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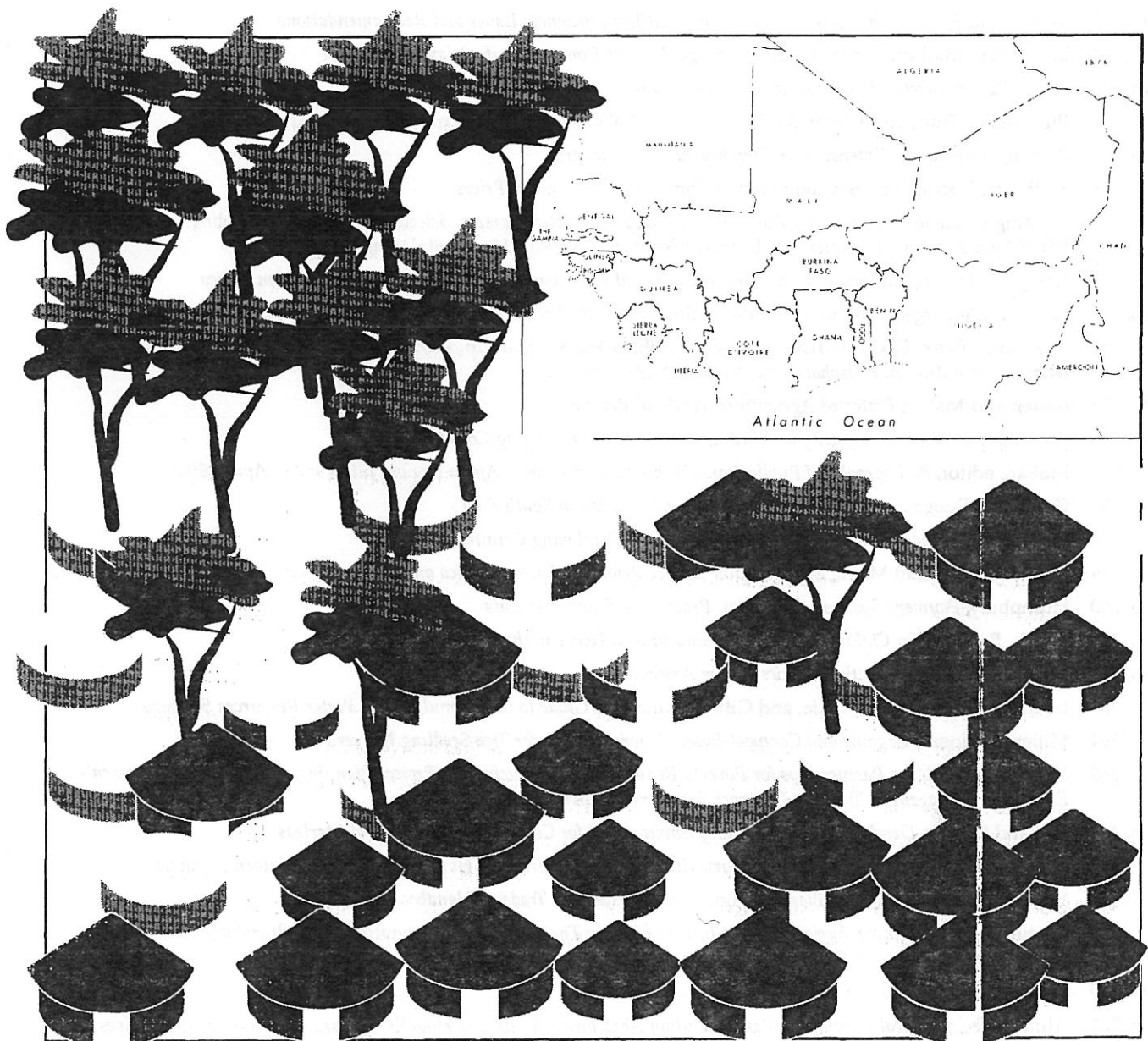
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WORLD BANK TECHNICAL PAPER NUMBER 310
SERIES ON RIVER BLINDNESS CONTROL IN WEST AFRICA

Sustainable Settlement and Development of the Onchocerciasis Control Programme Area

Proceedings of a Ministerial Meeting

Edited by John Elder and Laura Cooley

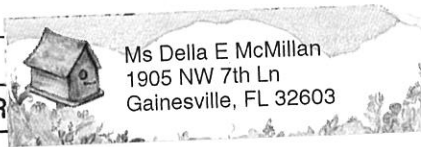


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The World Bank
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Contents

Foreword	vii
Abstract	ix
Acknowledgments	xi
Acronyms and Initials	xiii
Introduction	1
Session 1: Opening Session	3
Welcome by the Committee of Sponsoring Agencies	3
<i>Ellen Johnson Sirleaf, Africa Bureau, United Nations Development Programme</i>	
<i>Edward V. K. Jaycox, Africa Region, World Bank</i>	
Opening Remarks	6
<i>P.V. Obeng, Presidential Advisor on Governmental Affairs, Ghana</i>	
<i>Blaise Compaore, President, Burkina Faso</i>	
<i>Abdou Diouf, President, Republic of Senegal</i>	
The Challenges of Success	11
<i>Bernhard Liese, Committee of Sponsoring Agencies</i>	
Session 2: Natural Resource Management in Settlement Areas	19
Community-Based Land Management in the Onchocerciasis Control Zones	20
<i>Jeffrey Lewis, World Bank</i>	
<i>Emmanuel Nikiema, Office national d'aménagement des terroirs, Burkina Faso</i>	
<i>Samidou Pale, Programme national de gestion des terroirs, Burkina Faso</i>	
<i>Marimantia Diarra, Programme national de gestion des ressources naturelles, Mali</i>	
Capitalizing on Success: The Onchocerciasis Control Programme and Resource Management Options	29
<i>U.S. Agency for International Development</i>	
Discussion	34

Session 3: Land Tenure in New Settlement Areas	37
Land Tenure Policy in Onchocerciasis Control Programme Areas	38
<i>Food and Agriculture Organization</i>	
Land Tenure and the Development of Onchocerciasis-Freed Areas in Northern Ghana	41
<i>George Benneh, University of Ghana, Legon</i>	
Land Tenure and Settlement in the Onchocerciasis-Freed Zones of Burkina Faso	44
<i>Club du Sahel</i>	
Discussion	49
Session 4: Policy on Administrative Structures and the Provision of Services	51
The Rehabilitation of Onchocerciasis-Controlled Areas	52
<i>Ministry of Environmental Protection, Senegal</i>	
Administrative Structures and Services for Sustainable Settlement	56
<i>Ministry of Food and Agriculture, Ghana</i>	
Health Aspects of Settlement in Onchocerciasis Control Programme Areas	60
<i>Hans Verhoef and Rudi Slooff, World Health Organization</i>	
Discussion	69
Session 5: Policy on Settler Participation in the Settlement Process and Selection of Settlement Areas	71
Views of the People on the Sustainable Development of Onchocerciasis-Freed Areas in Mali	72
<i>Aminata D. Traore, United Nations Development Programme</i>	
Capitalizing on Diversity: Women's Issues and Sustainable Development in the OCP River Basins	78
<i>Della E. McMillan, University of Florida, Gainesville</i>	
Settlement and Development of Onchocerciasis-Freed Areas in Mali	96
<i>Ministry of Rural Development and the Environment, Mali</i>	
Discussion	98
Session 6: Sustainable Agricultural Production	99
Sustainable Agricultural Production: Issues and Policy Requirements in the Onchocerciasis Control Programme Areas	100
<i>Food and Agriculture Organization</i>	
Settlement and Development in Ganzourgou Province, Burkina Faso	105
<i>Roberto Cogno, Institut de recherches et d'applications de méthodes de développement and Ministry of Cooperation, France</i>	
Strategic Guidelines for Sustainable Resettlement of Onchocerciasis-Freed Areas	113
<i>Ministry of Agriculture and Animal Resources, Guinea</i>	
Sustainable Settlement and Development of the Onchocerciasis Control Area in Sierra Leone	117
<i>Lt. Col. Abdul Sesay, Secretary of State, Department of Agriculture and Fisheries, Sierra Leone</i>	
Discussion	119

