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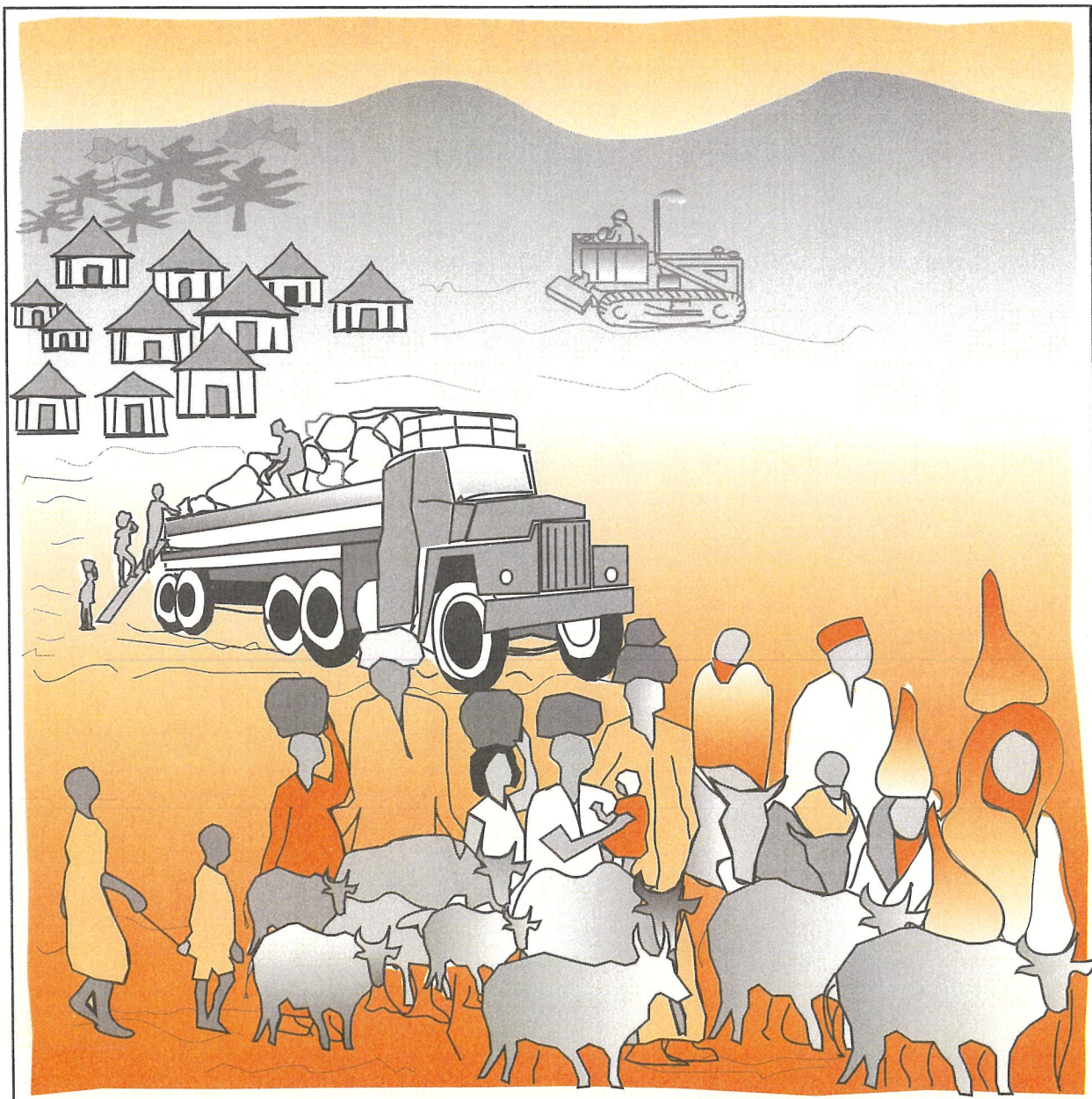
AFRICA TECHNICAL DEPARTMENT SERIES



