

memorandum

DATE: November 29, 1979

REPLY TO:
ATTN: E. D. Conroy, Director, AFR/RASUBJECT: PP Revision of ^{No} #2 Onchocerciasis Control - Volta River (698-0399)

TO: Addressees listed below

The attached PP revision has been prepared to extend LOP and LOP funding, as this project will soon enter its second phase of control operations.

I would appreciate if you would send your comments or suggestions by c.o.b. December 3. Your comments and suggestions will be taken into account in the final version which I plan to send forward to AFR/DR for review and approval.

If you would prefer to communicate by phone, please contact Brian Wickland on ext. 28094.

Distribution:

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PROJECT PAPER AMENDMENT NO. 2

Onchocerciasis Control in the Volta River Basin

Project No. 698-0399

Purpose of Amendment:

This amendment is intended to extend the life of the project as well as the magnitude of life-of-project funding through FY 1985, which will enable AID to participate with other donors in implementing Phase Two (FY 1980-1985) of this highly successful disease control program. The overall objective of the project remains unchanged, although - as foreseen in the first PP amendment - the geographic scope may be extended southwards to include certain parts of Benin, Ghana and Togo which are the subject of a special study. This amendment also increases LOP funding from the previously-authorized level of \$7.7 million (FY 1974-1979) to 23.1 million (through FY 1985), thereby permitting sustained AID financial support over the next six-year period at an average of 2.575 million annually.

A. Progress to Date

The objective of the Control Program continues to be that of reducing the impact of onchocerciasis to a sufficiently low level so that it no longer constitutes a public health problem or an obstacle to the economic development of lands within the OCP area. The long term control activities aim at reducing transmission of onchocerciasis to such a low level that blindness caused by the blackfly vector (Simulium damnosum) will no longer be a serious problem. A river valley is considered safe for resettlement once the annual biting rate (ABR) is reduced to (and maintained) below 1,000 bites per person per year, and annual transmission potential (ATP) is below 100 larvae per

person per year.

These levels have been achieved over approximately eighty percent of the control area (of 764,000 square kilometres) by 1979, and each year is bringing additional improvement as source areas of re-invading flies are identified and attacked. Re-invasion continues to affect the western and the southeastern portion of the peripheral zone, which constitutes about twenty percent of the OCP area. Re-invading flies emanate from sources up to 300 km to the southwest of the present OCP zone. Extension of control operations to rivers in the southern Ivory Coast in 1978 has had a pronounced remedial effect on re-invasion earlier observed from that direction. A two-year study concerning the merits of extending OCP operations further to the south in Benin, Togo and Ghana is nearing completion and it is likely that members of the OCP Joint Coordinating Committee will be asked to give favorable consideration to the extension in late 1980 or 1981 (see page 8.)

The cost of such an extension was earlier estimated at approximately one million dollars over a two-year period.

The merits of instituting control operations to the west of the present OCP zone, pursuant to requests from the Governments of Mali, Senegal, Guinea and Guinea-Bissau, are the subject of a separate feasibility study to which the United States and other governments are contributing under a separate project (see p.7).

Application of the larvicide Abate to breeding sites from aircraft is still considered the most effective method of controlling the vector, although some trial operations are under way to test the effectiveness of less costly

surface applications over a sustained period.

In the W.H.O. evaluation report covering the first phase (1974-1979) of the Control Program, it is noted that vector control has been highly successful and that the results obtained are in line with those predicted in the original feasibility study. The second round of surveys for epidemiological evaluation is already indicating that the level of vector control established over three years of continuous larviciding is leading to a noticeable decline in the prevalence of the disease amongst young children as well as a stabilizing of symptoms among those earlier affected. For example, recent parasitological and clinical re-examination of forty-one villages originally examined in 1974-1975 reveal that no new case of infection with O. volvulus has been found in 798 children under five years of age. This compares with a prevalence of 82 infections out of 810 under-5's (10.1%) examined in 1974-75. In the 5 - 9 years age group a marked decrease of prevalence has also been noted, especially in those villages where transmission is thought to have been interrupted. The migrant populations resettling in the successfully controlled river valleys are examined yearly, and among them no fresh infection has so far been detected.

Research has been undertaken in accordance with operational needs, and notable progress has been made in identifying and plotting the distribution of the different species of the blackfly and determining the principal vectors in the OCP area. One OCP research entomologist has, for example, discovered a blackfly strain (S. soubrense) capable of mating in captivity, and the possibility of selecting out a captive mating strain is being explored.