Session 7: Closing Session	121
Closing Remarks	
<i>Ellen Johnson Sirleaf, Africa Bureau, United Nations Development Programme</i>	121
<i>Katherine Marshall, Africa Region, World Bank</i>	123
<i>Hartwig de Haen, Agriculture Department, Food and Agriculture Organization</i>	126
Guiding Principles for Sustainable Settlement and Development in the Onchocerciasis Control Programme Area	128
Annex 1: Background papers	135
Sustainable Settlement and Development of the Onchocerciasis Control Programme Area in Benin	135
<i>People's Republic of Benin</i>	
Experience of Burkina Faso in Selecting Settlement Sites and Settlers	143
<i>Burkina Faso</i>	
The Land Tenure System in the Settlement Areas of Burkina Faso	147
<i>Burkina Faso</i>	
Sustainable Settlement in the Onchocerciasis Control Programme Areas of Guinea-Bissau	150
<i>Republic of Guinea-Bissau</i>	
Resettlement and Development in Onchocerciasis-Freed Areas in Niger	153
<i>Republic of the Niger</i>	
Annex 2: Agenda	157
Annex 3: Participants	161



Foreword

This volume contains the proceedings from the Ministerial Meeting on Sustainable Settlement and Development of the Onchocerciasis Control Programme (OCP) Area, held in Paris, April 12-14, 1994. The meeting brought together heads of state, government ministers, high-level officials, and members of the donor community to review, revise, and adopt a set of guiding principles in support of sustainable settlement and development in the areas freed of onchocerciasis by the OCP.

The OCP is one of the most successful health projects in Africa. Since its inception in 1974, it has had the twin objectives of controlling a debilitating disease and promoting socioeconomic development in areas where the disease has been controlled. The program was launched by seven West African countries and nine donors, including the World Bank, and has expanded to include eleven countries and twenty-three donors. Thirty million people are now protected from the disease, and 25 million hectares of arable land have been made available for settlement.

While the OCP is not directly involved in socioeconomic development, the Committee of Sponsoring Agencies (CSA, comprising the Food and Agriculture Organization, the United Nations Development Programme, the World Health Organization, and the World Bank), the statutory body that oversees the OCP, has worked to facilitate development in the OCP area. As part of this process, the CSA executed the Land Settlement Review, which examined land settlement experiences in the OCP area and developed policy recommendations to support sustainable settlement. The central recommendation of this study was that assisted, spontaneous settlement—a process involving government support to existing settlement patterns—was the most suitable for the massive population movements occurring in the OCP area.

The ministerial meeting was part of the CSA's ongoing effort to promote discussion of settlement and development in the OCP area. The outstanding feature of the meeting was the quality of the discussions. The African participants led the various debates, determining which issues were given priority, commenting on the guiding principles, relating their own country experiences, and raising issues they felt had been ignored. There was particular interest in land tenure issues and considerable debate over the balance between individual and state needs. Gender issues were a strong concern, and women's differing access to land and other resources were problems brought forward by the participants in every session. An additional, very pertinent, concern that surfaced frequently was the issue of transhumant populations and the growing level of conflict between these and other groups. A strong consensus emerged that the guiding principles, modified according to the discussion, provided a clear and sensible set of policies to address the rapid settlement occurring in the OCP area.

The ministerial meeting was a critical step in an ongoing process of how best to ensure sustainable settlement and development of the OCP area. The proceedings of the meeting are being published because sustainable settlement and development of the OCP area are vital to the long-term development prospects of the OCP countries. Moreover, the issues discussed at the meeting—land tenure, community management of natural resources, gender roles and identity, the role of transhumant populations—have wider relevance to sustainable development throughout Africa.

*Katherine Marshall, Director
Sahelian Department, Africa Region*



Abstract

The Onchocerciasis Control Programme (OCP) was initiated in 1974 to control river blindness in seven countries in West Africa: Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, Niger, and Togo. Later, the program was expanded to include Guinea, Guinea-Bissau, Senegal, and Sierra Leone. Today, twenty years after the inception of control, the OCP is widely regarded as one of the most effective regional health programs ever launched. River blindness is no longer a public health threat in the original control zone, and many of the river basins are being resettled.

The Committee of Sponsoring Agencies (CSA), a statutory body of the OCP, consisting of the Food and Agriculture Organization, the United Nations Development Programme, the World Health Organization, and the World Bank, has supported a series of studies to promote sustainable settlement and development in the OCP

area. Out of these studies was developed a draft set of guiding principles for sustainable settlement. In April 1994, the CSA organized a ministerial meeting in Paris to provide a forum for African policymakers to discuss and modify these guidelines. The meeting was attended by ministers of planning, agriculture, environment, and health from the eleven African countries participating in the OCP, as well as by representatives of OCP donors and of agencies working on settlement and environmental issues in West Africa.

This volume contains the papers and speeches delivered at the meeting, summaries of the substantive discussions that took place at the meeting, and the guiding principles for sustainable settlement and development of the OCP area, as revised and adopted by the participants of the meeting.





Acknowledgments

This volume contains the proceedings of the Ministerial Meeting on Sustainable Settlement and Development of the Onchocerciasis Control Programme (OCP) Area held in Paris, April 12-14, 1994. While the meeting was organized by the Committee of Sponsoring Agencies of the OCP, the success of the meeting stemmed from the contributions of a large number of people outside these agencies.

We would like to thank President Diouf of Senegal, President Compaore of Burkina Faso, and Mr. P. V. Obeng, Presidential Advisor on Governmental Affairs, Ghana, for their contributions in the opening session of the meeting. The importance they placed on the issues being discussed was evident from their participation and served to highlight the critical nature of these issues to those not familiar with West Africa.

The key to the success of the meeting was the quality of the discussion, led by the participants from the African countries in the OCP: Benin, Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Guinea-Bissau, Mali, Niger, Senegal, Sierra Leone, and Togo. These participants presented papers analyzing experiences with settlement in their own countries, carefully reviewed, critiqued, and amended the guiding principles for sustainable settlement and development prepared by the sponsoring agencies, and maintained the discussion at a constructive and challenging level throughout the meeting.

The high quality of the discussion was also due to the efforts of the chair, Mr. Lambert Konan, Minister of Agriculture and Animal Resources, Côte d'Ivoire, who worked hard to produce a focused and constructive debate. In addition, he ensured that the participants' modifications and additions to the guiding principles were incorporated into the final document.

Mr. Warren Furth was responsible for supervising

meeting preparations, a task that included visiting many of the participating countries to discuss the meeting with government officials and to emphasize the importance the sponsoring agencies placed on the issues to be discussed.

The World Bank's Paris office did a superb job of managing the difficult logistical and administrative arrangements for the meeting. Paris staff worked long hours both in preparing for the meeting and in accommodating the diverse requirements of the more than 100 participants.

We would like to thank Dr. David Baldry and Dr. Davide Calamari, authors of a study on the environmental impact of settlement, for attending the meeting and for allowing their data to be used in the CSA presentation. We would also like to thank Dr. George Benneh, University of Ghana, Legon, for presenting some of his work on land tenure and land settlement and Dr. Della McMillan for sharing her work on the impact of settlement on women.

The representatives from ORSTOM (*Institut français de recherche scientifique pour le développement en coopération*) and the Club du Sahel added greatly to the discussion, sharing their extensive field experience in West Africa.

