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PD-AAC-131

UNITED STATES GOVERNMENT

memorandum

DATE: July 18, 1977

REPLY TO ATTN OF: AFR/DR, John L. Withers

SUBJECT: ECPR Review of Chad Irrigated Agriculture Development Project (677-0001)

TO: SEE DISTRIBUTION

I. The ECPR for the subject project will be held on Friday, July 22, 1977 at 2:30 p.m. in Room 3886 NS.

II. General Conclusion of Project Committee: The Project Committee met on July 12, 1977 and recommended that the subject project be approved for authorization during FY 77.

III. Specific Issues.

Issue: Whether a Negative Determination with respect to environmental effects of the proposed project is appropriate.

Discussion: The IEE contained in the Project Paper recommends that a Negative Determination be made. The Project Committee reviewed in depth the basis and justification for this recommendation with discussion focused principally on the possible environmental effects of one project element, the maintenance of existing infrastructure supporting production on the polders in the Lake Chad area. Suggestions were raised about the possibility that some environmentally unsound polders might be supported under the proposed polders maintenance program. All available information indicates such is not the case; however, an environmental examination of each of the 28 polders would be required to dispose conclusively of this remote possibility.

After thoroughly reviewing this matter, the Project Committee concluded that a more intensive environmental analysis of the project's effects was not required prior to authorization, based on the following rationale:

1. No construction of new polders will be undertaken; therefore, the project is not creating adverse environmental effects by its own actions. Whatever the impact of the polders, it has already occurred and persists irrespective of any AID-financed maintenance activity;

2. Activities will be limited to maintenance-rehabilitation of existing polders and under procedures to be followed, environmental considerations will be included in the scheduling of any maintenance-rehabilitation;

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3. An environmental analysis of a second phase project which is to be completed early during the proposed activity, will also examine environmental considerations relating to maintenance-rehabilitation of existing polders. The conclusions of this study will be completed before any maintenance is undertaken, and no maintenance of an environmentally unsound construction will be undertaken;

4. A substantial amount of the maintenance will have positive effects such as cleaning of irrigation-drainage canals, thereby reducing dangers of malaria and schistosomiasis.

In brief, the Project Committee concluded the proposed activites are expected to be either neutral or positive in their effect on the environment.

Recommendation: That the ECPR endorse the conclusion of the Project Committee that a Negative Environmental Determination is appropriate for this project.

(Note: Copies of the PP have already been distributed to principal Bureau and Agency offices. Distribution of the PP to other Offices will be made on July 20.)

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UNITED STATES GOVERNMENT

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memorandum

PD-AAC-131

3p.

DATE: May 17, 1977

REPLY TO ATTN OF: AFR/DR/SFWAP, Raymond Rifenburg

SUBJECT: Project Committee Meeting - Chad - Lake Chad Irrigated Agriculture PP (677-0001)

TO: SEE DISTRIBUTION

The Project Committee for the subject project will meet at 2:00 p.m., Monday, May 23, 1977, in Room 6320 NS to consider issues and other factors bearing on authorization and implementation of the project. Attached for your review are a copy of a memorandum from the CDO/N'Djamena and the PP.

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5010-112

UNITED STATES GOVERNMENT

memorandum

DATE: April 29, 1977

REPLY TO ATTN OF: CDO/N'Djamena

SUBJECT: The Development of the Components of the Lake Chad Irrigated Agriculture Project (Bol Polders)

TO: The Project Review Committee

In 1975 the World Bank prepared a report appraising the potential of a Lake Chad Polders project. This led to the approval of an IDA credit in support of a $13 million polder rehabilitation project. The project was to be funded from four sources: the IBRD, $5 million; French AID (FAC), $2 million; the African Development Bank (FAD), $5 million; and AID, $1 million. The first three donors agreed to rehabilitate two polders (Guini and Berim) and the USAID eventually committed itself to financing eight subprojects. In brief terms, the status of each of these sub-projects or components is as indicated below:

1) Hydrological and topographic research;

2) Pilot project in irrigation with low-lift pumps. Status: AID's original commitment to the World Bank was to undertake agronomic research at the Matafo research station (see No. 7 below). As a condition, however, AID insisted that research also be undertaken in water use and management. Further, as a result of a visit by Dr. Roger Revelle in April 1974, AID/W also felt that a pilot project should be undertaken to study the possibility of using a less capital-intensive form of irrigation (i.e. low-lift pumps employing surface water). A contract for the soil and water research activities is presently being negotiated with ORSTOM (Office de la Recherche Scientifique et Technique Outre-Mer). AID/W confirmed an allotment of $220,000 to CDO/N'Djamena for ORSTOM on September 29, 1976. A low lift pump trial is included in the PP.