Involuntary Resettlement in Africa

**Selected Papers from a Conference on Environment
and Settlement Issues in Africa**

Edited by Cynthia C. Cook



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CHAPTER 13

DEVELOPMENT STRATEGIES AND ISSUES FOR LAND SETTLEMENT IN WEST AFRICA

Della McMillan, Thomas Painter, and Thayer Scudder

A major parasitic disease in the tropics, onchocerciasis (river blindness) has gravely handicapped both human health and socioeconomic development in the river valleys of West Africa. According to the World Health Organization, in the mid-1970s some 10 million people living in the endemic area were infected, and at least 100,000 were blind or had eyesight that was seriously impaired.¹ The affected areas were not only a last frontier, but they contained some of the most fertile lands available for development.

The Onchocerciasis Control Programme (OCP) was launched in 1974 to bring the disease under control. OCP is executed by the World Health Organization (WHO), and carefully monitored by a Committee of Sponsoring Agencies (CSA), which includes WHO, the United Nations Development Programme (UNDP), the Food and Agriculture Organization (FAO), and the World Bank. By 1990, twenty-nine donors were financing OCP in eleven West African countries. At that time, OCP was entering its fourth and final phase, during which ongoing surveillance and control activities will be gradually handed over to the participating countries.

OCP had two major goals. The first was to break the transmission cycle of the disease through aerial application of larvicides to waters where the carrier (a small fly of the genus *Simulium*) breeds. The second was to facilitate the socioeconomic development of the river valleys once the disease had been brought under control. The achievement of this second objective was expected to take place through massive population movements into these previously sparsely populated but potentially highly productive areas.

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As often happens, the highly successful disease control program received far more attention than did planning for the sustainable development of the areas where the disease was being controlled. Moreover, during the late 1970s a major policy decision cut back environmental monitoring of the impacts of the program to focus only on the impacts of larvicide on the aquatic environment. Rates of immigration into the area were already accelerating and no provision was made to monitor the environmental consequences of this change. As for policy formulation and development planning, within the CSA only UNDP provided a small amount of seed capital during the first ten years of the program.

Donor neglect of the socioeconomic component of OCP continued until the mid-1980s, when the Committee of Sponsoring Agencies decided to initiate a series of socioeconomic studies. The first was a geographical assessment of natural resource capabilities in the affected areas, carried out by Hunting Technical Services (U.K.) and Organisation et Environnement (France). The second, funded by UNDP and executed by the World Bank, was a Land Settlement Review, carried out by the Institute of Development Anthropology (USA).

The IDA team began its assessment in 1988 and submitted a set of seven final reports to the Bank in July 1990. Working in close association with host country colleagues and institutions, the team carried out field work in four countries (Burkina Faso, Ghana, Mali, and Togo) to assess experiences with spontaneous and government-sponsored land settlement in the affected areas. Four of the seven final reports relate to those countries. A fifth describes a less intensive survey of land settlement experiences in the other seven OCP countries, including a brief description of environmental impacts where such data were available. The remaining reports are a Summary Report and an Executive Summary of findings and recommendations.²

Part of IDA's task was to familiarize the eleven OCP countries, the CSA, and the donors with the global experience relating to land settlement in the tropics and subtropics, and with the relevance of that experience to the West African river basins which were the subject of the study. Global data illustrate the dynamics of the settlement process and expose a wide range of critical issues that should be addressed to increase the chances for successful development.³ Success was defined in terms of environmentally sustainable increases in production; rising living standards for the various types of settlers, for the host population, and for pastoralists; and potential for significant spread effects, at a financial cost that could be borne by the OCP countries.

Resulting from this broad approach to settlement experience, the Final Report recommended a set of low-cost development strategies that could be applied in each of the eleven countries, with modifications as needed to bring them into line with national policies and distinctive national features. In this chapter, we describe the development potential of land settlement in the OCP countries, and outline some of the study's most important findings.

