¹Transhumance is the seasonal migration of livestock owners and their animals in search of grazing land.

it does not receive enough rainfall to support rainfed farming.² The best-adapted livelihoods in these dry areas are pastoralism and agropastoralism. The pastoral zone borders the desert—its northern limit is the Sahara Desert—and its southern limit is the northern edge of the agropastoral zone. The agropastoral zone is climatically unpredictable, receiving between 200 and 400 millimeters (mm) of rain annually, bordered by the pastoral zone to the north and the settled, rainfed agriculture zone to the south. The majority of the population of Niger consists of sedentary Hausa or Djerma farmers, who live in the rainfed agriculture zone or the semi-arid southern Sahel zone, which receives between 400 and 600 mm of rain a year. Figure 1 shows the food economy zones of Niger.

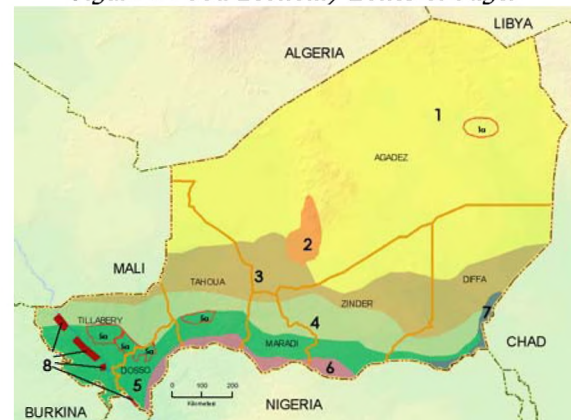
One group of pastoralists in Niger is the Fulani people,³ who have occupied the Sahel region of Africa (located just below the Sahara Desert and stretching across Africa from the Atlantic Ocean to the Red Sea) for thousands of years. They comprise about 9 percent of the population of Niger. Originally thought to be from the upper Nile region dating back to around 2000 BCE, the Fulani people migrated across the Sahara Desert as the desert climate became less hospitable. A large share of Fulanis across the Sahel have either adopted an agropastoral livelihood or settled permanently in villages. Most Fulanis living in the agropastoral zone practice an agropastoral transhumant lifestyle, sending certain members of a family to accompany the family's herds, often for months at a time.

Niger's other large pastoralist group is the Tuareg people, who make up about 8 percent of the population. Most Tuaregs raise camels, sheep, and goats in the pastoral zone, whereas Fulanis raise cattle, sheep, and goats in the agropastoral zone.

Some argue that pastoralist livelihoods are threatened, as diminishing grazing lands, encroaching farmland, drought, environmental degradation, and poor policy threaten their traditional way of life. The encroachment of farmland is particularly worrisome for agropastoral Fulanis who live close to

settled farmers and are therefore more likely to interact and possibly clash with farmers over land. Although many analysts are quick to identify poor natural resource management, climate variability, and drought as factors that threaten pastoralists, others argue that economic, social, and institutional factors are equally to blame for destabilizing pastoralist communities (Batterbury and Forsyth 1999).

Figure 1: Food Economy Zones of Niger



- Zone 1 — Sahara Desert
- Zone 2 — Air mountain cultivation zone
- Zone 3 — Pastoral zone
- Zone 4 — Agropastoral zone
- Zone 5 — Rainfed agriculture zone
- Zone 5a — Subzones at high out-migration for work
- Zone 6 — Southern irrigated cash crop zone
- Zone 7 — Komadougou River and Lake Chad cash crop zone
- Zone 8 — Niger River irrigated rice zone

Source: FEWS NET 2005.

Pastoralists have adapted to arid and semi-arid environments by employing a complex system of livelihood strategies developed over thousands of years in response to climatic variation, seasonal changes, and drought. The most important of these livelihood strategies are mobility and access to grazing land. Moving livestock to different pastures is essential for minimizing exposure to erratic rainfall and “reliable access to a wide range of pasture resources has long been essential to the viability and sustainability” of pastoral systems (McCarthy et al. 2004, vii). Other commonly used livelihood strategies include settling for a rainy season to grow cereals, migrating to cities or coastal countries to earn income during the dry season or after a drought year, and attempting to save productive animals in a crisis and selling nonproductive

²Pearl millet, the most widely grown crop in Niger requires between 250 and 700 mm of rainfall.