A greater understanding has been achieved of the epidemiology of the disease. Since October 1978 parasitological and ophthalmological teams have been carrying out evaluations in Ghana, Upper Volta and Mali, as well as in the Ivory Coast extension area and in part of Benin. In all, over 98,000 people living in 422 villages have been examined by OCP teams in the first five years of the Program. The recent evaluation of the Ivory Coast reveals the very clear epidemiological differences between the northern savanna zone and the rain forests in the south, with the same level of parasitic infestation producing more severe risks to health in the former than in the latter. In south Benin it was possible to determine the absolute limit of the disease and to pinpoint several important hyperendemic zones. In collaboration with a German research institute, skin microfilariae from all areas surveyed in 1979 have been examined, from which it appears that microfilariae from rain forest areas of Ivory Coast are appreciably different from those of the Upper Volta savanna - which suggests the existence of two separate parasite strains.

Progress has been slower in the development of new insecticides and drugs, but studies were accelerated in 1978. Chemotherapy research continues to be closely coordinated with WHO/TDR, and in 1979 chemotherapy trials involving 78 infected persons were initiated at one hyperendemic village on the Red Volta River.

Training of national personnel continues as a priority activity of the Program, which has not only trained staff to meet its own operational needs but is also providing fellowships to epidemiologists, ophthalmologists and

entomologists from the participating African countries, in order to strengthen national health infrastructures.

Economic development of river valleys hitherto affected by onchocerciasis is a major objective of the Program. An OCP Economic Development Unit was established early on to provide information on socio-economic developments within the beneficiary countries, but this did not prove effective. In 1979 the task of annual reporting to the OCP Joint Coordinating Committee was assumed by the national onchocerciasis committees of each of the beneficiary countries, and OCP activities in this domain will henceforth focus on research and training.

Other institutional developments include the formation of an Expert Advisory Committee (EAC) for Phase Two, which will have scientific and ecological issues as well as economic development within its mandate. This organ will take the place of the Economic Development Panel, Ecological Panel, and the Scientific and Technical Advisory Committee. EAC will have twelve members appointed by the OCP Steering Committee, and a permanent Ecological Group (with five members) will function as part of EAC. EAC will report to the Joint Coordinating Committee (through the Steering Committee) annually, and the report of the Ecological Group will constitute a separate appendix to the EAC report. Membership of EAC and its Ecological Group is expected to be determined with appropriate regard for donor representation.

In its October 1979 report, the present Ecological Panel noted that hydro-biological monitoring data had now been stored on the computer at Salford University. From the preliminary analysis the Panel concluded that there had been no evidence of any organism, apart from Simulium damnosum, being

adversely affected by use of the larvicide Abate. However, the Panel noted that at most aquatic sampling sites there were insufficient pre-treatment data, and it endorsed the proposal that the sampling program be reorganized. The Panel also noted that the analysis of fish data had shown no apparent effect of OCP operations on fish diversity or quantity; however additional data were needed to ensure adequate monitoring of long-term changes. The Panel recommended that brain cholinesterase analysis of fish be undertaken as a separate study since the cholinesterase test would clearly separate exposure of fish to organo-phosphorus compounds from exposure to other chemical compounds. With respect to riverine woodlands, concern was expressed that, with the incoming movement of the population, there was a real danger of the forests alongside the water courses being removed to make more land available for cultivation. The Panel drew attention to the disastrous ecological effects this could have, particularly on soil erosion, water flow, water temperatures, and the leaching of soil nutrients. Recalling what had happened in many parts of Africa with the destruction of riverine woodland, the Panel strongly recommended that wide and diverse forest galleries be retained on each side of water courses throughout the OCP area. Action on this report will be taken in the December 1979 JCC Meeting and the U.S. will urge adoption of these recommendations.

B. 1979 Onchocerciasis Fund Agreement

The legal regime which governed the conditions and modalities of donor and beneficiary country participation in Phase One of the Program consisted of the Agreement Governing the Operations of the Onchocerciasis Control Program in the Volta River Basin Area, concluded on November 1, 1973, and the Memorandum of Understanding (with African beneficiary countries) dated February 11, 1975.

With the conclusion of Phase One of the Program on December 31, 1979, the above documents are being superseded by a new Agreement and Memorandum of Agreement, which will cover the conditions of participation in Phase Two.

The Onchocerciasis Fund Agreement, 1979, dated September 19, 1979 has already been signed by the Governments of Belgium, France, Germany, Japan, Kuwait, Netherlands, Switzerland, United States, and by representatives of the African Development Bank, IBRD, IDA, OPEC Special Fund, UNDP, and WHO, and will enter into force on January 1, 1980. A Memorandum of Agreement governing the participation of African Beneficiary states and letters setting out each African beneficiary country's financial contribution to Phase Two have so far been signed by the Governments of Benin, Ivory Coast, Mali, Niger, Togo, and Upper Volta. Signature by Ghana is expected.