The Potential of Land Settlement

Policymakers and planners have seriously underestimated the longer-term development potential of well-planned and well-implemented land settlement programs. This underestimation of the potential is partly based on the poor initial returns found for a large majority of land settlement projects after a few years of implementation. For example, in a 1978 Issues Paper on land settlement, the World Bank concluded that three to five years after the start of implementation, economic rates of return were at least 50 percent below appraisal estimates.⁴ A later review of land settlement projects conducted by the Bank's Operations Evaluation Department came to a more positive conclusion.⁵ Projects focused on land settlement generally had satisfactory rates of return, fulfilled a range of other development criteria, and had major multiplier effects.

A second reason for underestimating the potential of land settlement is planners' poor understanding of the settlement process. During the initial years, settlers must behave conservatively, as they try first to regain food security while familiarizing themselves with a new environment, new neighbors, and new government officials. It is unrealistic to expect them to achieve rapid increases in productivity during this settling-in phase. Once food security is achieved, however, settler households in West Africa as elsewhere rapidly become risk-takers capable of significant economic and social change. Provided the opportunities are there — and this is where government policy and planning are vital — a majority of settlers can become more development-oriented than their neighbors or than they themselves were before resettlement.

Study Findings

The development strategies recommended in the Land Settlement Review reflect three premises relating to rural development. The first is that the agricultural and nonagricultural sectors are closely linked. More specifically, it is the rising disposable income of small-scale rural producers that drives development forward during its early stages. The second premise is that land settlement poses similar problems and opportunities throughout the tropics and subtropics, which elicit similar responses both from settlers and from host populations. The third premise is that the major resource involved in rural development is the people concerned. Consequently, project design should pay much closer attention to people's needs and desires, planning to facilitate development rather than to superimpose preconceived programs on settler populations. While crop agriculture is an essential starting point, settlers around the world prefer, and strive for, more diversified production systems.

Settlers are initially concerned with ensuring their short-term food security. As this objective is achieved, they start to invest in more valuable cash crops, in livestock, and in additional land, followed by investment in education of children (for nonfarm employment) and in a range of small-scale commercial activities. Settlers may fail to achieve their goals for reasons beyond their control, such as isolation from markets and unfavorable national policies. The importance of such constraints shows why the

development of settlement areas requires favorable national development policies and the assistance of government services as well as of nongovernmental organizations (NGOs).

In addition to economic viability, special attention must also be paid to the social viability of settlement areas. Constraints that must be overcome include isolation, lack of amenities and social services, and conflict with the host population and other traditional resource users. All of these interfere with the formation of viable rural communities.

Assuming a favorable national policy context for agriculture and rural development in general, the study recommended:

- Focusing on rainfed rather than irrigation-based land settlement.
- Promoting diversified production systems at the household and community levels, rather than a narrow emphasis on farming systems.
- Assisting spontaneous settlement rather than planning government-sponsored settlement programs.
- Developing the less-isolated areas preferred by spontaneous settlers, as opposed to remote areas with poor access to roads, services, and markets.
- Using line ministries to plan and deliver services, rather than specialized settlement agencies.
- Active involvement of local organizations and nongovernmental organizations (NGOs).

With respect to the environmental aspects of land settlement programs, the study recommended that government and NGO assistance should emphasize policies that would encourage settlers and pastoralists to establish roots in the area, including security of land tenure or specified use rights, together with access to water and other natural resources, health care, schools, and markets. The promotion of diversified production systems should incorporate host populations and pastoralists as well as settler households, and should provide economic opportunities for wives, children, and other dependents as well as for household heads. Within settlement areas, natural resource management strategies should be developed as early as possible, based on active involvement by the major local interest groups in resource mapping and zoning for different land uses.

Can The Development Potential of Land Settlement Be Realized?

The longer-term development potential of land settlement can be realized only if appropriate policies and plans are implemented. During a September 1990 seminar in Ouagadougou where the findings of this study were presented to representatives of ten

of the eleven OCP countries, prolonged discussion of several of its conclusions showed that significant differences of opinion still exist among African policymakers. These were especially clear with respect to the recommendation that future emphasis be placed on areas with better access to major markets and services, as opposed to the more isolated areas that governments would like to develop with donor funding.