³There are different names for Fulanis, depending on the country, but they refer to themselves as Fulbe. Fulani is the Hausa designation, while Fula is the Mandinka term, and Peul is Wolof (see http://www.isp.msu.edu/afri/lng/Fula_root.htm).

animals. Because female livestock are needed to restock a herd, pastoralists will save female animals and sell males.

Niger's climate is harsh and unpredictable. Typically, there are three seasons a year—the rainy season, the cold season when the southwest Harmattan winds blow, and the hot season. The rainy season, which most of the country depends on for cereal and forage production, runs from June to September. In semi-arid and arid areas, rainfall is highly variable, and rainfall levels fall sharply as one moves northward. During the rainy season, there is abundant grass with good nutrition available for herds. Herders and their animals can roam in the rangelands, and there is access to water, as seasonal ponds and rivers are filled. In the dry season, however, pastures do not offer nutritious grasses and shrubs, so herders are strategic about their movements. If there is not enough forage in one area, herders move with their animals to locations where there is sufficient feed. During the dry season, herders must stay within 15–25 kilometers (about 9–15 miles) of wells to assure that their herd is watered (Thébaud and Batterbury 2001).

As described, access to grazing areas is critical for pastoralists as a safeguard against multiple types of risk. Even though pastoralists can travel thousands of miles in a year with their herds, they often “favor a particular home territory based on pasture conditions, water courses and dry season wells” (Thébaud and Batterbury 2001, 73). These are lands that are not owned as private property, but instead governed as common pool (or property) resources (CPR).⁴ The grazing rights to these areas have been negotiated by families and pastoralist groups for hundreds of years.

Niger's government holds a unique blend of political, administrative, and traditional authority, and in many rural areas, a mix of traditional and “modern” authority prevails. Nomadic groups are traditionally governed by *chefs de groupements* (chiefs of pastoral groups), who govern only pastoral groups. They have no formal rights over land use.

⁴A common-pool resource (CPR) is a particular type of good consisting of a natural or human-made resource system, such as grazing lands or irrigation areas. CPRs are distinguished from public goods due to the difficulty in (1) excluding parties from utilizing CPRs and (2) preventing overuse or abuse by one party that would potentially make that resource less available to others.

Sedentary groups in Niger are traditionally governed by *chefs de cantons* (canton chiefs), who are responsible for “the management of defined territories, control tenure rights, and may also allocate cultivatable land” (Hammel 2001, 2). The *chef de canton* reports to an appointed government administrator, who is responsible for management at the local government level.

Relations of Fulanis with Farmers

Interactions between the agropastoral Fulanis and the Hausa and Djerma farmers reflect the evolution in farming systems. In the past, the two groups had a symbiotic relationship, in which herders cared for farmers' animals during the rainy season, taking them to open grazing lands north of the agricultural zone. Then the animals would not destroy crops growing in fields and would have access to more forage. Herders were traditionally compensated by farmers in grain at the end of the rainy season. In another form of cooperation, herders' animals were corralled onto a field during the dry season to allow the animals to contribute to soil fertility with their manure.

In recent years, the relationship between herders and farmers has shifted from being mostly complementary and cooperative to being more defined by conflict over natural resources. This change can be blamed partially on agricultural constraints in Niger, including a growing population, high demand for agricultural products in urban areas, increased land pressure and decreased farmland per capita, diminished resources, and changing farming systems. Today both groups are attempting to reduce their risk by diversifying their livelihood activities. Most settled farmers now include livestock production in their cropping systems, and some pastoralists are settling permanently or seasonally to farm. In settled rural and urban populations, women now raise cattle, sheep, and goats part time for consumption and as a form of income and savings (Tiffen 2004). In rural areas, farmers carry manure from these animals to fields to increase soil fertility, and the cattle are used for transport. Sedentary farmers are increasingly using crop residues to feed their own livestock during the dry season and using manure from their own livestock on their farms, thus depriving pastoralists of opportunities for income and of grazing lands (Tiffen 2004). Figure 2 depicts these changing relationships.

