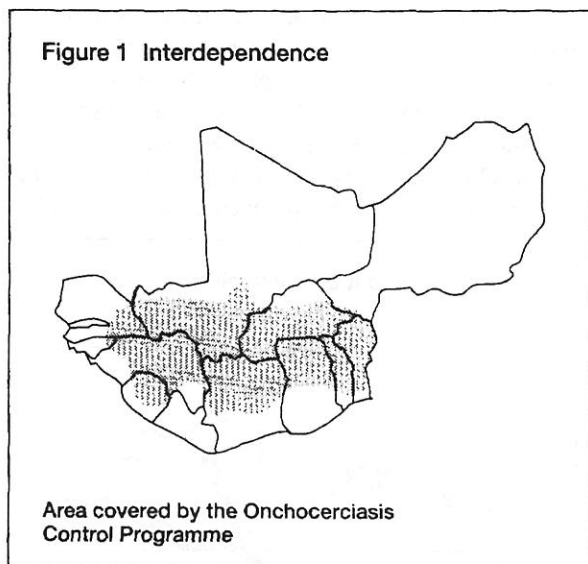


Capitalizing on Success: The Onchocerciasis Control Programme and Resource Management Options

U.S. Agency for International Development

Figure 1 Interdependence



Established in 1974 as part of the international response to Sahelian drought, the Onchocerciasis Control Programme represents an investment of US\$500 million and is one of the most ambitious public health and resource recovery programs in the world. Its goal is the reopening of 25 million hectares of arable land for settlement.

Second only to the Smallpox Eradication Program in Africa, the OCP has been a major public health success. But the war is not yet won. Now that river blindness has largely been eradicated, further battles must be fought to protect and manage the vast new lands opened for resettlement. The fate of the OCP zone and its potential contribution to the overall development of West Africa are inextricably linked to the fate of each member state.

Major socioeconomic trends affecting West African development

Since 1974, West Africa's population has doubled. Even under low-growth scenarios, it is projected to double again, or to more than double, in the next thirty years.

With enough arable land to allow for the fallow cycle no longer available, perennial vegetation is being depleted at an alarming rate. Farmers and herders fight each other for scarce resources. In sum, the traditional mechanisms that once maintained ecological stability are no longer able to operate.

West Africa's population is not only growing, it is also shifting. As of now, the urban population in West Africa is growing by over 7 percent per year, and by 2025 it is expected to constitute nearly half the total. There is little evidence that this rate will come down, for throughout the world, the young are attracted to the lifestyle, social mobility, and new consumption opportunities found only in cities.

Figure 2 The main trends are known

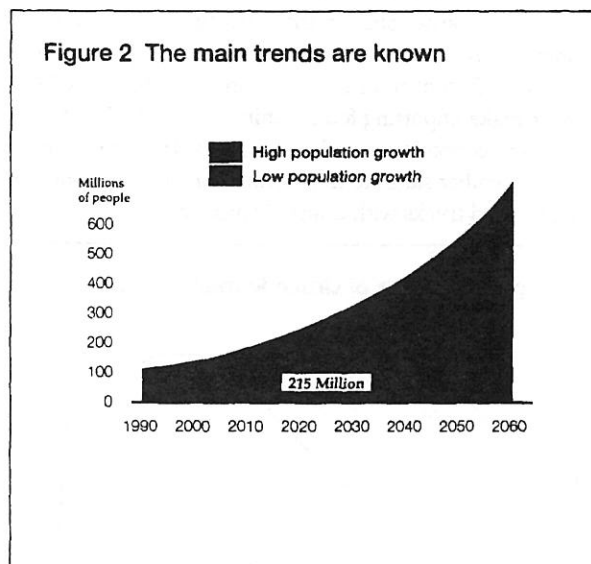
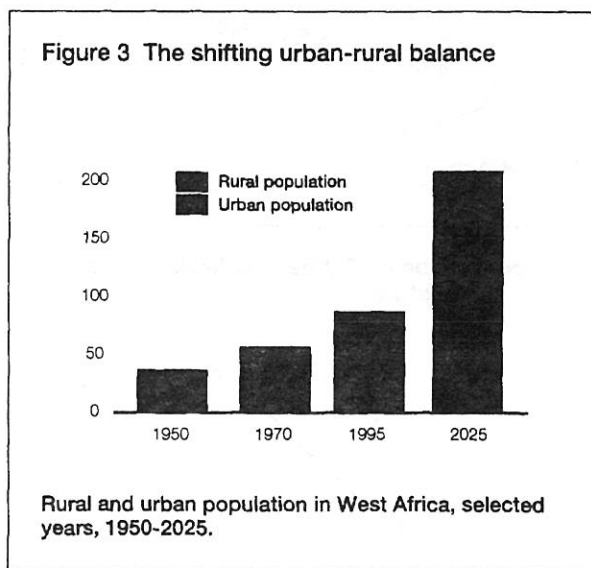