Other areas of concern included the recommendations that customary systems of land tenure should be the starting point for providing security of tenure, and that pastoralists using the same resources on a seasonal basis should be integrated into the projects along with host communities and settler households. In contrast, the representatives present strongly backed a study recommendation to establish an international socioeconomic development unit based in West Africa to assist OCP countries with planning (including planner training), monitoring, and evaluation. Donor representatives present at the meeting were, however, relatively cool to the idea. Participants broadly agreed to the recommended preference for assisted spontaneous settlement, as well as to most other conclusions of the study.

Need to Emphasize Assisted Spontaneous Settlement

The IDA team rejected primary emphasis on either spontaneous settlement or government-sponsored settlement as inappropriate for the OCP countries. Dominant throughout the tropics in terms of settler numbers, spontaneous settlement — in which households move on their own initiative to areas where they perceive opportunities for improved welfare — tends to be characterized by low productivity that is not environmentally sustainable, and to be associated with few spread effects. Government-sponsored settlement involves a relatively small number of households at high cost, and has a relatively low success rate.

Instead of spontaneous settlement or government-sponsored settlement, we advocated assisted spontaneous settlement, combined in some circumstances with government-sponsored settlement where people are forced to move involuntarily, as for example by a dam project. Assisted spontaneous settlement capitalizes on the initiative of settlers who have the enterprise to move on their own. Its goal is to achieve productive and environmentally sustainable communities that combine spontaneous settlers with the indigenous communities and pastoralists already present, by guiding spontaneous settlers into appropriate areas, and by extending a range of services. While guided settlement is less expensive than government-sponsored settlement, no type of planned settlement is inexpensive, because planners must deal with problem-prone areas that lack infrastructure, especially roads, water supply, and market centers.

As for combining government-assisted spontaneous settlement with government-sponsored settlement, the Land Settlement Review recommended two models. The first incorporates surrounding communities into pre-existing government-sponsored settlements, as is currently occurring in Burkina Faso.⁶ The second, seldom encountered in real life, advocates combining from the start a "core" of sponsored settlers with a

larger population that includes hosts, government-assisted spontaneous settlers, and pastoralists. We would not recommend this second option as a "stand-alone" project, but rather as a means for increasing the benefits of large-scale national projects by incorporating a broader land settlement component. Examples include the construction of dams in areas of low population density (where the core of sponsored settlers is made up of those who must relocate from the reservoir basin), the establishment of forest reserves and national parks, and the integration of irrigation projects involving sponsored settlers into a wider area of rainfed agriculture.

Combining government-sponsored and government-assisted spontaneous settlement has a number of attractive features. For example, in planning for a core of sponsored settler households, government has the opportunity to create or expand markets and service centers that can serve not only the sponsored settlers but the larger population in the surrounding area as well. Because sponsored settlement allows a greater degree of government control, a core of sponsored settlers also provides the opportunity to introduce sustainable production systems that can subsequently be extended to the surrounding population.

Need for International Assistance

Regardless of type, the implementation of land settlement takes time. As with vector control, governments and donor institutions must commit funds over fifteen to twenty years. Land settlement as a development intervention concerns settler households which must evolve through a sequence of stages in relatively isolated, problem-prone areas. A special type of knowledge and planning is needed. The Land Settlement Review emphasized the need for "an appropriately funded, staffed, and located international institution ... to facilitate dissemination of information on lessons learned that relate to planning, implementing, monitoring, and evaluating the development of OCP areas." Without such an institution, donors and national governments will approach land settlement piecemeal. Not only will this jeopardize the implementation of successful development programs, it will also place at risk the river basins themselves, as vector control alone facilitates spontaneous settlement with attendant risks of environmental degradation.

While project implementation is clearly a national function, the international socioeconomic development institution might be a small planning, training and information-disseminating unit that could provide assistance to country planning ministries and to national onchocerciasis committees. To be effective, this unit should have a clear mandate and support from the OCP countries and the CSA for an active, outreaching mode of operation. It would initiate contacts with national planning ministries and national onchocerciasis committees in order to keep in focus OCP-related socioeconomic development issues and lessons learned from past and ongoing programs, as well as providing assistance to national and regional bodies on request.