3) Navigation Channel. Status: In [illegible] was funded as an AIP project, with SODELAC as the executing agency. Cost $[illegible],000. The channel was opened in February 1977, but there will be some secondary maintenance and widening to be done by the mobile maintenance brigade to be established under this project.

4) Training for the director of extension services. Status: Funded separately by AID/W. Cost $10,000. This likewise is now a component of the Lake Chad Irrigated Agriculture Project, but funded outside of the PP.

5) Health study. The Government of Chad in October 1975 asked AID to fund a health study (required as a covenant to the IDA $5 million loan) to determine the extent to which schistosomiasis and other diseases affect the population of the area and what countermeasures were to be taken to control said diseases. In 1977, the American Public Health Association

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(APHA), on an IQC contract with AID/W, conducted an initial health survey in the Bol area. To meet the requirements of the covenant, two more studies must be made in the area. These studies and a discrete health delivery system are contemplated and funded as an element of this Project Paper.

6) A study of the reorganization of SODELAC. Status: The World Bank recognized the need for SODELAC reorganization, and, pending the outcome of a reorganization study, its Project Unit was to remain financially independent of SODELAC's other operations. In September 1975 AID agreed to finance such a study. In November 1976 an AID-funded technician came to N'Djamena and completed Phase I of the reorganization study. Phase II of the study will be completed by December 1977. The study will be funded outside the PP but is part of the project.

7) Agronomic research. Status: A major part of the proposed project.

8) Participant Training. Status: A component of the proposed AID project.

Two major components of the proposed AID project not contemplated at the time of the World Bank mission are: a) the development of a new polder (Tandal) and b) the equipping of a mobile maintenance brigade. These activities were requested by SODELAC and CDO views them as essential ingredients of the project. The new polder is necessary to permit SODELAC to realize economies of scale, while the mobile brigade will give it the essential capacity to maintain the roads and dikes around a pole of development in the Chadian Sahel. The total cost of the AID financed components will be $7 million.

The GOC gives a high priority to the development of the polder as an important ingredient in increasing food production in Chad. Highest GOC officials have made representations on behalf of this element of the proposed activity.

I hope that this brief outline will be useful in understanding the gradual evolution in the concept of what the Lake Chad Irrigated Agriculture Project should include.

Drafted by: ECostello

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Lake Chad Irrigated Agriculture (Bol Poulders) 3p.

PPC recommends that the construction element of the project (the Tandal Poulder) not be authorized at this time, but that the research, maintenance brigade, management assistance and health components proceed as planned. The latter elements can be justified as complements to the two IBRD financed poulders with or without a follow on AID financed poulder.

We also support the concept of an AID financed production element to follow as an amendment to this project when the sociological and health issues are resolved and when we have a reasonable assurance that we have selected the lowest cost technology which is feasible. The option of authorizing a two phase project with construction of the poulder deferred to the second phase does not satisfy our concerns, because we do not believe the degree of confidence of ultimate success exists to allow us to make a formal commitment to a poulder. Moreover, authorization of the poulder now would foreclose the possibility of using lower cost technology, should this prove feasible.

Two concerns are paramount:

Social Feasibility: The Verlet - Hauchecorne sociological study of previous poulder cultivation in the project areapoints out problems affecting farmer motivation which are of paramount importance to the success of this project. The project committee has recognized this and therefore recommends a social environmental assessment to be conducted in Phase I of the project. The economic feasibility of the project depends upon settlement farmers becoming motivated to be full-time farmers (dropping some of their herding, fishing and other activities and becoming fully sedentary rather than fairly mobile) so that adequate yields of cash crops are produced to make an acceptable return on the investment. Moreover, changes in behavior must occur quickly and early in the project life. While the Mission assumes that economic incentives alone will suffice, complex social factors defeated previous schemes to shift farmers to full time poulder cultivators.