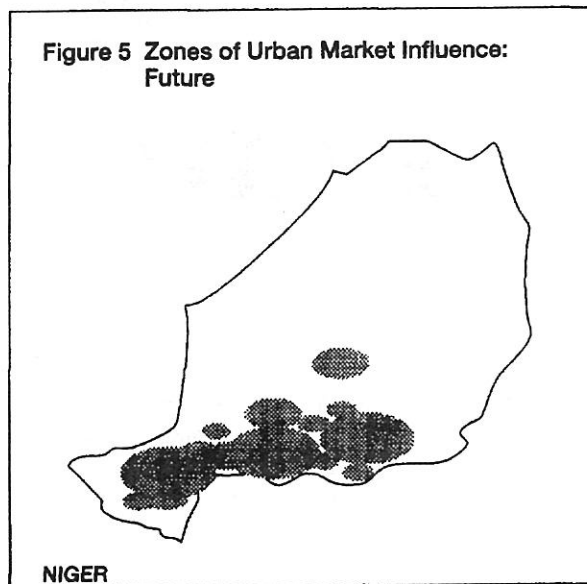
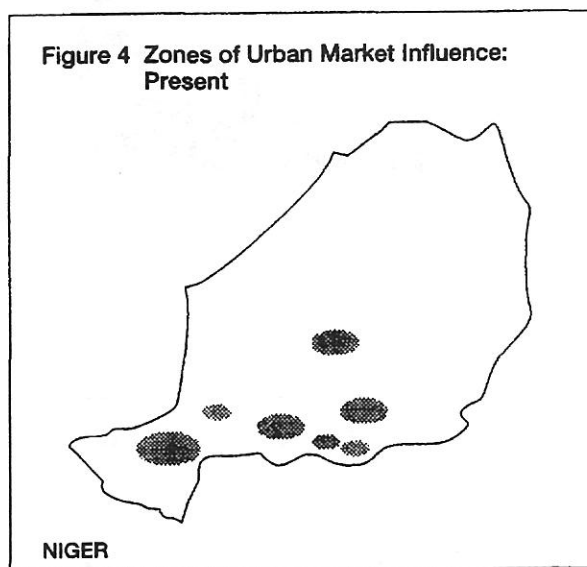
Figure 3 The shifting urban-rural balance



What does this mean for the rural economy? Urban populations purchase food, clothing, raw materials, and consumption goods. Household surveys conducted by the International Food Policy Research Institute (IFPRI) around Bamako, Niamey, and Ouagadougou indicate that there have already been dramatic shifts in household production strategies in response to increased urban demand.

In these survey zones, over half of all household income now comes from sources other than direct agricultural production. Within the urban market zone, demand for fuelwood, charcoal, and construction poles has created income alternatives to subsistence agriculture.

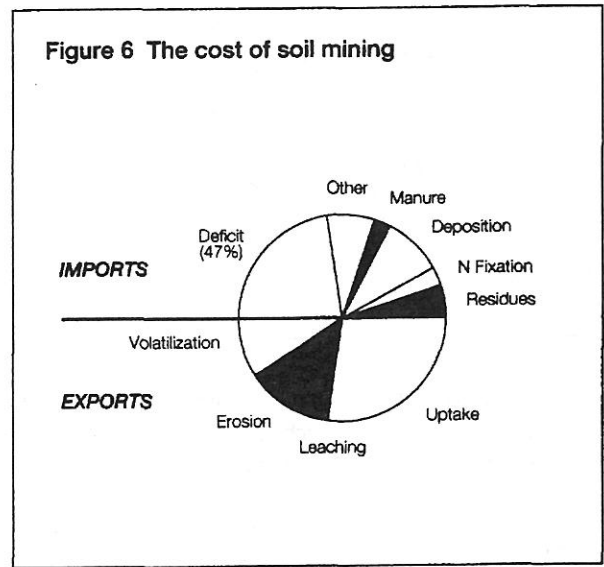
As the total urban population in the eleven OCP countries approaches 85 million, this "pull" of urban markets will spread and is likely to alter the farmers' production choices. Because food for the cities must come from somewhere, urban consumption represents potential cash demand. Recent currency devaluations within the CFA zone make importing food within the broader West African economic region less attractive. It is now up to OCP member states to transform their rural economies by filling food trucks with domestic produce.