Selection of Settlement Areas

The Land Settlement Review recommends that "Government strategies ... should emphasize the less-isolated areas that settlers prefer, as opposed to remote areas with poor access to markets and services--the exception being where isolated areas contain resources (such as water and forests) that require protection, or are the focal point for other development programs (such as dam construction)." This was the most controversial recommendation among our African colleagues. It was based on a number of empirical research findings. First, spontaneous settlers show a definite preference for less-isolated areas. Second, the most successful settlements are those located close to such capitals as Ouagadougou and Bamako, or to major regional centers. Third, financial costs rise significantly with the degree of isolation of an area.

As the exception in the recommendation indicates, the Land Settlement Review did not suggest that only the less-isolated areas be developed. More emphasis could have been placed, however, on the circumstances under which more-isolated areas might be selected. For example, in some countries spontaneous settlers are rapidly filling up the less-isolated areas. In these countries, governments should select and develop appropriate areas in advance of the wave of settlement. The increasing pressure on pastoral peoples warrants careful consideration of setting aside and developing appropriate areas of low population density for their use, areas that are apt to be quite isolated. Because of the costs involved, however, and the difficulty of finding donors willing to commit funds for extended time periods, such areas must be carefully selected and limited in number.

Land Tenure

Recommendation number ten in the Land Settlement Review is that customary tenure systems, as opposed to state or private ownership of land, should be the starting point for providing security of tenure to hosts, settlers, and pastoralists in OCP areas. Given the need for settlers and pastoralists to live with host populations that claim customary tenure over the local resource base, including land, and given the frequent abuses that have followed from state ownership of land or legislation establishing individual ownership,⁷ we believe that there is no option but to use customary tenure systems as the starting point. Ideally, control of tenure should be eventually handed over to legally mandated community land management associations, as described below.

Additional Areas of Concern

The successful control of river blindness has indeed given the landlocked Sudano-Sahelian regions of West Africa some additional breathing space to address the difficult task of intensifying their traditional cropping, livestock, and forestry systems.⁸ Sooner or later, however, this breathing space will vanish. Time is already running out in some countries. In twenty or thirty years we are likely to see a saturation of river basins in the OCP countries, similar to what is already occurring in Burkina Faso. When this

occurs, not only will the national governments have fewer options, but these options will be more expensive.

Three areas that need immediate coordinated donor attention are:

1. Reinforcement of local land management institutions.
2. Projects to elicit the active participation of pastoralists in sound natural resource management at the community level.
3. Development of income-earning opportunities related to renewable forest products.

LOCAL LAND MANAGEMENT INSTITUTIONS. Donors should support local institutions that provide leadership in sound natural resource management. Local people are more likely to support sound resource management if they see some tangible short-term benefit from this participation. National policies to reinforce their land tenure rights, or programs that raise rural incomes and living standards, might provide these benefits. The village land management (*Gestion/aménagement des Terroirs Villageois - GTV*) approach, which is currently being tried in the Sahelian states of West Africa, may provide innovative techniques for more effective local-level management of natural resources in the Sahelian zone of the OCP region, and may prove useful for the coastal OCP countries as well.

The success of these village land management associations requires (a) strong national support for the land management committee's legal status; (b) committed participation by the indigenous hosts as well as immigrants; and (c) strengthened sectoral funding to develop and maintain education, health, water, and rural road projects in the participating villages.

The first two requirements are generally considered to be within the scope of the existing village land management projects. The third is not, but it is just as critical to good natural resource management. Without targeted investment in infrastructure and government services, village leaders will not be able to convince either settlers or hosts that some tangible benefit will result from their willingness, for instance, to forego the extra income that could be earned from abusive wood cutting, or to invest land and labor in soil erosion control programs or spare cash in agricultural equipment and fertilizer.

The OCP river basins especially, because of their historic lack of settlement, have few access roads, basic health services, or schools. For the same reason, these areas are often distant from administrative and market centers and do not benefit from NGO services and programs. While the GTV approach is still experimental, it promises to increase local awareness of the relationship between natural resource management and sustainable agropastoral production in the OCP areas, and to enable local authorities to manage productive resources on the basis of wider community interests.