Some analysts doubt the direct link between scarce resources and conflict between stakeholders. They point out that social, political, and economic disputes are just as prevalent and instrumental in causing conflict (Moritz 2006). These sources of conflict include changes in land tenure laws, in natural resource management, and in market structures. They also argue that well-intended government and NGO projects have altered traditional interactions. For instance, Fulanis traditionally have a complex system of common property regimes through which access to water and pasture lands is negotiated between users. Individual ownership is rare, since groups depend on reciprocal arrangements to ensure mobility. In the 1980s, however, the government built watering points—cement-lined wells and boreholes—in eastern Niger. Conflict resulted as different pastoralist groups, including Tubu, Arabs, and Fulani, competed for water and land around the watering points (Thébaud and Batterbury 2001).

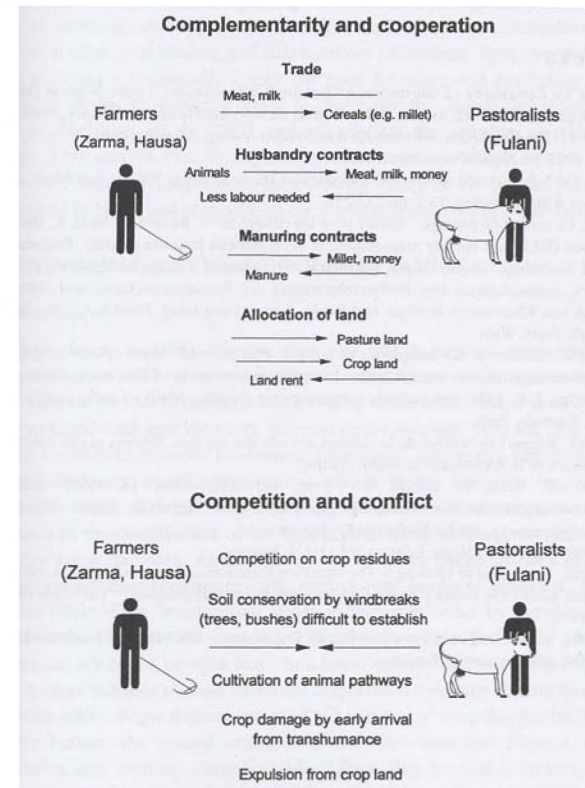
The Economy of Pastoralism

Fulani households raise cattle, ownership of which confers prestige, and smaller ruminants such as sheep and goats. Smaller ruminants have less-demanding fodder requirements, so they are less risky to raise. Given Niger's unimodal rainy season, pastoralists attempt to have the animals gain as much weight as they can during the rains, when grasses and residues are lush, and lose as little weight as possible in the dry season. Livestock numbers move in cycles; herds are larger in years or cycles of good rain and smaller in drought years. Animals are sold only when there is a need for cash or grain, because selling animals is the most economic (in financial and caloric terms) way for pastoralists to survive (FEWS NET 2005). In other words, pastoralists rely on animals more for income and savings than for direct consumption. A household can survive by selling 20 goats or sheep per year for a household of 8–10 people (FEWS NET 2005). Fulani women contribute to household income by selling milk or butter in villages during the rainy season, when milk production is highest.

Livestock is Niger's second overall export commodity after uranium. In 1997 livestock contributed 20 percent of Niger's export earnings. A 1993 livestock census estimated that Niger had approximately 2,991,000 tropical livestock units

(TLU),⁵ estimated to be valued at more than US\$300 million (Hulsebusch and Schlecht 2001). Most livestock are sold either in Niger or to Nigeria, where 90 percent of hides, skins, and cattle are exported. This trade pattern is typical in West Africa, where protein (meat, peanuts, and cowpeas) travels south from the Sahel to coastal countries and carbohydrates (rice and maize) travel north. Niger and Nigeria share a large border, and most livestock cross the border unofficially and thereby avoid taxes or regulation. Although not all of these exported cattle are raised by pastoralists, they contribute to a large portion of the market.

Figure 2: Changing Relationships between Farmers and Pastoralists in Niger



Source: Neef 1999.

⁵A TLU is a common unit to describe livestock numbers of various species as a single figure that expresses the total amount of livestock present, accounting for different livestock varieties that may differ significantly in size. A typical TLU is one cattle with a body weight of 250 kilograms (LEAD 2006).