As arable land grows increasingly scarce, more intense use depletes West Africa's soils. A number of recent scientific studies (including those conducted by the Compagnie malienne pour le développement des textiles, the Dutch Royal Tropical Institute, and the Wageningen Center for Agrobiological Research) have found that, throughout the Sahel, farmers are using up the soil's nutrients faster than they are being replenished. Crop uptake, leaching, and erosion exceed what is put back into the soil through manure and other fertilizers, nitrogen fixing by insects, bacteria, and plants and atmospheric deposition.

Although viable in the short run, soil mining cannot be sustained long, and the costs are now being paid.

CMDT analyses show that, in Mali, up to 47 percent of nutrients now used in crop production come from soil

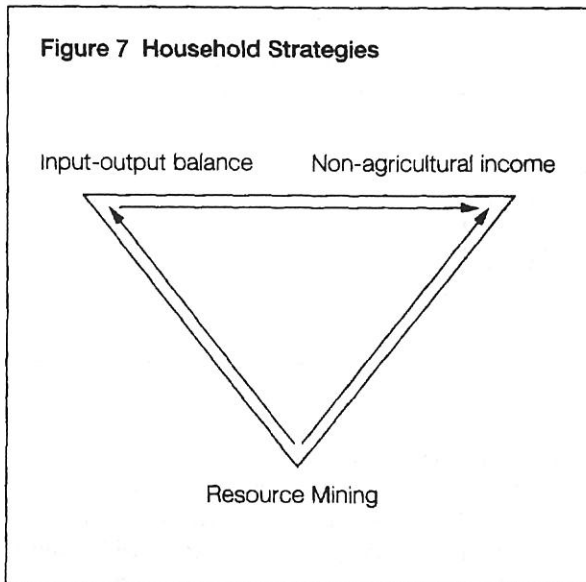


mining. With better management of existing resources—that is, more inputs and better soil and water conservation to reduce losses—this percentage could be reduced. Twenty years of research in the Sahel have convinced the Center for Agrobiological Research in Wageningen that, while improved management of existing natural resources can possibly restore the balance of inputs and outputs for a time, the inherent biophysical limitations of the land cannot support West Africa's growing population. External inputs will be necessary to restore the balance in the long run—a fact that must significantly affect economic choices in the region.

These demographic and biophysical trends impose certain demands on West Africa's governments. The need for external inputs to sustain agriculture means that cash income will be needed to buy those inputs. Widespread cash income for rural households implies a basic change from subsistence to more diversified and commercialized crop production. And although growing urban centers are

already creating cash demand for rural products, this will accelerate sharply in the next thirty years.

As field research by the International Food Policy Research Institute has shown, West African households with access to markets are already diversifying. At this stage, the IFPRI study found, people seek to diversify as much to reduce risk as to increase income. Households that have successfully diversified have also tended to invest in production methods sustainable over the long-term and have increased their incomes. Conversely, households that have not made the transition successfully continue to mine their resource base despite declining yields and increased risk.

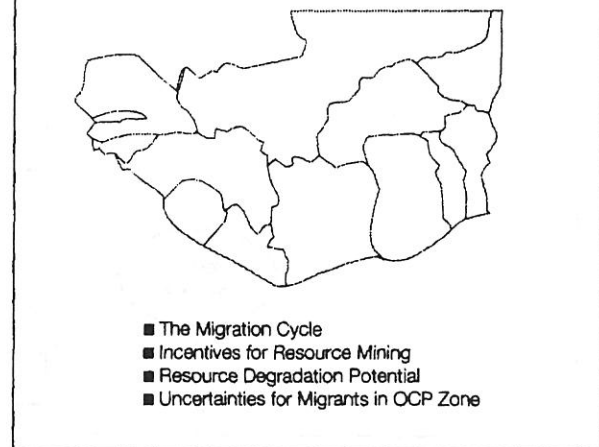


In West Africa's rural households today, strategies for income generation, risk management, and economic diversification are already in flux. The rich database of field observations about their evolution includes five major reviews of local-level resource management initiatives (prepared for the 1989 Segou Roundtable on Natural Resources Management), at least ten follow-on studies, IFPRI household surveys, and dozens of locality-specific and project-specific studies.