Experience with the GTV approach in the Sahelian OCP countries of Burkina Faso, Mali, and Niger reveals several issues that must be addressed before community-based institutions for resource management can be successful, and before elements of the GTV approach can be considered for use in other OCP countries.⁹ First, the model of natural resource management embedded in the GTV approach is that of sedentary village communities. In practice, however, and throughout the OCP countries, patterns of resource use among mobile pastoralist populations differ considerably from those of sedentary farming populations. These contrasting, and increasingly conflicting, indigenous modes of resource use must be considered in promoting local-level resource management.

Second, the model places undue stress on the appropriated land unit (*terroir*) as a site used by settler and host households for generating the real income they need for their livelihoods. Planners seeking more effective natural resource management through local-level institutions must be aware that people in OCP settlement areas may be reluctant to invest labor and capital in natural resource management when they have access to alternative, perhaps less risky, though often more distant, investment options. Interregional and international migrations link the village community with other areas offering such options.

Third, governments in the OCP countries must transfer *power* to the local level institutions that are being promoted for natural resource management. In all OCP countries, governments claim land ownership of last resort, and thus they have final authority over how land is allocated and used. Unless this arrangement is changed, that is, until governments formally empower local institutions to make decisions about access to and use of natural resources, we cannot expect a great deal of local-level commitment to these institutions. To date, and despite lengthy discussions about decentralization in West Africa, governments in the OCP countries are hedging when it comes to effectively transferring power to the community level for purposes of natural resource management.

It is necessary to monitor progress of governments in the OCP region in addressing such issues, and to examine the factors that contribute to or detract from success among local-level institutions in managing natural resources for agropastoral production. As there are so few examples of formally constituted village land management programs, research horizons should be widened to examine other types of community-based organizations that are associated with the implementation of environmentally sustainable systems or components of such systems.

PARTICIPATION OF PASTORALISTS. Livestock is — and is likely to remain — the principal means of investment for farmers in the OCP areas. Moreover, livestock manure is an essential component of intensive crop production. The amount of labor required to keep large animals on-farm generally forces farmers to board their animals with professional herders. Pastoralists have long been one of the main groups who have used the OCP river valleys, both as part of their seasonal migration patterns and as passageways to coastal country markets. Large areas of the Sahelian and Sudano-Sahelian regions of West Africa are better suited for grazing than for settled agriculture,

while the high incidence of trypanosomiasis in the forest zones creates a natural market there for pastoralist livestock products.

Intensification of Africa's pastoral production systems has remained one of the great "black holes" of agricultural development research. Nevertheless, Africa's pastoral production systems have been able to survive without major incident beyond a steady decline in their role in export earnings.¹⁰ Now even their survival is threatened, in part because of increased settlement resulting from successful onchocerciasis control. Since the late 1960s, the northward drift of sedentary agricultural production systems has escalated the pressure on pastoral resources in the lower rainfall areas of the Sahelian OCP countries. One result has been a steady shift southward in the pattern of pastoralist transhumancy and permanent residence. This southward migration is running into direct conflict with the agricultural migrants moving to the same areas for many of the same reasons.

The peaceful integration of farmers and herders throughout the OCP river basins is starting to break down. We believe that the breakdown of these basic social systems is far more serious than the failure of development interventions. The principal indicator of growing competition for river basin land is a steady increase in the level of pastoralist-agriculturalist conflict.

In some countries, local-level conflicts have been escalated by the need to seek scapegoats for worsening economic conditions. About two years ago, Ghana enacted a national law that expelled "alien" pastoralists from her territory. During the same period, several isolated attacks on Fulani villages in northern Cote d'Ivoire caused many pastoralists to flee across the border into Burkina Faso's southern river basins. In the last six months, violent killings have taken place on the Mali-Burkina Faso border, and several hundred migrating animals (but not their herders) were slaughtered on the Benin-Burkina Faso border. These incidents are but pale shades of things to come unless West African governments are helped to develop better programs and policies to integrate pastoralists in the process of national development.