We would also like to thank the OCP donors, many of which sent representatives to the meeting. Since the beginning of the program, the donors have insisted that the control of onchocerciasis be followed by sustainable settlement and development of the OCP area.

Funding for the meeting was very generously provided by the Food and Agriculture Organization, the French Ministry of Cooperation, the Kuwait Fund for Arab Economic Development, the Netherlands Ministry for Development Cooperation, the United Kingdom Overseas Development Administration, the United Nations Development Programme, the World Bank Onchocerciasis Unit, and the World Bank Research Support Budget (RPO 678-85).





Acronyms and Initials

AFRO	WHO Regional Office for Africa	OMVG	Organisation pour la mise en valeur du fleuve Gambie
AGRHYMET	Agrometeorology and Operational Hydrology Centre (Niger)	ONAT	Office national d'aménagement des terroirs (Burkina Faso)
AVV	Autorité d'aménagement des vallées des Voltas (Burkina Faso)	ORD	Organisme régional de développement (Burkina Faso)
CBLM	Community-based land management	ORSTOM	Institut français de Recherche Scientifique pour le Développement en Coopération
CFA	Communauté financière africaine	PNNK	Parc national du Niokolo Koba (Senegal)
CMDT	Compagnie malienne pour le développement des textiles	RAF	Réorganisation agraire et foncière (Burkina Faso)
CMFL	Community microfilarial load	RMA	Recruitment/migration agent (Burkina Faso)
CNCA	Caisse nationale de crédit agricole (Burkina Faso)	STN	Société des terres neuves (Senegal)
CRPA	Centre régional de promotion agropastorale (Burkina Faso)	UNCED	United Nations Conference on Environment and Development
CSA	Committee of Sponsoring Agencies of the OCP	UNCHS	United Nations Centre for Human Settlements (Habitat)
DFN	Domaine foncier national (Burkina Faso)	UNDP	United Nations Development Programme
EAC	Expert Advisory Committee of the OCP	UNEP	United Nations Environment Programme
ECOWAS	Economic Organization of West African States	UNESCO	United Nations Educational, Scientific, and Cultural Organization
FAC	Fonds d'aide et de coopération (France)	UNFPA	United Nations Fund for Population Activities
FAO	Food and Agriculture Organization of the United Nations	UNICEF	United Nations Children's Fund
HIA	Health Impact Assessment	UNIDO	United Nations Industrial Development Organization
IDA	Institute for Development Anthropology	WFP	World Food Programme
IFPRI	International Food Policy Research Institute	WHO	World Health Organization
JPC	Joint Programme Committee of the OCP	WMO	World Meteorological Organization
LSR	Land Settlement Review	VRA	Volta River Authority (Ghana)
NGO	Nongovernmental organization		
OCP	Onchocerciasis Control Programme (in West Africa)		





Introduction

The Onchocerciasis Control Programme (OCP) is one of the most successful health programs in Africa: it has virtually eliminated river blindness as a public health problem in the eleven-country area in which it operates.¹ The programme is a model of intercountry cooperation and of long-term commitment by donors to achieve an important development objective. Started in 1974 in seven countries with the support of nine donors, the program now covers eleven countries and has support from twenty-three donors.

One of the primary justifications of the Onchocerciasis Control Programme has always been the removal of a major constraint to the economic development of the OCP area. The participating African countries and the major donors to the OCP have emphasized their concern that the economic potential of this vast area be tapped once the disease had been brought under control. It is estimated that successful control of onchocerciasis is opening up 25 million hectares of arable land that had been uninhabitable because of the severity of the disease. The Joint Programme Committee (JPC, representing the African countries and donors participating in the OCP) acts as the executive secretariat of the program. At the JPC's request, the Committee of Sponsoring Agencies (CSA, representing FAO, UNDP, WHO, and the World Bank) has actively promoted socioeconomic development of this area since 1987. The CSA has completed two regional studies in support of development in the area. The first, the Hunting report, examined the area's natural resource endowment and development potential. The second, the Land Settlement Review, examined land settlement experience in the OCP participating countries and developed policy recommendations to support sustainable settlement and development of the onchocerciasis-free areas.

To encourage follow-up policy reforms and investments to support sustainable settlement and development, and to ensure that the policy recommendations of the Land Settlement Review reached the appropriate audience, the Joint

Programme Committee requested the CSA to organize a high-level meeting involving the ministers of agriculture, environment, planning, and health of the eleven participating countries and representatives of the donor community. The main objectives of the meeting were to create awareness at the highest level of the development potential of the OCP area and the relationship between rapid settlement and environmental change, to build a constituency for effective policies for sustainable land settlement, and to adopt a set of guiding principles for sustainable settlement and development of the OCP area.

The importance which the eleven African countries participating in the OCP place on the issues of sustainable settlement and development of the OCP area was demonstrated by the fact that each country sent ministerial-level representation to the meeting. The meeting was opened by President Diouf of Senegal, President Compaore of Burkina Faso, and Mr. P. V. Obeng, Special Advisor to President Rawlings of Ghana. In addition to high-level representation from the four sponsoring agencies of the OCP, ten other donors to the program sent representatives, as did Institut français de Recherche Scientifique pour le Développement en Coopération (CRSTOM) and Club du Sahel, both of which have done extensive work on settlement and environmental issues in West Africa.

A strong consensus emerged from the discussions at the meeting that the guiding principles provided a clear and sensible set of policies to address the rapid settlement in the OCP area. The speeches, papers, and discussions included in this volume indicate the diversity of situations in the OCP area and the broad spectrum of issues that affect the sustainable settlement and development of the onchocerciasis-free river valleys.

¹*Benin, Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Guinea-Bissau, Mali, Niger, Senegal, Sierra Leone, and Togo*



Opening Session

This session included welcoming speeches by the two co-chairs of the Committee of Sponsoring Agencies, followed by opening presentations by President Diouf of Senegal, President Compaore of Burkina Faso, and Mr. P. V. Obeng, Presidential Advisor on Governmental Affairs of Ghana. All the presentations emphasized the OCP's extraordinary success in controlling a debilitating disease and the importance of regional and international cooperation in achieving that success.

The final presentation in this session, prepared by the Committee of Sponsoring Agencies, outlined the rationale for the meeting. Control of onchocerciasis has prompted rapid migration to sparsely populated but fertile river valleys throughout the OCP area. Drawing on data from an environmental impact assessment executed by the CSA and on regional demographic statistics, the paper shows the relation between settlement and the environment, and outlines the potential environmental consequences of uncontrolled settlement. The speed with which settlement is occurring and its potential impact on the environment reinforced for the meeting participants the importance of the issues being discussed.

Welcome by the Committee of Sponsoring Agencies

*Ellen Johnson Sirleaf
Africa Bureau, United Nations Development Programme
Co-chair, Committee of Sponsoring Agencies*

Too often meetings are convened to address economic, political, and social crises or to consider where our development strategies went wrong. This meeting is an exception. We are here today to recognize the achievements of perhaps the most successful program of technical cooperation between donors and governments in Africa—a twen-

ty-year effort that has liberated vast areas of the West African subregion from the scourge of river blindness. We are also here to find ways to exploit, on a sustainable basis, the development dividend resulting from this success.

I would like to pay tribute to the foresight, dedication, and commitment of the African leaders, the scientists, the health professionals, and the planners who have worked together to rid large areas of this dreaded disease. I wish also to pay homage to Robert McNamara (of the World Bank) and Paul Hoffman (of the UNDP). In the early 1970s, these visionary development leaders saw in the Onchocerciasis Control Programme clear links between health, the productivity of people and land, environmental protection, and growth—all basic elements of what we now refer to as a sustainable development strategy.