Stakeholders

The main stakeholders in this case include the different groups and different types of Nigerien pastoralists, settled farmers who interact with pastoralists, the Nigerien government, and international NGOs. Although it is the farmers and pastoralists who interact on a daily or seasonal basis, the government of Niger has the power to influence these interactions by establishing a framework for natural resource management, reforming land tenure, and setting economic development priorities. Because farmers and pastoralists may be focused on their immediate needs for survival, the government has the power to frame these issues over the long term and guide populations toward successful livelihoods through policy decisions. The government can do this, however, only if it has the foresight to create long-term policy and if it finds effective ways to enforce these policies with its limited financial resources. International NGOs are also a stakeholder, because some are returning to work in pastoralist and agropastoralist zones, particularly since the 2005 famine. Projects that have been directed at pastoralists include health care for humans and animals, education, borehole and well building, promotion of seed banks, food-for-work programs, and livestock-buying schemes.

Policy Issues

Pastoralist groups have long been ignored or underserved by their governments (Warren 1995, as cited in Thébaud and Batterbury 2001). Research institutions, NGOs, and governments alike have pursued policies and programs (intentionally or unintentionally) that are biased toward settled farmers with cropping systems. One reason for this bias is that settled farmers are closer to urban areas and have better access to decision makers. Pastoralists inhabit remote areas, are more dispersed, and are not well organized, making participation in decisions or contact with decision makers difficult. In addition, fewer decision makers are pastoralists by ancestry, and decisions are made under the assumption that pastoralists lead a backward lifestyle. Although the effects of the Green Revolution were scarcely felt in Niger, one critique of the Green Revolution is that it favored sedentary farmers by focusing on plant systems and crop breeding while neglecting livestock systems (McCarthy et al. 2004). This legacy of bias in

research into cropping systems continues in Niger, with only 15 percent of projects at Niger's National Agricultural Institution focused on livestock in 2004 (Stads et al. 2004). The 2000 Nigerien census neglected to include cattle or pastoral production, focusing strictly on cereal and horticultural crops (Stone Environmental 2001). Since the 1980s, many pastoral development projects have been terminated because funders have been perplexed by pastoralists and unsure of how to improve their livelihoods (Thébaud and Batterbury 2001).

Some predict that pastoralism will gradually disappear and that pastoralists will eventually settle into permanent communities. Others argue that farmers' and pastoralists' systems will merge and that mixed crop-livestock systems will become the dominant farming system in the region. One experienced geologist in northern Nigeria predicts that integration of pastoralism and farming systems is the wave of the future and is a more realistic option than trying to eliminate pastoralism altogether (Mortimore 2000).

Food Insecurity

Pastoralist populations are some of the poorest and most food insecure in Niger. Following the droughts of 1973 and 1984, Nigerien pastoralists lost most of their cattle through death or sales. In 2000 there were fewer livestock in Niger than before the 1973 and 1984 droughts, even though the agropastoralist population almost doubled between the early 1970s and 2000 (Barbier and Hazell 2000). In periods of drought, not only are animals weakened, but stress or distress sales drive pastoralists to bring their animals to market all at the same time, forcing livestock prices down. These sales usually coincide with an inflation of cereal prices, lowering the livestock-grain terms of trade and all but eliminating pastoralists' access to food. Livestock prices during the 2005 Niger famine fell from US\$120 a cow to as little as US\$10 (Quist-Arcton 2005). In April 2005 it was estimated that 2.4 million of the 3.6 million people living in the agropastoral areas were highly vulnerable to food insecurity (FEWS NET 2005). After a drought, it takes years for herds to recover and become productive again because livestock are pastoralists' form of savings. When livestock are sold, "savings accounts" are depleted, so it is difficult to generate enough capital to restock herds.

More than 50 percent of the people who live in the agropastoral and pastoral zones are considered poor. In the agropastoral zone, rainfall is sufficient one in every four or five years to produce enough cereal to last almost the entire year (FEWS NET 2005). A report by the Food and Agriculture Organization of the United Nations (FAO) described pastoral systems as having a severe incidence of poverty, low potential for poverty reduction, and low potential for agricultural growth. Agropastoral systems, on the other hand, are considered to have potential for poverty reduction and low to moderate potential for agricultural growth (Dixon et al. 2001). This report sites better land husbandry, water harvesting plus multiplication of drought-resistant, early-maturing millet and sorghum varieties as areas of potential intervention to increase agricultural production. Seasonal migration to coastal countries is often used as a strategy to increase household income, but this step is more often taken by middle-income families, as traveling can be expensive and reduces available labor in the household.