Essentially, West Africa's rural producers today face three choices: to mine the resource base to maintain income, to change production techniques to restore the input-output balance of agriculture, or to seek nonagricultural sources of income. Most rural households are already pursuing some mix of the three. But because basic demographic and biophysical dynamics have already been felt at the household level, household strategies cannot remain static.

Household strategies, income diversification, access to markets, and the decision to mine resources or to

Figure 8 Household Strategies in the OCP Zone



invest in more sustainable production lie at the heart of resource management in the OCP zone. Information about household decisions in the OCP zone includes the *Land Settlement Review*, studies prepared for this conference, and other major environmental and production studies.

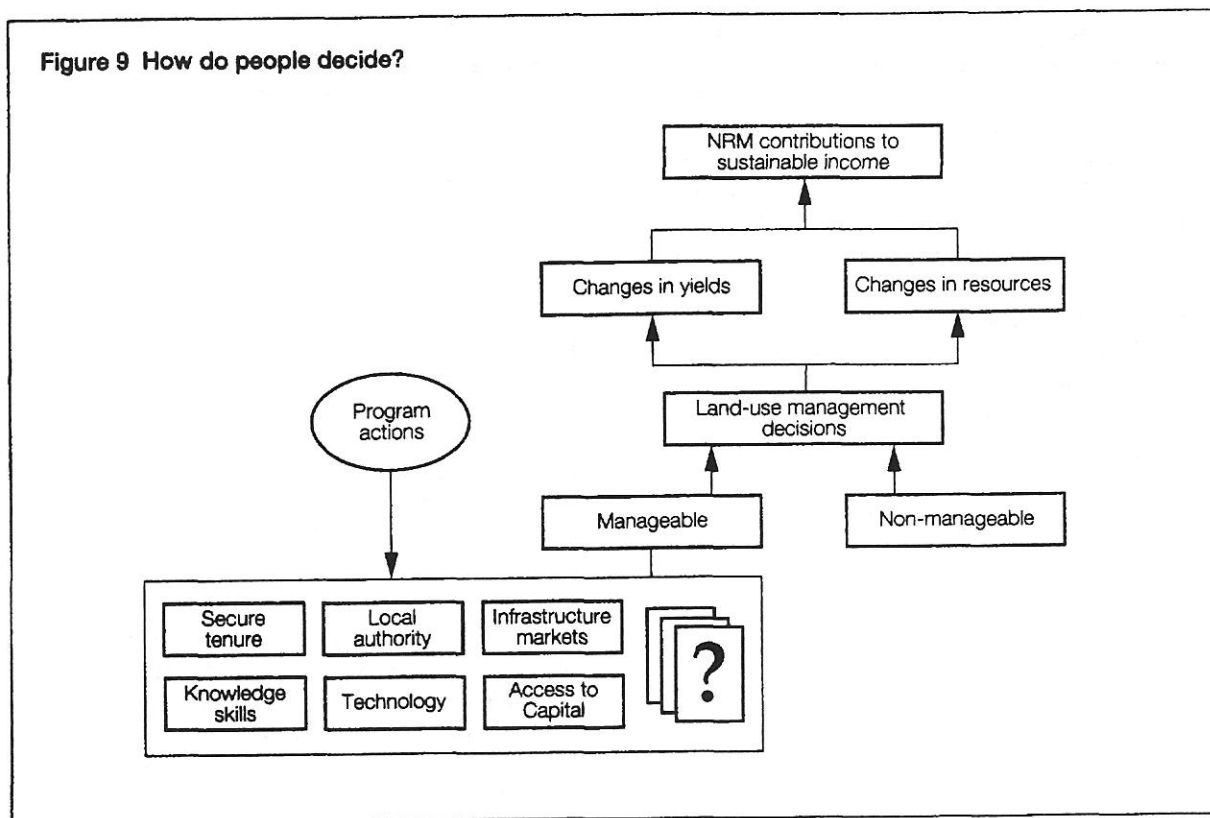
More than just land

Unlike other areas in Africa, the OCP zone offers significant opportunities for new settlement. Relative to other zones, therefore, the pace of change is rapid. Infrastructure is being built, land is being put under cultivation, and new people are settling on and benefiting from the land.