The OCP renews our optimism about the potential for progress in human development in Africa. It provides valuable guidance for further development cooperation. It provides a strategy for addressing a short-term health problem within the context of a long-term development perspective and specific, measurable outputs. Perhaps more important, under its director, Dr. Ebrahim Samba, it demonstrates what excellent leadership and management can do.

Settlement and sustainable development, the theme of this meeting, are central to the UNDP's mission to forge a development strategy around human concerns. In the paradigm of sustainable human development, the success of a national economy is measured by its soul—by the improvements it brings to the lives of the great masses of the poor. Equally, it is measured by its vision, by its restoration of the environment for future generations, and by its empowerment of the people to participate in the decisions that affect their lives. Sustainable human development is thus people-centered and gender-sensitive, environmentally sound and participatory.

Settlement is a dynamic process that involves uncertainty, change, choice, adaptation, and hope for future generations—and thus implies both potentially creative and potentially disruptive tensions. As the link between people and land, settlement lies at the heart of people's lives. We will discuss issues relating to this link: markets, land tenure, access to credit, agricultural practices, natural resource management, and rural development initiatives. We will also examine the consequential and even more complex issues raised by migration resulting from the elimination of river blindness or from refugees searching for a new life.

Settlement patterns vary within and between countries. Thus, there is no single policy or strategy for achieving sustainable settlement, and it would be presumptuous in a meeting such as this to propose a policy prescription as applicable to all situations. The wealth of knowledge and experience represented here should, however, enable us to provide the basis for the set of guiding principles for sustainable settlement that is the centerpiece of this meeting.

The agenda for this meeting relates closely to the post-Rio Agenda 21 blueprint for making development socially, economically, and environmentally sustainable. Agenda 21 places most of the leadership responsibility for change on national governments, but recommends that they work in a broad series of partnerships with nongovernmental and citizens' groups, regional and local governments, and business and international organizations. Government support to settlement, coalition building with civil society, decentralization of decisionmaking, empowerment—these are the fundamental people-centered issues that we will examine as they apply to settlement in the onchocerciasis-freed areas.

The sponsoring agencies do not view this meeting as an end in itself, but as the beginning of a process that will spark renewed interest in and consideration of sustainable development policies as they relate to priority investment and capacity building initiatives in the OCP countries. Cooperation in such initiatives between the UNDP and the eleven countries represented here is already taking place within the UNDP country program framework. We go forward prepared to focus greater attention on settlement issues at the country level, and we are open to examination of mechanisms for multidonor programs responding to national development priorities. This meeting provides the opportunity to enhance the dialogue in this area.

Welcome by the Committee of Sponsoring Agencies

*Edward V. K. Jaycox, Africa Region, World Bank¹
Co-chair, Committee of Sponsoring Agencies*

There are Afro-optimists and Afro-pessimists. I happen to be an optimist about Africa. I have seen how development programs can be made to work. The program we are

addressing today is the best example that I know of an effective development effort.

We are here for two basic reasons: *

- To recognize one of the most remarkable accomplishments in development assistance—achieving successful control over a widespread, devastating disease throughout a major subregion of West Africa.
- To ensure that the best possible follow-up strategies are adopted so as to reap the wider development benefits that can and should flow from the success of the Onchocerciasis Control Programme. A principal rationale for launching the OCP was to provide a new impulse for the socioeconomic development of areas that had been deserted or underinhabited because of the severity of onchocerciasis. Although the OCP's achievements in controlling disease are by themselves cause for celebration, in the business of development there is no finish line. We are here to move forward—to solidify and build on what has been accomplished.

The Onchocerciasis Control Programme and effective development in Africa

The Onchocerciasis Control Programme is the epitome of effective partnership in African development. It is proof that long-term international collaboration can successfully tackle major regional problems in Africa and that well-coordinated development assistance produces results. The program's success in building and maintaining a coalition of eleven African countries and more than twenty donors over a twenty-year period in pursuit of a single objective—controlling onchocerciasis—is virtually unprecedented. It illustrates how concrete results can attract and retain broad support over an extended period. Performance strengthens collaboration and support, and thus enhances the likelihood of continued success.

I would like to take this opportunity to congratulate the participating countries and the OCP donors represented here for their long-standing commitment to this program. Most of us would agree that what we have accomplished collectively through the OCP far surpasses both our expectations and what we could have achieved working separately.

There are other elements of the OCP experience that, together with that persistent commitment, form a sound package for pursuing effective development in Africa:

- *Fostering African regional cooperation and integration.* The extended close collaboration among the subregion's eleven countries—among them countries of francophone, anglophone, and lusophone heritage—has played a central role in the success of the OCP and enhances the prospects for other cooperative regional endeavors.

- *Eliminating key constraints to increased agricultural production and food security.* The opening up of onchocerciasis-affected areas to settlement and cultivation has helped accelerate agricultural growth in several of the OCP countries. All the African countries represented here have a comparative advantage in agriculture—some an increased one because of the recent devaluation of the CFA (*communauté financière africaine*) franc—and growth in that sector is essential for mobilizing the domestic resources needed for investments in development and—through increased food production—for reducing poverty, alleviating malnutrition, and enhancing food security.
- *Promoting human resource development and poverty reduction.* When the program ends in the year 2000, it will have prevented about 500,000 cases of blindness in the subregion's poorest rural areas. That prevention of disease represents a magnificent gain in the quality of human life and will add 10 million years of productive labor to the economies of the eleven OCP countries. The consequent human resource development and poverty reduction are essential for achieving long-term sustainable growth with equity.
- *Safeguarding the environment.* An integral feature of the OCP since its inception—long before environmental issues came to the forefront in development—has been the careful monitoring of control measures by an independent group of internationally recognized ecologists to minimize risk to the West African environment. Most Sub-Saharan countries, particularly those in this subregion, have fragile ecologies, and environmental protection is a prerequisite for the enhanced well-being of African societies.
- *Building local capacity to sustain and enhance results.* The staff of the program, which presently numbers about 600, is now 97 percent African and of world-class quality. The program, once dominated by expatriates, has developed superb African management of the highest integrity, exemplified by the leadership of its director, Dr. Samba, and has become a viable, dynamic regional institution. Within the participating countries, a major effort is underway to build capacity to ensure that there is no recurrence of the disease once the OCP ceases operations. Capacity building, always essential for ensuring the long-term sustainability of development efforts, is particularly critical for securing the achievements of the OCP for future generations.

Socioeconomic development of the onchocerciasis-freed areas

When Robert McNamara proposed an onchocerciasis control program to the World Bank's Board of Executive

Directors in the early 1970s, the Bank's principal concerns in Africa were poverty reduction and the drought that was devastating much of the Sahel. Thus, although the OCP was established as a disease control program, socioeconomic development was its implicit *raison d'être*. Controlling onchocerciasis is freeing up nearly 25 million hectares of arable land for resettlement and cultivation. We estimate, based on existing technologies and cultural practices, that the vast new possibilities for agricultural production in the subregion have the potential to feed an additional 17 million people a year. Yet we recognize that new settlement and increased agricultural production on previously underutilized but fragile lands may present environmental risks. The stakes are therefore high. There is an urgent need for coordinated sustainable development in the onchocerciasis-freed areas.

Work on settlement and development of these areas is not new. Over the past six years, the sponsoring agencies of the OCP have prepared a series of in-depth analyses of the natural resource potential of these areas and of policy reforms to support sustainable resettlement throughout the subregion. These analyses have been discussed by your governments in OCP forums. In virtually all the OCP countries, donor-supported national efforts are underway to build infrastructure and undertake environmental planning in the onchocerciasis-controlled areas. Now is an opportune time to seek consensus—at the highest levels—on a set of guiding principles in support of settlement policies and on the follow-up actions required to implement them.