Copies of the 1979 Fund Agreement and draft Memorandum of Agreement are attached as Annexes A and B.

C. Geographic Extension:

The possibility of extending the OCP zone has been somewhat simplified since last described in PP amendment No. 1 (September 1978). The proposal for a westerly extension of the Program to include parts of Senegal, Mali, Guinea, and Guinea-Bissau has now been relegated to an entirely separate feasibility study administered by WHO, which will examine the justification and methodology for establishing a separate control program. The costs of this feasibility study are being financed by the United States jointly with the Netherlands and other donors, as a separate project and without prejudice to any future decision on whether or not to participate in implementing the study's recommendations.

This leaves those parts of Benin, Ghana, and Togo adjacent to the southerly periphery of the present OCP zone, as described on pages 4 and 5 of PP Amendment No. 1. Although a progress report on the two-year study is included on the agenda of the forthcoming (December 1979) meeting of the Joint Coordinating Committee, it is understood that basic hydrological data is still inadequate and that it is unlikely that well-documented proposals for undertaking a southerly extension of OCP operations will be made until later in 1980 or 1981.

If a decision on extension of vector control operations is required, it is proposed that AID agree to the extension if it is considered necessary to protect the existing OCP area against re-invasion or if all the criteria listed on page 6 of PP Amendment No. 1 are met.

D. Revised Program Costs

Total expenditures for Phase One are now reported at \$53,572,621 of which the United States' contribution of \$7.7 million amounted to about 14%.

Estimated requirements for Phase Two have recently been revised downwards to \$106,749,200, or just double the costs of Phase One (which did not cover the entire program area until its fourth year). Breakdowns of OCP 1974-1985 costs by program activity, expenditure category and operational and support costs are appended as Annexes C, D, and E respectively (of document OCP/79.1, pp. 14-16).

In addition, it is expected that agreement will eventually be given to extending the control area southwards in Benin, Togo and Ghana, beginning in 1982.

Although the costs of this extension are not included in the above Phase Two estimate, it is thought that they can probably be met from residual Phase One

contributions made available to OCP by other donors.

It is suggested that the U.S. assistance input be commensurately increased to twice that of the first phase contribution, to maintain the level of U.S. support at about 14% of total Phase Two requirements. This level of contribution would assure donor financing of Phase Two even without initial input from Canada and the United Kingdom (whose representatives have indicated that they cannot pledge contributions at this time for 1980). In the event that Canada and the U.K. can resume their contributions, then the scale of contributions by the U.S. and other donors could eventually be reduced.

Assuming a six-year Phase Two cost of \$110 million, a U.S. contribution of \$15.4 million is proposed. The annual installments are proposed as follows

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
<u>OCP Budget</u>	<u>\$15m11</u>	<u>\$15.6</u>	<u>\$16.6</u>	<u>\$18.3</u>	<u>\$19.8</u>	<u>\$21.5</u>
AID contrib.	\$ 2.	\$ 2.2	\$ 2.4	\$ 2.6	\$2.8	\$ 3.1
AID misc.	<u>.05</u>	<u>.05</u>	<u>.05</u>	<u>.05</u>	<u>.05</u>	<u>.05</u>
<u>Total AID</u>	<u>\$ 2.05</u>	<u>\$ 2.25</u>	<u>\$ 2.45</u>	<u>\$ 2.65</u>	<u>\$2.85</u>	<u>\$ 3.15</u>

Included in the above AID estimates are miscellaneous costs to be incurred directly by AID over the LOP totalling \$300,000. It is proposed that these be made available at the rate of \$50,000 annually to cover employment by AID of U.S. experts for the purposes of ecological monitoring, project evaluation, and other program-related needs as may from time-to time arise.

Clearances:

- AFR/DR/HN:JLStockard_____
- DS/HEA:ABuck_____
- GC/AFR:EADragon_____
- AFR/DP:GCauvin_____
- AFR/SFWA:JKelly_____
- AFR/CWA:FSpencer_____

Insert for page 70
Subcommittee on Foreign Operations
House Appropriations Committee
Mrs. Butcher's Testimony
March 15, 1979

ONCHOCERCIASIS CONTROL (698-0399)

Scholarly analysis of dimensions of problem (areas and people affected - state of art of technology - size of program.

In its evaluation report of control operations over the period 1974 through 1978, (OCP/78.2) the World Health Organization has provided detailed and authoritative information which will provide the information requested. Excerpts from this report follow.

Clearances:

AFR/DR:JStockard (draft)

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