In making decisions about the use of natural resources, households in the OCP areas are affected by where they are located, where surrounding communities are, and where each is in the settlement cycle. But while resources in the OCP zones are generally rich, they are also fragile. Migrants have relatively few established social ties in the community, and resource tenure is often uncertain or insecure. All of this contributes to a sense of impermanence that leads to resource mining. Settlers typically have little knowledge of local conditions and do not know how to manage and sustain the unfamiliar environment. As a result, there is high potential for resource degradation. Even when resource mining is not a strategy, it can become a fact.

Settlers must also deal with unfamiliar disease profiles in the new areas. Political stability is not guaranteed. The legal framework (including land tenure, administrative jurisdiction, and common property resource management rights) changes from one area to the next and is often in flux. Infrastructure is limited and has not always kept pace

Figure 9 How do people decide?



with changing migration patterns. Finally, OCP lands are frequently far from markets, from sources of supply, and from social and community systems.

All these factors combine to heighten settlers' sense of impermanence in OCP communities, and therefore to promote a shorter-term perspective of settlement and land use management. While some OCP settlements have developed sustainable, long-term natural resource management, others have depleted the land and moved on, leaving the area worse off than it was. What the OCP settlements have shown is that success requires far more than simply making land available for settlement.

What governments can do

In figuring out what the public sector can do to promote long-term natural resource stewardship, the key question is how people make natural resource management choices. With twenty years of experience in natural resource policy, it is now possible to build on what governments are already doing.

In the OCP areas, thousands of rural settlers and households seek better livelihoods. In doing so, they make decisions that will affect their agricultural yields and their use of natural resources. Obviously, if yields go up but the resource base is degraded, sustainability will soon

become a problem. Policy should seek to promote practices that simultaneously increase both yields and resources. Experience has shown that there is a range of cost-effective technologies available that enable farms to achieve sustainable increases in household incomes. To learn what influences land use management decisions, bilateral and international aid agencies have sponsored hundreds of case studies in West Africa.

These studies show that specific conditions of secure tenure, access to markets, access to capital and credit, devolution of authority, and access to technologies—conditions that vary by area and change over time—influence resource-sustaining decisions. Because public policymakers wish to make appropriate resource management appeal to thousands of farmers' own self-interest, they must keep abreast of continually changing local conditions. Understanding what motivates farmers is not, therefore, a one-time activity.

At the national level, too, many OCP member states are undergoing long-term structural change. Since mortality rates began to decline forty years ago, West Africa's social, political, and economic climate has been transformed. All signs point to continued, accelerating change over the next thirty years, which will create new opportunities in the OCP zone. The policy challenge is to keep pace with this

changing dynamic and to develop an overall, integrated development strategy that will include the proper management of OCP resources. To achieve this goal:

- Governments should use major national natural resource policies already in place (in resource tenure, community resource management, resource pricing) as the basis for OCP zone development.
- Policies should create conditions conducive to sustainable growth. Once they have been field-tested, they should be applied in the OCP zones.
- The use of field observations and case studies to collect information on local conditions is particularly well suited to the OCP zones because of the variation in conditions in local areas and over time. When population density is low and land remains relatively fertile, for example, land tenure may not be an important issue. But as population density increases and good land becomes scarce, land tenure becomes crucial. The rapid changes brought about by new settlement in the OCP zone make field studies particularly important if an accurate picture of the situation is to be maintained. Most OCP member states already base their national policies on observation and case studies.
- Worldwide settlement experience suggests that assisted spontaneous settlement works best. Once spontaneous migration patterns establish where and why settlement occurs, public investment should quickly follow to build and reinforce positive resource management practices. Purely spontaneous settlement has too often led to short-term stays unsupported by physical, market, social, and policy infrastructure. Controlled settlement, on the other hand, requires major planned investment, and has often failed to attract or retain permanent settlement,

leading to the waste of resources on a large scale.