If we wait longer, it will soon be too late. Rapid migration into the onchocerciasis-freed areas is already occurring, particularly in the Sahelian zones, and substantial increases in agricultural production are being accompanied by deforestation and environmental degradation. These areas will continue to be resettled and developed regardless of what we do. But there are policy reforms and actions that we can take together to help ensure that settlement and development follow a sustainable course. The World Bank will play its part by supporting sustainable settlement-related development through its lending program, and it encourages governments to give the onchocerciasis-freed areas an important focus in environmental action plans, land management projects, and other, related rural development efforts.

Conclusion

The attendance at this meeting provides gratifying evidence of the high-level attention being given to settlement and development of the OCP areas. Clearly, the "can-do", collaborative spirit of the OCP lives on. I am convinced that, together, we can capitalize on the OCP's success in disease control and promote sustainable devel-

opment of the rural areas of this African subregion. The achievements of the OCP partnership for African development refute the Afro-pessimists. It is my hope that at this meeting we can set a determined course to exploit the many development opportunities unfolding as a result of the OCP success and, as a consequence, swell the ranks of the Afro-optimists.

Opening Remarks

P. V. Obeng

Presidential Advisor on Governmental Affairs, Ghana

This ministerial meeting is a symbol of the success of a partnership between people and between the donor and the recipient communities. We should not take this success for granted: history is replete with failures. Let the success of this experience encourage us to continue to believe in multilateralism and partnership between the donor and the recipient communities. But we hope that this partnership can move beyond the labels that we use today. With continued commitment and cooperation, and as success promotes further success, the day will come when development efforts will be so integrated into national activities in Africa that it will no longer be necessary to use the words *donor* and *recipient*.

This meeting is also a symbol of African countries' commitment to working together. It is said that if African states had continued to tackle the problem of onchocerciasis through individual efforts, as they sought to do initially, after twenty years we would still be complaining about failure, without counting our lack of will to work together as a contributing factor. This success in African cooperation gives us reason to pursue other challenges through regional cooperation and integration.

The Onchocerciasis Control Programme has maintained its focus on its two main objectives. The first item on the agenda was to use collective work and collective resources to make affected areas safe for human habitation and to prevent human misery through the eradication of the vector disease. Second on the agenda is the settlement, the resettlement, and the resumption of socioeconomic reintegration of people in these areas. As we celebrate the twentieth anniversary of the launching of this program, we mark the nearly complete accomplishment of the first part of the agenda and begin to talk about the elements that will determine the success or failure of the second part.

As we begin to talk about resettlement, part of the issue that we must confront concerns two potential kinds of competition for the onchocerciasis-freed land. The first is internal competition, a struggle over land between two groups of people within a country. In considering ways to address such conflicts, we need to take stock of our own

time-tested land tenure systems and see how far they might go toward resolving them.

The second potential kind of competition is international, a struggle over land between two countries. Here the experience of Ghana and the countries with which it shares borders—Burkina Faso, Côte d'Ivoire, Togo—demonstrates a good framework for resolving land disputes. Before conflicts arose, these countries commenced border demarcation exercises in a peaceful and friendly atmosphere. Through the use of time-tested tools of conflict resolution, as in the case of the border demarcation, we should be able to avert land conflicts between countries.

As we recognize our progress toward eradicating the disease vector, we must remember that complacency can lead to the reversal of that progress. That is why it is so important that surveillance and monitoring have become essential components of the mopping-up exercises associated with eradicating the vector. Ghana has made surveillance and monitoring an integral part of its public health program in the areas affected. But even in surveillance and monitoring, we need to continue to work within a multilateral or regional framework, with the same level of cooperation and commitment. Tests record an infection rate for fertile female blackflies of 0.3 to 0.7 in every 1 thousand. And it is hard to prevent the blackfly from traveling. It requires no visa; it recognizes no boundary. Thus, even with the devolution of some activities, we must maintain the regional framework for monitoring and surveillance.

We in Ghana are taking the issue of devolution very seriously. We are sharpening our institutional and program framework to support the continuation of this initiative. In the working sessions, we will attempt to demonstrate how our decentralization program for national administration provides the ingredients for coordination among the agencies whose efforts will be required to sustain the program. Each of the three districts in the program has a distinct structure that provides links between health management, district health management, agricultural productivity, environmental management, and management of land and other resources. What we need to do, and are doing, is to make the institutions more aware of where we are headed on the onchocerciasis agenda. As we begin to see isolated occurrences of onchocerciasis in regions that had been free of the disease, it is important that we take up the program's activities at a national level. In the long run, the government of Ghana is committed to integrating onchocerciasis control activities, both preventive and curative, into the regional public health system.

As the land freed from onchocerciasis is deployed for economic development, it is likely to attract two types of economic operators: people who are returning to their original land and people who have been dispossessed of

land or had no land and who would like to take advantage of the new availability of land to engage in agriculture. Conflict between returnee and host populations could begin to erode the benefits of the program. Our resettlement system would recognize the historical motives of the groups that are coming and ensure harmony even among returnees.

We have had three types of resettlement experience in Ghana. One was the resettlement of people from an overpopulated region to a less-populated region with fertile land. Another was the resettlement of large communities for the construction of the Volta dam. The successes and failures of these resettlement projects, together with the experience in other projects, have given us a fair understanding of the social, economic, and cultural issues associated with resettlement. All these experiences will influence our resettlement projects, our tactics, and the structures that we create for managing settlement and economic activity.

As we resettle the onchocerciasis-freed areas, we need to remain vigilant not only about the blackfly, but also about other possible pests. In Ghana, the onchocerciasis-freed area offers tremendous potential for pastureland and will soon be home to cattle and other livestock. It might also become home to tsetse and other kinds of pests. If tsetse are allowed to spread uncontrolled and people return only to fail once again because of this pest, they may believe that the gods of the land drove them away with blackflies and will drive them away again with the tsetse. That belief could make resettlement impossible. So, as we talk about resettlement, we need to identify other pests likely to pose risks for resettlement and to expand the mandate of the OCP, or establish mandates for other organizations to deal with any expected pest problems, to ensure that the program's achievements are sustained.

Opening Remarks

Blaise Compaore
President, Burkina Faso

Before 1974, when Onchocerciasis Control Programme activities were launched in Burkina Faso, my country had the sad distinction of being one of the countries in which river blindness had taken the greatest toll. By that year, some 19,000 people had been blinded by the disease.

This situation had alarming socioeconomic consequences:

- The country's population was unevenly distributed, as fertile river valleys were abandoned and the plateau areas became overcrowded.
- Agricultural yields declined because of overcultivation.
- Mini-holdings proliferated.
- Household productive capacity declined heavily.
- Farmers' incomes were very low.

Today, thanks to the OCP, the situation has improved

dramatically. The entire country is protected against onchocerciasis, with nearly zero prevalence in all regions. The risk of blindness due to the disease is also zero, freeing some 40,000 people afflicted with the disease from that danger. None of the 4 million Burkinabé children born after the start of the OCP is at risk of becoming blind as a result of the disease. And all the river basins freed of onchocerciasis are today the scene of major socioeconomic development projects.

The Office national d'aménagement des terroirs (ONAT), set up to coordinate and execute resettlement and development operations, draws on experience and know-how inherited from the Autorité d'aménagement des vallées des Voltas (AVV). The AVV began activities in onchocerciasis-freed areas as soon as the OCP was launched in 1974. Since then, many projects have been implemented, including:

- Settlement of close to 60,000 volunteer farmers in some 100 new villages for rainfed farming
- Settlement of more than 7,000 farmers, including 51 university graduates, for irrigated farming
- Development of almost 250,000 hectares of arable land
- Construction of schools, dispensaries, village pharmacies, wells, tubewells, reservoirs, village roads, and other socioeconomic infrastructure.