The need for better programs to work with pastoralists — in ways that elicit the active participation of the pastoralists themselves — applies to Africa as a whole. One could argue, however, that OCP is both a cause and a possible solution to the problem. The sparsely populated river basins have long provided an "escape hatch" for pastoralists pushed out of other lands by the steady expansion of settled farming. Because of the successful control of river blindness, these river basins are now being occupied, some very actively. If these settlement trends continue, it will be increasingly difficult for the landlocked Sahelian countries to export their pastoralist "problems" to the south. The clash that can be observed in the OCP river basins of northern Ghana, Togo, Benin, Cote d'Ivoire, and southern Burkina Faso, and along the Mali-Burkina Faso border, will have enormous environmental consequences.

One possible solution involves the delineation of large agropastoral zones that will be reserved exclusively for intensive herding. At the present time, the settlement density

in many of the OCP river basins is still low enough that it would be possible to reserve large tracts of land for this purpose with only minimal involuntary relocation of settled farmers. So far, however, only a fraction of the agropastoral zones originally planned for the OCP river basins has actually been created. Those that were created have often been left unfinished. Little investment has been made in the health and education services and the rural roads that would make the zones agreeable places to live. Almost no attempt has been made to equip the pastoralist land management associations with the necessary literacy or accounting skills to manage the zones. In most cases, the pastoralists' legal title to land in the agropastoral zones has also remained unclear.

These four domains: boundary delineation, legal title, local institutional development, and reinforcing sector investments should receive priority for donor funding. There is also a strong need to monitor and evaluate existing programs, especially the few successful projects that have already been implemented in the valleys.

RENEWABLE FORESTRY RESOURCES. A high percentage of West Africa's remaining natural forest cover and protected forest and wildlife areas is located in the OCP river basins. These areas have been saved by their historic isolation. Land use planning for the valleys must therefore include natural resource planning to preserve some portion of the remaining forest cover and wildlife.

Past experience with classified forests shows that the simple delineation of boundaries around protected forests does not protect them from illegal cutting and grazing. Without the active participation of the local population in boundary enforcement, national governments must rely on an expensive, dense network of extension agents or rangers to enforce their zoning rules. Few West African countries have the financial resources to support this sort of direct regulation. Government planning that gives local populations a vested economic interest in the management and protection of wildlife and forests is more likely to be successful.

Several donors and governments have already started experimental programs to develop income opportunities from renewable forest resources in the OCP river basins. These renewable resources include honey, charcoal, firewood, and shea nut or karite butter. Several of these projects have been quite successful in Burkina Faso, Mali, and Niger. The genius of the concept is that it creates a group of people with a vested economic interest in preserving the natural forest cover. The same model can be used to control illegal cutting, grazing, and farming in the classified forests.

In contrast to the village land management committees and agropastoral zones, in this case a number of highly successful projects follow the same general program model. Donor support for local-level research will therefore be less necessary here than in the other two priority areas. Interventions need to focus on (a) incorporating income from forestry resources into a wider production system at household and community levels, since income from forest products alone is seldom sufficient to provide an adequate economic return to users; (b) expanding the managed forest model to embrace other large areas of contiguous forest; and (c) developing an appropriate body of

supportive tax and subsidy policies that will make these locally managed forestry projects profitable.

Conclusions

Today, new lands settlement is proceeding rapidly in Burkina Faso. Within the near future, large areas of Togo's most accessible river basins with good potential for crop production will undoubtedly be settled. The same can be said for Mali. By 1995, a mere twenty years after onchocerciasis control started, the options open to West Africa's agropastoralists will be dramatically different. If current population trends continue, the time line will be longer in some of the less densely settled OCP countries. Ultimately, however, here too the natural forests will be cut down through shifting cultivation, the only way for extensive farming to be sustainable.

Warning signals were issued for Burkina Faso in a series of environmental and economic impact studies as early as 1973. What has transpired in Burkina Faso has exceeded any expectation at that time. Although the rates of settlement have been much slower in other countries, they are likely to increase over the next twenty years. The current downturn in the economies of the Guinea Coast countries and changing patterns of interregional migration are likely to speed up, rather than slow down, these settlement trends.