- Governments must monitor migration flows, which change rapidly, to target public investment efficiently. There are low-cost techniques available for doing so. Existing regional organizations (such as Agrometeorology and Operational Hydrology Centre located in Niger) could both lead the data collection and serve as regional data repositories.
- Governments should focus effort on the key pressure points where public policy will have maximum impact. The majority of OCP studies suggest, for example, that the decision to diversify crop production is associated with long-term settlement, and therefore ultimately with more sustainable land use management practices. Particularly in the OCP zones, where farmers must deal with more and more wide-ranging economic and social variables, policy-makers should seek to understand and influence this decision.
- Twenty years after the inception of the OCP, the volume and richness of information about natural resource management—based on field experience in the OCP zone—are already growing. OCP member countries now need to set up structured networks to share this information across borders. Existing regional institutions could be used for the task.
- To improve the flow of information across sectoral lines, a concerted effort should be made to inform the natural resource management community about the particular conditions of the OCP zones, to integrate OCP considerations into plans for existing projects and designs for upcoming ones, and to reevaluate national resource management strategies in the light of the enormous new potential these lands offer.

Discussion

Community-based land management

Participants showed a great deal of interest in natural resource management and the community-based land management approach. The discussion prompted extensive debate on the role of women in natural resource management and on the increasing level of conflict between transhumant and sedentary populations.

Comments

"Do not rush into the community-based land management approach even though it seems good. There are several prerequisites for success, and other approaches that also seemed good are now judged to be failures."

"Before the community-based land management approach can work, it has to be part and parcel of national sectoral policies with well-defined strategies. Otherwise, there could be highly diverse situations in adjacent areas."

"Despite the importance of national policies, planners should not wait for perfect policies and ideal legislation to be in place before attempting the community-based land management approach. People should be aware of possible problems and try the approach anyway."

"Local communities must be responsible for funding local efforts either with their own money or through local authorities. Control over the financial aspects of projects is an important way of empowering local decision making, and financial involvement leads to closer attention to the activities by the local population."

"Laws will not get people to replant trees, and you cannot simply tell the people not to cut trees when they are very poor and have no alternative. Make communities responsible and they will protect natural resources."

"Local adaptation of the approach to site-specific conditions is important. There is no one blueprint."

Women's Participation in CBLM

All participants recognized the importance of women's participation in community-based land management associations and in development in general. There was some debate, however, on the extent to which women were currently participating and on how fast the rates of participation by women could be expected to change, given customary decisionmaking patterns and women's already heavy work load.

Comments

"Women must be treated on an equal footing in community-based land management associations. There have been cases where women without secure tenure have made improvements to land only to later find themselves dispossessed. However, if women are given preferential

treatment in land tenure, there will be difficulties with customary authorities."

"Experience shows that when communities have decisionmaking power, tradition will be upheld in the beginning but gradually things will change. These changes cannot be made from the top. Legislation gathers dust and does not change anything at the village level."

"Gender-based battles must be avoided. Women are already consulted on an informal basis and are making progress."

"Women are already overburdened. One should be very careful about how much involvement can be expected from women."

Transhumant populations

The issue of the transhumant populations sparked a heated and politically sensitive debate. It was clearly an important issue in each of the participating countries and one on which there was no clear agreement.

Comments


"Pastoralists come through every year and devastate the land. They cause fights and shooting, and migrants have borne the brunt of the conflict with herders. One country in West Africa has banned transhumant herding, and this is being considered in other countries. Some of the established migration corridors have been cut due to crime. Plans must be developed to settle the transhumant populations."

"Major problems occur with the cohabitation of farming, agroforestry, and pastoralism. Governments need to work hard to prevent problems before conflict occurs and before environmental degradation becomes severe."

"Immense areas of seasonal grasses in the northern parts of the Sahelian countries are not used because there is not sufficient dry-season grazing in the south. Mechanisms need to be worked out so that these grasslands can be exploited because transhumant herds produce more efficiently and at lower cost than sedentary herds. Moreover, studies have shown that there are high levels of female ownership of these herds."

"Herders can be either hosts or settlers. The village land management concept has been criticized because it could give too much authority to sedentary farmers and might not include herders in the process of establishing land use plans. This leads to conflict later on when herders find themselves forced off land they have traditionally used."

"Transhumance is important because it provides cheap meat for countries that are net importers of meat and it provides a gene pool for upgrading national livestock herds. However, it may also spread disease if other countries have different livestock health rules. Countries have



used the military to drive away herds, but they always come back. The issue needs to be addressed at the subregional level because intergovernmental cooperation is needed to regulate movement.”

“Some countries have tried to establish livestock corri-

dors. Niger, Côte d’Ivoire, and Burkina Faso currently have an agreement regulating livestock corridors. This agreement may expand, as meetings between these three countries have been attended by Ghana, Nigeria, and Mali as observers.”