Mobility and Access to Land

It has been asserted that pastoralists only have rights to land if they also cultivate that land (Mortimore 2000). Since 1970 the land area used for agricultural purposes has risen sevenfold, half of the forests have disappeared, and erosion has increased. Population growth in Niger is estimated at 3.3 percent per year. This high growth rate leads to increased land pressure, in which communities expand land under cultivation and thereby encroach on traditional grazing lands. Since the 1970s agricultural expansion has pushed pastoralists 50 kilometers northward (Hammel 2001). Even with increased land use, however, farmers' crop yields have stagnated for the past 10 years, showing that lands cleared for use have been marginal and that few technological advances have been made accessible to farmers to increase crop yields. With populations rising and yields stable, farmers may continue to convert more land to farm use and reduce fallow periods on their fields (Greaf and Stahr 2000). For pastoralists, this increased land pressure limits their animals' access to grazing lands. Because mobility is a means of reducing pastoralists' risk to climatic variability, any restriction on this livelihood strategy can be detrimental to pastoralists. A modern Fulani proverb shows how Fulanis are being displaced by agriculturalists: "Every area

cleared of lions by pastoralists is then cleared of pastoralists by farmers" (Hammel 2001, 3).

Much of the conversion to farmland has taken place on common property (or pool) resources, squeezing herders off of the land or making certain areas inaccessible owing to the fragmented landscape. According to Williams (1998, 2), "CPRs provide food, fuel, fodder, herbs, construction materials and income to rural and urban dwellers across the Sahel." They are also the main source of fodder and water for livestock in the region and are therefore essential to herders.

Devolution of Natural Resource

Management

Land tenure systems are the way in which humans regulate their interactions with natural resources. Governments in West Africa have tried to clarify land tenure issues and reinforce the rights of local communities to manage their resources by granting legal recognition to traditional tenure arrangements and turning decision-making authority over to local communities. The philosophy of land tenure reforms is that increasing tenure security precipitates increased agricultural investment and intensification and conservation of land. Bloch and Foltz (1999, 1) caution that "tenure reforms, in theory can provide many of the necessary incentives for sustainable economic development, but, it is also necessary to take a broad vision of land reform and consider them in the context of an overall governmental program."

A large shift in mentality is taking place from top-down, centralized natural resource management toward a more participatory, community-centered approach. Centralized governments have been criticized for their inability to effectively or equitably manage natural resources, and many countries have shifted toward a mix of management by local and state institutions and organizations. Experience has shown, however, that simply decreeing local communities responsible for their natural resources is not practical. Communities are heterogeneous and have a diversity of interests, objectives, and production strategies, and they contain diverse uses of natural resources. Local institutions and power structures might not have the capacity to manage local resources. Without consultation with or education of stakeholders, land tenure changes can be more confusing to communities, instead of resulting in clarity of land use. Failure to recognize the

rights of all user groups (including pastoral groups) can lead to appropriation of resources by wealthier or more powerful groups.

An approach called *gestion de terroir villageois* (management of village territories) has been used in neighboring Burkina Faso and Mali. This approach involves local communities in designing a management plan for the village and its surroundings in cooperation with ministerial services. The approach assumes rural power structures created by the government will serve the needs of *all* of the citizens in the community, but some groups are still left out (Williams 1998). Since herders are often transhumant, they are not included in designing or implementing the natural resource management plan, and it has been found that pastoralists have lost access to grazing lands where this approach has been adopted.

Niger's Rural Code

Most land tenure reforms in the Sahel have restricted pastoralists' rights as reforms have aimed to privatize property (Bloch and Foltz 1999). Niger's Rural Code is an exception to this trend. The Rural Code, drafted in the 1980s and 1990s, dictates the land tenure system and defines the use of, division of, and rights to all natural resources in Niger. The Rural Code systematizes many of the customary land tenure systems used for hundreds of years by different ethnic groups in Niger. Village and canton chiefs, who govern only settled groups, however, remain the principal authorities responsible for land distribution. Although it has not been fully implemented owing to the changes in the government and weak enforcement capacity, it is one of the most progressive land reforms in the Sahel and contains the principle of "priority rights" to guarantee herders the right to control land traditionally used by them. The goal of the Rural Code is to clarify land tenure rules and to reinforce the legal institutions charged with regulating land tenure. It is thought that this law will lead to an increase in productivity and investment and foster more sustainable agricultural production strategies. It is also believed that clearer land tenure laws will prevent overexploitation of communal lands and thus prevent the "tragedy of the commons"⁶ phenomenon from occurring.