The research reported in this chapter provides ample evidence that new land settlement in the OCP river basins can galvanize a wider process of dynamic regional economic growth and development. To accomplish this, however, requires assistance. Such assistance includes government programs to provide the roads, water points, and services that make sustainable land management also profitable. In addition, three priority areas need to be addressed now: local institutions for land management, pastoralism, and forestry. The environmental and social costs of inaction in this case will be especially high.

NOTES

1. World Health Organization. 1985. *Dix Années de Lutte contre l'Onchocercose en Afrique de l'Ouest*. Bilan des Activités du Programme de Lutte contre l'Onchocercose dans la Région du Bassin de la Volta de 1974 a 1984. Geneva: Onchocerciasis Control Programme.
2. These reports are available as IDA Working Papers Nos. 63 through 69. All published July 1990, in Binghamton, New York by the Institute for Development Anthropology. They include: (1) McMillan, Della, Jean-Baptiste Nana, and Kimseyinga Savadogo. *Land Settlement Review — Country Case Study: Burkina Faso.*; (2) Akwabi-Ameyaw, Kofi. *Land Settlement Review — Country Case Study: Ghana.*; (3) Painter, Thomas. *Land Settlement Review — Country Case Study: Togo.*; (4) Koenig, Dolores. *Land Settlement Review — Country Case Study: Mali.*; (5) Buursink, John, and Thomas Painter. *Land Settlement Review: A Review of Settlement Experiences in Benin, Cote d'Ivoire, Guinea, Guinea-Bissau, Niger, Senegal, and Sierra Leone.*; (6) McMillan, Della, Thomas Painter, and Thayer Scudder. *Land Settlement Review — Final Report.*; and (7) McMillan, Della, Thomas Painter, and Thayer Scudder. *Land Settlement Review — Executive Summary*. In addition to thanking the authors of the above reports, we wish to give special thanks to David W. Brokensha who directed the IDA Land Settlement Review until handing over direction to the three of us in November 1989.
3. Scudder, Thayer. 1984. *The Development Potential of New Lands Settlement in the Tropics and Subtropics: A Global State-of-the-Art Evaluation with Specific Emphasis on Policy Implications*. USAID Program Evaluation Discussion Paper No. 21. Washington, D. C.: U.S. Agency for International Development.; See also Scudder, Thayer. 1985. "A Sociological Framework for the Analysis of New Lands Settlement." In Michael M. Cernea, ed., *Putting People First: Sociological Variables in Rural Development*. New York: Oxford University Press.
4. Goering, T. J. 1978. *Agricultural Land Settlement*. Washington, D.C.: World Bank.
5. World Bank. 1985. *The Experience of the World Bank with Government-Sponsored Land Settlement*. Operations Evaluation Department Report No. 5625. (May) Washington, D.C.
6. See McMillan, Nana, and Savadogo, *op. cit.*
7. Horowitz, Michael M. 1989. "Victims of Development." In *Development Anthropology Network* Vol. 7, No. 2: 1-8.
8. Berg, E. J., J. Bisilliat, M. Burer, H. Graetz, R. Melville, V. Volyvan, J. Park, R. C. Sawadogo, H. Sederlof, and K. van der Meer. 1978. "Onchocerciasis Control Programme: OCP Economic Review Mission." Washington, D.C.: World Bank.

9. Painter, Thomas. 1991. "Approaches to Improving the Use of Natural Resources for Agriculture in Sahelian West Africa: A Sociological Analysis of the Amenagement/Gestion des Terroirs Villageois Approach and Its Implications for Non-Governmental Organizations." (February) New York: CARE International.
10. McCabe, J. Terrence. 1991. "Livestock Development, Policy Issues, and Anthropology in East Africa." In Della McMillan, ed., *Anthropology and Food Policy: Human Dimensions of Food Policy in Africa and Latin America*. Athens, Georgia: University of Georgia Press.