These achievements remain very small relative to the potential of the onchocerciasis-controlled areas in Burkina Faso, however. The AVV, followed by ONAT, has achieved barely more than 20 percent of the original goals set in 1974 for settling farmers in rainfed areas. In Sourou, where some 30,000 hectares were suitable for development, only about 4.5 percent of the area is now farmed. In Komienga, 400 hectares of irrigable land downstream have yet to be developed; the upstream area also offers good land for development. At Bagré, development of more than 30,000 hectares will probably start in 1994.

Nevertheless, we can affirm that the financing contributed to the OCP will show a definite return once the onchocerciasis-freed areas in the eleven beneficiary countries are developed and farmed in a rational manner. In the areas resettled and developed by the AVV, the value of vegetable and animal production was estimated at 10.6 billion CFA francs (CFAF) in 1990, or US \$35.3 million.

Burkina Faso shares its borders with the six other countries in the original OCP area (Benin, Côte d'Ivoire, Ghana, Mali, Niger, Togo). We in Burkina Faso have followed with great interest the progress of the onchocerciasis control activities in those countries and are happy to note that the Onchocerciasis Control Programme has obtained equally satisfactory results in all six. In the very near future, the fight to control the disease in the extended OCP area will most certainly be just as successful, alleviating the suffering of the inhabitants of those regions

who are victims of the disease and consolidating the excellent results achieved in the original area.

Permit me to take this opportunity to pay sincere tribute to, and renew our profound gratitude to, the entire international community, particularly all the donor countries and agencies that for nigh on twenty years have worked together unceasingly to achieve the successful outcome that we witness today.

To prevent the disease from returning to those valleys in which it has been eradicated and undoing in the long run all the progress made in developing them, however, we need to consolidate our achievements. That would require meeting a number of conditions, relating to:

- The way in which the OCP is finally completed
- The extent to which the participating countries are prepared to assume ownership of the remaining OCP activities
- The mechanisms for coordinating activities among the countries concerned.

On the basis of the technical and scientific data accumulated over the past twenty years, we can look forward with confidence to a total victory for the program by the year 2000. But those same data show that, if for any reason the OCP were forced to cease its activities before 2000, the excellent results obtained so far would be rapidly jeopardized by a recurrence of the disease, first in the extension areas of Benin, Côte d'Ivoire, Ghana, Guinea, Sierra Leone, and Togo, and then in the original OCP area.

Consequently, the message I should like to address to the international community through you, the program's donors, is that your commitment to finance the work being done to promote vector control and treatment of sufferers will need to be maintained for seven to eight more years to bring the situation permanently under control in the extension areas, the *sine qua non* for the program's complete success.

During that period the beneficiary countries, with technical support from the OCP, will have to redouble their efforts to assume ownership of the program's remaining activities. Our commitment to safeguarding the achievements of this massive program remains firm and will take practical form during the process of devolution. It is essential that all our countries take a concerted approach to the detection and control of any recurrence of onchocerciasis throughout the entire area concerned, and to settlement of the freed areas.

Between now and the year 2000, our countries will need to strengthen their capacity for epidemiological surveillance of the major endemic diseases so as to ensure the timely detection and control of any recurrence of

onchocerciasis. To this end, each country has already prepared its own devolution plan, combining onchocerciasis surveillance with surveillance to be put in place for other endemic diseases, such as African human trypanosomiasis, schistosomiasis, and guinea worm infestation.

Major campaigns to sensitize and mobilize our populations are underway. In all the onchocerciasis-freed areas where larvicide treatments have been permanently halted, local, mobile OCP-trained researchers have launched longitudinal epidemiological surveys in the river basins at high risk for recurrence. Onchocerciasis patients are being treated with ivermectin as part of an intense campaign being conducted by the staffs of our countries' health agencies, but with more and more participation by the rural communities themselves.

We in Burkina Faso remain convinced that it is impossible to dissociate health-oriented activities from those targeting development in the onchocerciasis-freed areas. We believe that the basic actions to promote health and development can be handled by a single agency or institution providing coordination and guidance. Such an institution, which could be modeled on the organizational and functional structure of the OCP, would have the role of adviser, motivator, and coordinator and would be entrusted with ensuring that the riches of the environment were duly respected and safeguarded. The institution would be represented in each country by a national unit within an agency already heavily involved in managing onchocerciasis-freed areas. Each national unit would identify the development activities needed at both the local and the national levels, participate in the preparation of regional projects, and coordinate and contribute to the implementation of sustainable socioeconomic development programs. This new institution would use the infrastructure and logistic resources left in place by the OCP to consolidate technical cooperation among our countries. The bases for this coordinating institution and its operating procedures should be clearly defined and adopted by all parties concerned before the OCP permanently ceases its activities.

The battle that has been waged for nearly two decades against this essentially rural endemic disease is in reality a battle against poverty. We are therefore warriors in a noble and inspiring fight, and the conclusions of this conference will be among our most effective weapons. We shall use those conclusions to establish long-term strategies designed to ensure that our rural inhabitants can enjoy the social and economic advantages that will lead them out of their extreme poverty without damaging their environment.

Opening Remarks

Abdou Diouf

President, Republic of Senegal

I have many reasons for lending my support unreservedly to your activities. Three reasons uppermost in my mind are the seriousness of the disease you are fighting, the exemplary nature of the Onchocerciasis Control Programme, and the exciting new approach that is the topic of this meeting—sustainable settlement and development of the onchocerciasis-controlled areas.

The program's dual approach to controlling this endemic disease—eradicating the *Simulium* vector through appropriate insecticides and treating sufferers with drugs, primarily ivermectin—has achieved excellent results. Transmission of the disease has been halted in more than 80 percent of the original area targeted by the program. The risk of blindness has disappeared almost completely. In Senegal, surveys in several villages in the most heavily infected area have shown a 91 to 99 percent reduction in the prevalence of the disease. An estimated one million afflicted persons are now free of infection.

It is with heartfelt emotion that, on behalf of my fellow West African heads of state, I express my sincere congratulations to all those who have contributed to this success: the OCP team, the country teams, and the donors, who have given us their unflagging support. Above all, I should like to congratulate OCP Director Dr. Ebrahim Samba, whose untiring efforts have been justly crowned by the award of the Hunger Project prize.

In this same spirit I should like to pay tribute to the memory of Mr. Roger Chaufourmier, former Vice President, Western Africa, of the World Bank, who passed away on March 15, 1994. To the family of this tireless and generous pioneer in the battle against onchocerciasis, I offer our sincere condolences and the assurance of our commitment to perpetuating Mr. Chaufourmier's memory, which will always be associated with the efforts to eradicate this terrible disease.

However spectacular the success of this program, it would be to little avail if its lessons were limited to river blindness alone. Our countries are subject to many such scourges, some with even more terrifying potential than onchocerciasis. Parasitic diseases—including, besides onchocerciasis, filariasis, schistosomiasis, and sleeping sickness—still take a heavy toll. Some afflictions, such as malaria, are gaining ground as their vectors become increasingly resistant to the classic remedies. In addition to maladies of this type, there are other pandemics, such as AIDS, to which Africa especially has fallen victim. And on a broader scale, there are other devastating circumstances that, like the development of parasitic diseases, have complex relationships with the environment and

with underdevelopment, such as the destruction wrought by locusts and the disappearance of the forest cover.

It is a striking fact that the success of the Onchocerciasis Control Programme is due to factors that could be transposed very usefully to other fields. First, I would cite the united front demonstrated by the African countries concerned in confronting the dual challenge to public health and socioeconomic development represented by onchocerciasis. This unity of action was encouraged by the active support of the international community. When we look at the spectacular development today of what we in Africa call African integration, we must not forget that the initiators of the Onchocerciasis Control Programme were largely the precursors of that movement.