The Rural Code is based on three principles:

1. Natural resources in Niger are a common heritage of the whole population. All inhabitants have access to these resources without discrimination with regard to gender or social background.
2. The "imaginary" division of the territory into arable land and grazing zones is abolished. Farmers and pastoralists are requested to mutually respect their land use rights.
3. Private property rights of groups or individuals are recognized if they have been acquired by customary law or written contracts.

Environmental Degradation

Environmental degradation in the Sahel has often been described in a linear fashion: increasing population pressure leads to environmental degradation, which leads to increased poverty. This rule applies not only to pastoralists, but to settled farmers as well. More recently, however, environmental experts and development practitioners acknowledge that multiple and complicated factors (political, economic, and social) contribute to environmental degradation and that herders employ a wide range of strategies to reduce environmental degradation as a threat to their livelihoods.

Environmental degradation is a decrease in the productive or regenerative capacity of an ecosystem. It is one of the largest problems facing Nigerien and Sahelian farmers and pastoralists today. One aspect of environmental degradation is soil degradation, which occurs when organic matter (trees, shrubs, crop residues) is reduced and soil is more exposed to wind or soil erosion, leading to a decrease in soil nutrients, reduced soil fertility, and diminished crop productivity. Even though pastoralists' practices have been blamed for environmental destruction, many rangeland ecologists and livestock experts now refute this claim, and current research shows that herding is not as environmentally harmful as previously assumed. They argue that in mountainous regions and arid or semi-arid areas, raising livestock is the best way to exploit resources and that "herbivores and vegetation depend on each other" (Toutain 2003, 2). The

⁶ The "tragedy of the commons" occurs when individuals use and benefit from a resource—for example, pasture—

land—but this individual exploitation leads to a societal loss of public goods, such as environmental degradation.

concept of permanent disequilibrium of the ecosystem in drylands is now accepted by many scientists. Disequilibrium ecology “rejects the central premise of equilibrium theory: return to the previous state.” Instead, disequilibrium ecologists believe that “disturbance in the system results in a new state” and that “there is no perfect balance in nature to be disturbed. The natural condition of an ecosystem is imbalance and hence constant change” (Partridge 2005).

According to disequilibrium theory, mobility of pastoralists is essential not only for herders, but also for the ecosystem. Reduced mobility of herders leads to an increase in the amount of time animals are left in one area. Environmental degradation that can be caused by livestock is determined not by stock size, but rather by the length of time the animals stay in a field, especially at critical times in the growth cycle of certain grasses (Toutain 2003). Thus a decrease in accessible grazing land can lead to environmental degradation—a consequence not of the brazenness or carelessness of pastoralists, but of the modern economic, institutional, and social factors already described.

Little is known about how pastoralists design systems to use resources, such as harvesting, regenerating, and protecting trees (Gautier et al. 2005). It has been observed, however, in the north of Cameroon that herders maximize the amount of fodder harvested from trees, while simultaneously pruning to preserve the productivity of trees (Gautier et al. 2005). Fulani groups in Sierra Leone practice “shifting pasturage,” allowing their animals to graze in one area for two to three years and then moving to other grazing lands, leaving the eaten pasture to recover for as long as 15 years. It is also argued that livestock “improve pastureland and increase the diversity of flora by dropping different kinds of seed in their dung as they move from one area to the next” (Hammel 2001, 18). Pastoral campsites often have high rates of tree seed germination because animals have left large amounts of manure and the seeds have passed through their digestive system, preparing them for germination. In addition, because livestock consume dry grasses and straw in the dry season, livestock can reduce the frequency and severity of bushfires (Hammel 2001).

