

INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT



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Subject: Control of Onchocerciasis  
in Western Africa

Another step against the widespread, debilitating river blindness disease will be taken this month with a meeting of a number of governments and international agencies in Paris to consult on the financing of an international control program.

River blindness -- known medically as Onchocerciasis -- affects an estimated 20 million people in Africa, Yemen and parts of Central and South America. It is caused by a parasitic worm that is transmitted by a species of blackfly and particularly affects vision, sometimes causing total blindness.

The Paris meeting is organized by the International Bank for Reconstruction and Development (World Bank) and will be attended by the other international organizations sponsoring the program which are the World Health Organization (WHO), the Food and Agriculture Organization (FAO) and the United Nations Development Programme (UNDP). These international agencies met in April 1972 and agreed to set up a steering committee consisting of a representative of each of the four agencies, to coordinate their action in planning and implementing an Onchocerciasis control program. The forthcoming program will take place at the World Bank's European Office in Paris.

All governments among the World Bank's member states who would be ready to consider contributing to the program will be invited to send representatives to the Paris meeting, along with the African Development Bank and the European Development Fund; potentially beneficiary African governments will also be represented.

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Following this month's meeting, a round-table conference has been scheduled for December this year to consider the final report of a Preparatory Assistance Group (PAG) mission. The terms of reference for the PAG mission were agreed on at a meeting held in Geneva in July 1970, with the participation of the Conseil de l'Entente (representing Dahomey, Ivory Coast, Niger, Togo and Upper Volta), Ghana, Organisation de Coordination et de Cooperation pour la Lutte Contre les Grandes Endemies (OCCGE), FAO, Fonds Europeen de Developpement (FED), UNDP, the United States Agency for International Development, WHO and the World Bank. The mission, which was financed by UNDP with WHO as executing agency and FAO as associated agency, established its headquarters at Ouagadougou with the full support of the Government of Upper Volta.

The PAG mission report, now under preparation, will contain a detailed description of a proposed control program, with the costs of each component, and will outline selected development projects demonstrating the potential economic benefits of the campaign. A second consultative meeting group will be held after the round-table conference to decide on the contributions to be made by each of the participating governments and agencies to the financing of the first phase of the program. A budget for this phase of the operations can then be approved and an organization established to administer the program.

## TECHNICAL ASPECTS OF RIVER BLINDNESS DISEASE (ONCHOCERCIASIS)

Human onchocerciasis is a parasitic disease caused by a thread-like worm (Onchocerca volvulus) that lodges in the body and is transmitted by a species of blackfly (Simulium damnosum) that breeds in fast flowing rivers. The worms multiply within the body as a person living in an endemic area is constantly being reinfected with the disease, and the heaviest infections are usually found amongst older people. Apart from its generally debilitating effects, onchocerciasis frequently causes eye lesions leading to impairment of vision and in some cases total blindness. In the worst affected areas as many as 30-50% of the adult population may be incapacitated by the loss of vision, which generally occurs after the age of 30.

The disease occurs in Africa, the Yemen and parts of Central and South America, and there are about 20 million people in the world infected with it. The medically most important and largest endemic areas are in tropical Africa, mainly in the northern savanna belt, and the Volta river basin is one of the worst. The latest estimates suggest that around one million people are suffering from onchocerciasis in the zone to be covered by the proposed program, and of these as many as 60,000 may be blind. Approximate numbers for each country are as follows: Upper Volta, 410,000; Ghana, Ivory Coast and Mali, 150,000 each; Dahomey, 120,000; Togo, 50,000; Niger, less than 10,000.

The parasite that causes onchocerciasis was first discovered in the latter part of the 19th century, and extensive epidemiological and entomological research has been conducted since then into the causes of the disease. Medical treatment of onchocerciasis raises problems, for none of the remedies at present available appears to be suitable for mass campaigns, and the most effective of them involves appreciable risks for the patients treated. Current plans for controlling the disease therefore rely mainly on interrupting its transmission by attacking the vector through the periodic introduction of insecticides into the rivers where the blackfly breeds. This must be done over a long enough period (about twenty years) to ensure the natural disappearance of the parasite from its human host. Control operations against Simulium damnosum have been undertaken in many places in Africa, including Nigeria and Kenya, and valuable lessons have been learned, particularly from the campaign carried out in recent years in the Ivory Coast, Upper Volta and Mali with assistance of the Fonds Europeen de Developpement (FED) and the Organisation de Coordination et de Cooperation pour la Lutte Contre les Grandes Endemies (OCCGE). Most of these operations, however, have not been on a large enough scale.

Control operations to date have been mainly carried out with DDT formulations applied from the ground, but DDT is no longer recommended, and alternative pesticides are being evaluated at the hydrological laboratory of the French Office de la Recherche Scientifique et Technique Outre Mer (Fort Lamy-Chad), and at the aquatic biological laboratory of Achimota (Ghana). The outcome of these tests is expected to be available shortly.