Second, we should highlight the determination with which this program has been carried out over the past twenty years. The key to successful development is continuity: the development process cannot thrive on spectacular, one-time events that often have no future.

Third, the program has shown the need to establish links between the approach to public health, the approach to the environment, and the approach to economic development. In Africa, parasitic diseases have benefited to a certain extent from such development-related activities as the construction of large dams and the use of irrigation. But the days are now gone when specialists in different fields could act separately and without consultation on key development-related issues, such as infrastructure, agriculture, public health, and environmental protection.

This need for links is reflected in the choice of topic for your meeting: sustainable settlement and development of the onchocerciasis-controlled areas. Indeed, why free areas of this disease if the people are deserting those areas and flocking to other regions, where they end up living in overcrowded and often deplorable conditions? What is the good of eradicating an endemic disease if the land does not produce the food to nourish those whose lives have been saved? And—a familiar issue facing those who wage war on underdevelopment—what is the point of bringing a program to a successful conclusion if the very evils it was designed to overcome start to come back immediately after it is completed?

Developing the 25 million hectares of fertile land available for cultivation in the onchocerciasis-freed areas would make it possible to feed and ensure the well-being of some 17 million inhabitants. These people must of course be permanently protected against a return of the disease.

Confronting the challenge of sustainable settlement and development of the onchocerciasis-controlled areas is the crowning achievement of your efforts. Once again, you are given the opportunity to be pioneers. We in the African states now face the challenge of implementing key new ideas: bringing an integrated approach to the various

issues, looking beyond the purely statistical results of one policy or another to the goal of human development and growth, and seeking sustainable development—development that is both economically viable and respectful of the environment.

For Senegal, putting these ideas into practice will be particularly exciting because it will take place in an area that is rich in promise and yet—sparsely populated and far from the capital—little known. The area is less prey to desertification than many other regions of the country and has a vast national park, Niokolo Koba Park, covering almost 10,000 square kilometers. This reserve, long simply a protected natural area and a living testimony to the wilderness of old, is destined to serve increasingly as a starting point for activities to reinstate an optimum natural resource balance, something to which your efforts will

certainly contribute. A successful outcome for the program will reveal that a preserved environment can be a source of wealth for its inhabitants.

Ensuring that the environment provides wealth in that region is the objective of my government, which is making every effort to minimize the difficulties associated with the region's remoteness from the capital and, at the same time, to improve the conditions for exploiting its mining, agricultural, industrial, and tourism potential. By bringing this area into the spotlight, your meeting echoes our present concerns. I have no doubt that the same holds true for similar areas in the other countries concerned.

I am also convinced that once this new stage in your activities has been implemented and the results are reviewed, even more original ideas will come forth that could be usefully replicated elsewhere.

The Challenges of Success

Bernhard Liese

Committee of Sponsoring Agencies

The vast cooperative effort that went into Africa's Onchocerciasis Control Programme over the past twenty years has made it one of the most successful health programs anywhere in the world. Supported by twenty-three donor agencies and carried out by the governments of eleven countries, it is a model of international cooperation toward a common goal. The program has virtually eliminated river blindness as a public health hazard within the program area.

Started in 1974, the OCP covered Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, Niger, and Togo. It was later extended to Guinea, Guinea-Bissau, Senegal, and Sierra Leone (shaded area on map corresponds to program area).

River blindness is a disease caused by worms that grow inside people. Because these worms are carried from one person to the next by small, aggressive blackflies that

breed in fast-flowing water, the disease affects only those who live near rivers.

In 1974, onchocerciasis was most devastating in central West Africa, where it was not unusual to find 60 percent of the adults in a river valley afflicted with the disease, and 3 to 5 percent blind (figure 1). Villagers were forced to abandon their communities en masse. When the OCP began, some of West Africa's richest river lands were uninhabited for several kilometers at a stretch.

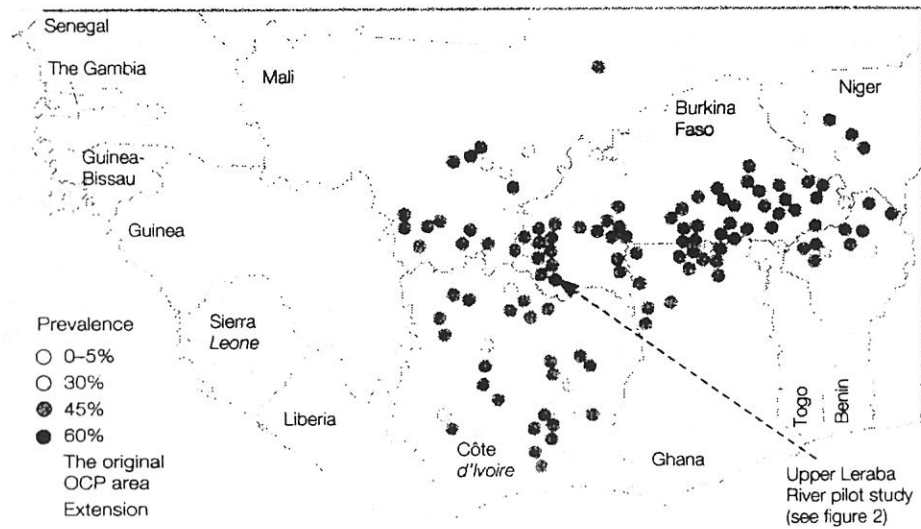
But no longer. Today, river blindness is under control, and farmers are reclaiming West Africa's river valleys in great numbers. Villages once emptied by river blindness are now thriving.

Yet the very prosperity of these settlers threatens the river valleys' fragile ecosystems. Where once the enemy was the blackfly, today it is deforestation, erosion, and extensive cultivation. Only if West Africa's governments step in to assist and regulate new settlement will these lands be saved from depletion, degradation, and perhaps even eventual abandonment once again.

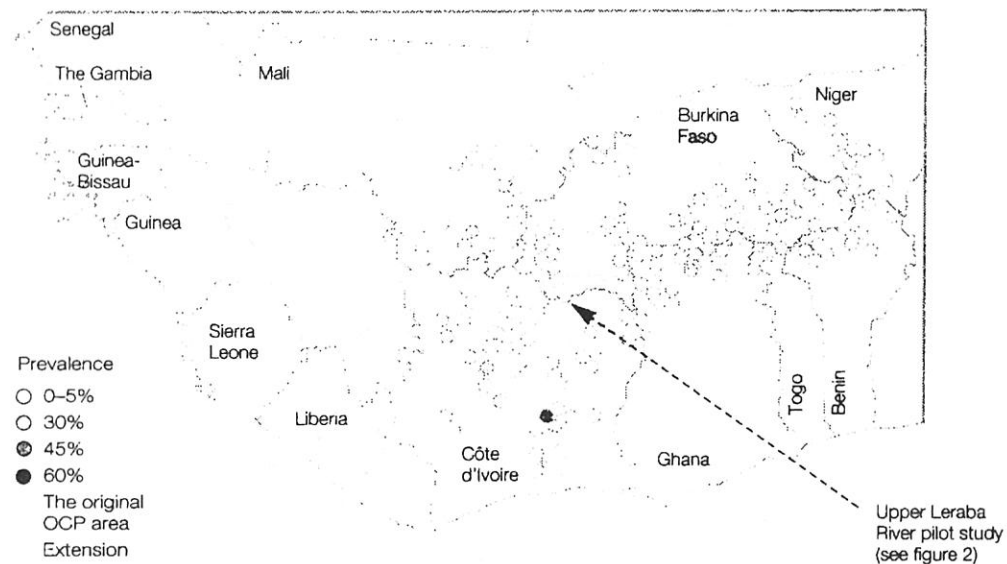


Figure 1 The original area covered by the OCP was heavily infested (darkest dots) in 1974, when the program began. By 1992, it was almost entirely free of the disease.