Policy Options

Policy History

Policy makers are beginning to recognize the need to develop policy solutions that reflect the reality of social, economic, and political processes (Gautier et al. 2005). Laws aimed at reforming land tenure for farmers have strong impacts on pastoralists’ access to grazing land, their mobility, and natural resource management. Until the 1970s colonial and newly independent governments favored livestock development programs focusing on improving livestock health and water sources to allow for increases in herd size and to allow pastoralists to move to land previously unusable owing to lack of water in the dry season. In the 1980s projects focused on providing services, improving pastoral incomes, and developing pastoral community organizations. They did not, however, focus on how these improvements contributed to sustainable natural resource management (Behnke and Kerven 1994). Additionally, although pastoralists were the intended beneficiaries, many of these projects were carried out without their input or participation.

Securing Pastoral Land

As land management systems evolve in communities across Niger, policies should reflect today’s realities and meet the needs of all stakeholders. Multiple solutions exist for ensuring that pastoralists have access to grazing land and corridors for traveling to grazing lands or markets, not only according to the law, but in practice as well. Other national governments have legally separated and divided land between pastoralists and farmers. Although this approach might protect access to land in the short term for pastoralists, it does not reflect the realities of combined crop and livestock systems in many areas. Separation of the two groups could also reduce the remaining symbiotic interactions in fields and in common pool resources, hurting both farmers and pastoralists. Contractual arrangements between pastoralists and settled communities that negotiate and define land use and land access are another possibility, but these contracts can be difficult to enforce.

Would a better option be to change national laws by redrafting the Rural Code? Not only are land tenure laws difficult to implement, but it is difficult to assure that all stakeholder needs are met. Problems with current land reform laws include ambi-

guous laws, a lack of capacity in local governments and communities, and invalidation of the rights of disadvantaged groups (Bloch and Foltz 1999). Some analysts advise that these problems are better addressed at the local level than through national policies. Strong partnerships and arrangements would be essential at the local level to maintain mobility and access to grazing lands for pastoralists.

Sustainable Use of Resources

Currently, decentralization is “still focusing on reinforcing the capacity and responsibility of settled communities to manage territories and resources where they live” and therefore reinforces the insecurity of pastoralists’ access to land (Gautier et al. 2005, 337–338). Elements of decentralization include protecting public goods, establishing frameworks to govern natural resources, building local capacity for natural resource management, creating a mediation body to resolve conflict, and providing technical assistance. Examples of some local organizational structures for managing natural resources include district organizations, village committees, corporate organizations, and citizen organizations.

Larger questions, however, remain. For example, is it possible to coordinate the use of common pool resources among heterogeneous groups, and how can all stakeholders benefit from devolution of natural resource management? How can laws be written and enforced to protect natural resource management while also securing grazing lands? With multiple users possessing various goals, what is the incentive to use resources sustainably and assure that the “tragedy of the commons” does not take place? Questions include long- and short-term considerations of natural resource management as well. In some situations achieving one goal conflicts with the objectives of another goal (Bloch and Foltz 1999). For example, a settled community decides to conserve land around their village to assure their access to firewood, but pastoralists need to bring their animals through this land to get to market to sell animals for income. This scenario shows how aiming toward conservation can clash with market integration and economic development.

Handling of Drought and Recovery

The 2005 Niger famine displayed the fragility of pastoral, agropastoral, and agrarian livelihoods alike. Pastoralists and agropastoralists currently have few

options when there is a severe drought. Both they and their animals suffer its effects. After a drought it takes years for herds to recover their size and become productive again. In an attempt to regain capital after a drought, Fulani males who can afford to migrate go in search of work and send remittances home to their families. This strategy can be risky, because the trip can be expensive, finding work is not guaranteed, and some countries have become unwelcoming or even hostile toward foreign migrants.

Pastoralists can be protected from droughts by price protections when they bring their livestock to market in “distress sales,” as they did during the 2005 famine. During that famine Oxfam funded livestock-purchasing programs (de-stocking) and food voucher-for-work programs. As part of the de-stocking program, Oxfam offered livestock owners substantially higher prices per cattle than what the market price at the time was (Oxfam 2005b). Another possible intervention to help herders through a drought is for the government to enter the market, buying animals from herders at set prices and then selling the meat at a sub-subsidized rate. Not only would this benefit pastoralists, but it could also benefit food-insecure populations by offering them an inexpensive protein source. For a poor government, however, it would be an expensive proposition. Instead of programs that directly transfer food or work to pastoralists, another approach is to assure that fodder and grains are available to herders at prices they can afford through market channels (Behnke and Kerven 1994). To be timely, this approach would require a proactive system that includes market infrastructure and monitoring of market and weather conditions.