We do not know the extent to which the factors which caused the failures of the 1960's program are still relevant, but many may very well be:

-- Insecure food supply from dune millet due to birds, and "mediocre" quality of millet grounds on dunes surrounding the poulders. (See P. 45).

-- Inadequate grazing space.

-- Importance of land ownership as motivating force for becoming poulder cultivators (land tenure scheme is not yet resolved in the proposed project, but 2-3 year leases, not full ownership, are discussed).

-- Negative reaction to being "tools of an authority" which attempted to control production and marketing. SODELAC will also control the production and marketing decisions. While SODELAC will, hopefully, be more

sensitive to attitudinal factors than SEMABLE was, its objectives are remarkably similar and the need to market given amounts of cotton and wheat to cover its costs parallel the pressures on SEMABLE to supply adequate wheat to the flour mill at Fort Lamy (see p. 36 of the Verlet study). It was these pressures which led to SEMABLE's authoritarian approach.

-- Lucrative alternative activities (fishing) had to be foregone to become full time cultivators. The economic analysis of the proposed project does not have detailed farmer budgets including all income sources such as fishing to show what the trade-offs are for farmers who give up fishing to become full time cultivators. (Livestock income is shown.) This may or may not be a problem.

The project committee has agreed that factors such as these are so basic to the success of the poulder scheme that a full social analysis should be done in the context of an environmental assessment. We believe that to authorize a Phase II poulder now would require a greater degree of confidence than we now have, that these issues can be resolved relatively quickly and within the current design. The assessment might conclude that changes in the resettlement scheme are desirable, with perhaps a more direct AID involvement.

High cost technology approach:

This is a high cost technology approach which may nevertheless be justified if sociological feasibility is established and if no lower cost approach is technically feasible. We are not satisfied that all alternative approaches have been seriously examined. If a lower cost approach could be developed, not only would the total return of the project be increased, but the margin for error in some of the assumptions would be increased. Currently, failure to achieve 80% of projected crop production would reduce the rate of return to unacceptable levels. With lower costs, there is greater leeway to accommodate farmers who may initially resist continuous cropping or the focus on cotton and wheat. Reduced pressure on SODELAC should reduce the temptation to turn to self defeating authoritarian measures. One research component of the proposed project will examine low lift pumps on other lower cost methods of poulder irrigation. Should such methods prove feasible, they could be incorporated in a third poulder - but not if we are previously locked into the current design. The mission technician stated that preliminary indications of whether this research is likely to pay off might be available within a few months. Why then foreclose this option now?

Intensifying production on existing poulders: The project committee agreed that no detailed examination has been given to the possibility of improvements to some or all of the existing 28 poulders comprising 12,000 hectares of land to permit intensive production. It appears that in addressing the objective of reaching 3,000 hectares of intensive production (SODELAC's break even point) there was an underlying assumption that a new poulder was required. No one has examined the comparative costs of improving 800 hectares of the already diked poulders (or indeed

substantially more hectarage) vs. the construction of a new 800 hectare poulder. Even if the complete pipe system currently planned were found to be necessary, might there not be savings from the existence of the dikes? Certainly the sociological problems would be eased since no actual resettlement would be required.

Recognizing the desire of the Chad Government for a commitment to a production project, we suggest the following approach:

-- Phase I to include all elements but the poulder construction and to include an examination of a possible production effort involving the existing poulders.

-- Agreement in principle to a Phase II production element, subject to establishing social feasibility, without commitment to the specific design presented for Tandal poulder.

-- The production element design would be chosen after a preliminary examination of the existing poulders and of low lift pump research so we have an idea of whether lower cost approaches can be developed.

If project committee estimates are right about the time required to do the social/environmental studies, to make preliminary judgments about the existing poulders and about the factors involved in low lift pump irrigation, this approach need not delay Phase II more than a few months.