Pre-control prevalence of skin microfilariae in villages from the original OCP area



Prevalence of skin microfilariae in villages from the original OCP area, 1992-93

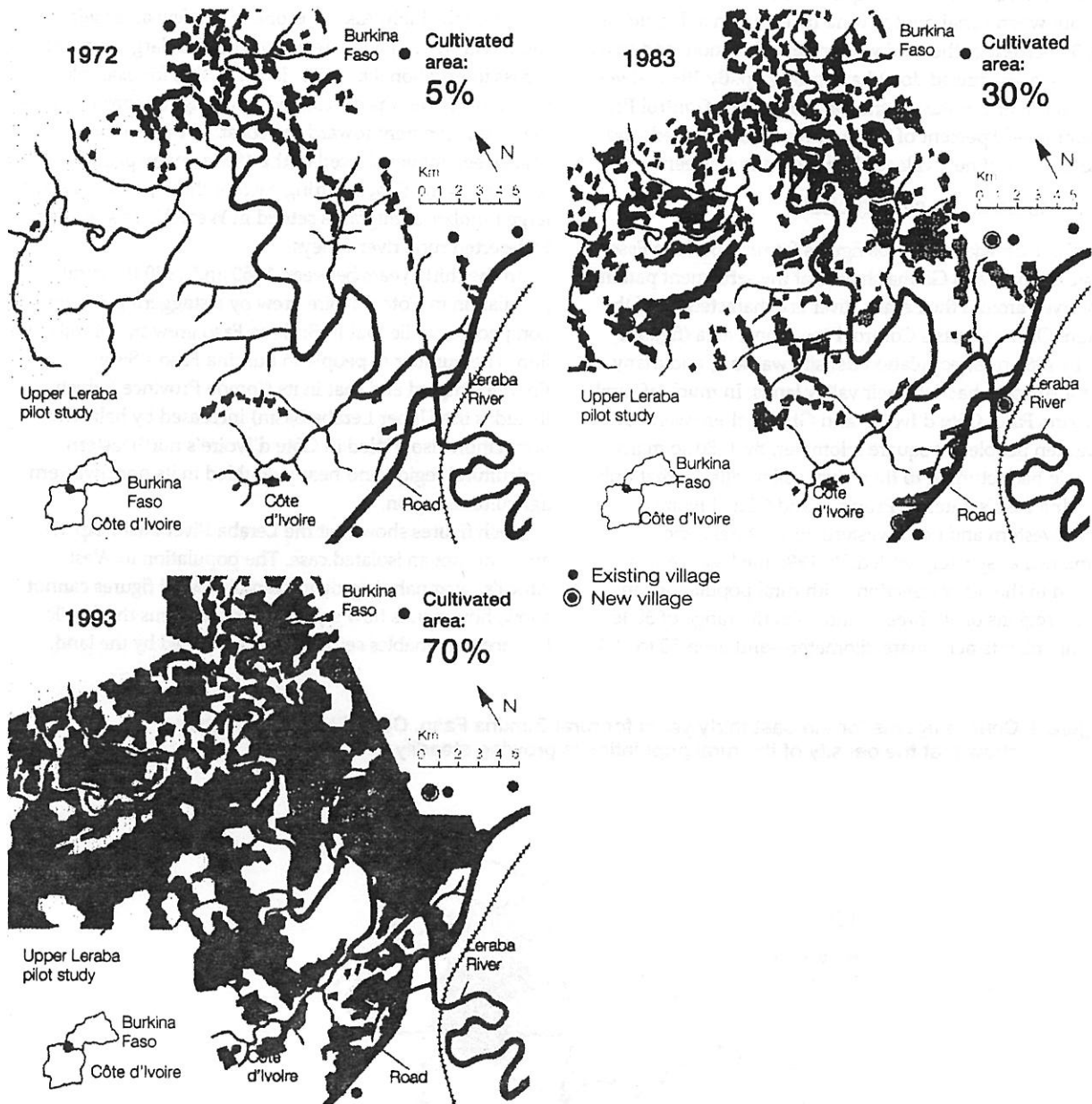


Before and after

When the OCP began its control operations in 1974, it found particularly heavy infestation (measured by a 60 percent or greater prevalence rate of microfilariae in the skin of onchocerciasis sufferers) throughout the program

area. Typical was the case of the Upper Leraba River system, which crosses Burkina Faso and Côte d'Ivoire (see area around arrowhead in figure 1). Along the Upper Leraba and throughout the original program area where the infestation was once heavy, microfilaria prevalence today is virtually zero.

Figure 2 Enhanced aerial photographs of the pilot study area taken in 1972, 1983, and 1993 show that settlement grew steadily along the Upper Leraba once the threat of river blindness diminished.



From health to prosperity on the Upper Leraba

To assess the effect that eliminating river blindness has had on both settlement and use of land, the OCP's Committee of Sponsoring Agencies commissioned a pilot study of a 20 square mile area along the Upper Leraba River,

which divides Burkina Faso and Côte d'Ivoire. This study was funded by the government of the Netherlands and carried out by Dr. David Baldry and Professor Davide Calamari.

Using aerial photographs from three time periods, the researchers were able to document changes in settlement,

land use, and the environment (Figure 2). As captured by the photographer's lens in 1972, the area contained the Leraba River, a road, a bridge, a railway line, and seven villages. Only 5 percent of the land was under cultivation, and almost all of it was in higher-altitude areas.

But when aerial photos were taken again a decade later, 30 percent of the land was under cultivation, and seven new villages (circled dots) had sprung up. By 1993—twenty years after the start of the Onchocerciasis Control Programme—70 percent of the land was being farmed, and the number of new villages had grown to thirteen.

Is the Leraba's story typical?

Three decades of census figures for rural Burkina Faso, Côte d'Ivoire, and Ghana show that the settlement patterns observed around the Leraba River are characteristic of the entire Onchocerciasis Control Programme area (figure 3).

In 1960 rural population density was low, and many West Africans had left their valley lands. In much of rural Burkina Faso, Côte d'Ivoire, and Ghana, there were fewer than ten people per square kilometer. By 1980 so many people had returned to their river valley villages that only Burkina Faso's Yatenga Province and Côte d'Ivoire's southwestern and northwestern agricultural regions remained as sparsely settled. By 1990 the balance had tipped in the other direction, with rural populations in many regions of all three countries in the range of 30 to 50 inhabitants per square kilometer—and even 50 to 100

in some cases.

While the control of river blindness attracted many to these lands, the enormous increase in rural population in the countries studied obviously owes much to other factors. First and foremost, birthrates in West Africa are exceptionally high. Also, it is one of the few areas left in the world where people regularly move in large numbers across international borders. In the 1970s, for example, when the Sahel was devastated by drought, there was a massive movement toward the coast. But when the coastal economies slowed in the 1980s, many people returned to the Sahel. During each of these migrations a large number of migrants settled in West Africa's relatively deserted rural river valleys.

In the thirty years between 1960 and 1990 the rural population in Côte d'Ivoire grew by a staggering 3.2 million people, while that in Burkina Faso grew by 2.4 million. The number of people in Burkina Faso's Sissili Province tripled and that in its Comoe Province (which includes the Upper Leraba Basin) increased by half. The population also tripled in Côte d'Ivoire's northeastern agricultural region and nearly doubled in its northwestern agricultural region.

Such figures show that the Leraba River Basin experience was not an isolated case. The population in West Africa's savannahs is growing rapidly. What figures cannot show, however, is how such growth threatens the fragile balance that enables settlers to be sustained by the land.

Figure 3 Census figures for the past thirty years for rural Burkina Faso, Côte d'Ivoire, and Ghana show that the density of the rural population is growing steadily.