Economic Integration

Given that meat is currently the second-largest earner of export income in Niger, working to expand market possibilities could benefit both pastoralists and the government. As demand for livestock products rises in urban centers, markets could also be used to improve nutrition in food-insecure communities. Infrastructure and market information systems to integrate markets and prices are the foundation of a well-functioning market. Government policies that seek to promote market possibilities for new products, such as value-added products, could increase pastoralists’ incomes. Other approaches that could increase

output of products include building the input market for livestock raising. Strengthening the input market could be accomplished by creating seed banks and credit facilities and by offering technical training to pastoralists (Toutain 2003).

Change of Lifestyle

Sedentarization of pastoralists in East Africa has been promoted or imposed in all countries in the region at some time in their history (Markakis 2004). Some of these countries even include statements about settling pastoralists in their constitutions. This effort has been met with resistance in most places, as pastoralists are unwilling or unable to alter their livelihoods.

Attempting to refoster cooperation among pastoralists and farmers can have positive outcomes. Legislation alone does not always change people's behaviors, as shown by the lack of land tenure adoption in many areas. Appropriate education and enforcement mechanisms are needed, but these elements have not been undertaken in many parts of the Sahel. The devolution of natural resource management should also consider the ability of communities to cooperate. Greater cooperative capacity decreases pressure on grazing lands and leads to lower stock densities and higher herd mobility (McCarthy et al. 2004). On-farm cooperation could include symbiotic planting of crops, such as legumes, in sedentary farmers' fields, which could benefit herders through forage and farmers through increased soil fertility, weed suppression, and fire wood (Bloch and Foltz 1999). More research is needed on crop production that produces nutritious and abundant crop residues without sacrificing grain yields. Such production systems could also foster cooperation between farmers and pastoralists.

Improving Services

Health and education are essential for any basic development strategy. Since pastoralists and agro-pastoralists practice transhumance all of or part of the year, it can be difficult for them to gain access to essential services such as health care and schooling. A 2005 Oxfam report concluded that educational interventions that are community-based and take into account the mobility patterns of pastoralists can be effective at educating pastoralist children. Oxfam also states that these interventions should be flexible, perhaps adjusting the school

calendar to ensure appropriate timing or adapting the curriculum to ensure its relevance (Oxfam 2005a).

The same flexibility and adaptation would be required to improve pastoralists' access to health care. In many rural areas, people must walk hours to reach a health care facility with trained nurses. These facilities demand a fee for services, and although the fee is minimal, it is enough to exclude the poor. Options for improving health care for pastoralists include training certain members of nomadic communities in basic health care and setting up mobile health clinics at strategic places at strategic times of the year. Given that Niger's health infrastructure is weak and the government has limited funding, finding the money to implement these plans could prove difficult. To fill this gap, international NGOs have intervened to provide basic services to pastoralists, but their coverage is not as complete as government programs could be, because they often specialize in certain regions, nor is it assured that NGOs will fund these services for the long term.

Organizing Pastoralists

Since the 1980s there has been a push to create local pastoralist organizations, and in the 1990s multiple organizations were formed to attempt to represent pastoralists in the drafting of the Rural Code. The largest organization is the Association for the Regeneration of Animal Breeding in Niger, founded in 1991, which represents thousands of herders in southern Niger. Herder organizations have conducted educational campaigns for herders, lobbied officials for pastoralists' rights, represented herders in administrative and legal battles, and worked to address health and welfare issues (Hassane 2001). Although they have been successful in some of these areas, herder organizations face problems of lack of formal recognition by the government, a mistrust of the government administration, and limited financial and human resources to carry out their mandates (Hassane 2001).

Assignment

Your assignment is to create a policy package that would preserve the livelihoods of Niger's pastoralists. You must take into account the multiple needs and priorities of all of the stakeholders and design policies that can support all of these groups.

You must also consider who has the capacity and is best suited to deliver these policy options.

Recommended Readings

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