AGENCY FOR INTERNATIONAL DEVELOPMENT

# PROJECT PAPER FACESHEET

1. TRANSACTION CODE: A = ADD, C = CHANGE, D = DELETE

PP

2. DOCUMENT CODE: 3

3. COUNTRY/ENTITY: Togo

4. DOCUMENT REVISION NUMBER:

5. PROJECT NUMBER (7 digits): 693-0210

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8. ESTIMATED FY OF PROJECT COMPLETION: FY 84

9. ESTIMATED DATE OF OBLIGATION: A. INITIAL FY 80; C. FINAL FY 83; B. QUARTER 3 (Enter 1, 2, 3 or 4)

10. ESTIMATED COSTS ($000 OR EQUIVALENT $1 – )

| A. FUNDING SOURCE | FIRST FY B. FX | FIRST FY C. L/C | FIRST FY D. TOTAL | LIFE OF PROJECT E. FX | LIFE OF PROJECT F. L/C | LIFE OF PROJECT G. TOTAL |
|---|---|---|---|---|---|---|
| AID APPROPRIATED TOTAL | | | | | | |
| (GRANT) | ( 925 ) | ( 375 ) | ( 1,300 ) | ( 6187 ) | ( 1197 ) | ( 7384 ) |
| (LOAN) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) |
| OTHER U.S. 1. Peace Corps | | | | 240 | | 240 |
| OTHER U.S. 2. | | | | | | |
| HOST COUNTRY | | 100 | 100 | | 500 | 500 |
| OTHER DONOR(S) | | 250 | 250 | | 1555 | 1555 |
| TOTALS | 925 | 725 | 1,650 | 6427 | 3252 | 9679 |

11. PROPOSED BUDGET APPROPRIATED FUNDS ($000)

| A. APPROPRIATION | B. PRIMARY PURPOSE CODE | PRIMARY TECH. CODE C. GRANT | PRIMARY TECH. CODE D. LOAN | E. 1ST FY 80 F. GRANT | E. 1ST FY 80 G. LOAN | H. 2ND FY 81 I. GRANT | H. 2ND FY 81 J. LOAN | K. 3RD FY 82 L. GRANT | K. 3RD FY 82 M. LOAN |
|---|---|---|---|---|---|---|---|---|---|
| (1) PH | 510 | 540 | | 1,300 | | 1753 | | 2590 | |
| (2) | | | | | | | | | |
| (3) | | | | | | | | | |
| (4) | | | | | | | | | |
| TOTALS | | | | 1,300 | | 1753 | | 2590 | |

| A. APPROPRIATION | N. 4TH FY 83 O. GRANT | N. 4TH FY 83 P. LOAN | Q. 5TH FY ___ R. GRANT | Q. 5TH FY ___ S. LOAN | LIFE OF PROJECT T. GRANT | LIFE OF PROJECT U. LOAN |
|---|---|---|---|---|---|---|
| (1) | 1741 | | | | 7384 | |
| (2) | | | | | | |
| (3) | | | | | | |
| (4) | | | | | | |
| TOTALS | 1741 | | | | 7384 | |

12. IN-DEPTH EVALUATION SCHEDULED: MM 06 YY 82

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN THE PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15 OR IN PRP FACESHEET DATA, BLOCK 12? IF YES, ATTACH CHANGED PID FACESHEET.

1 = NO
2 = YES

14. ORIGINATING OFFICE CLEARANCE

SIGNATURE: John A. Lundgren

TITLE: AID Representative

DATE SIGNED: MM 04 DD 10 YY 80

15. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MM DD YY

AID 1330-4 (3-76)

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Table of Contents


| | | |
|---|---|---|
| | SUMMARY AND RECOMMENDATIONS | 1 |
| 1.0 | BACKGROUND | 2 |
| 1.1 | General and Health Background | 2 |
| 1.2 | Third National Plan | 3 |
| 1.3 | National Water Program | 3 |
| 1.4 | Appeal to and Response of Donors: | 3 |
| 1.5 | Multidonor Committee | 6 |
| 2.0 | DETAILED DESCRIPTION | 6 |
| 2.1 | Sector Goal | 6 |
| 2.2 | Purpose | 6 |
| 2.3 | Outputs | 7 |
| 2.3 | Inputs | 9 |
| 2.3.1 | Management Services (FED) | 9 |
| 2.3.2 | Drilling Contract (AID) | 14 |
| 2.3.3 | Purchase and Installation of Pumps (FAC) | 15 |
| 2.3.4 | Pump Maintenance (FED) | 16 |
| 2.3.5 | Health Education/Village Sanitation (AID) | 17 |
| 3.0 | ANALYSES | 22 |
| 3.1 | Economic Analysis | 22 |
| 3.1.1 | Cost-Benefit | 22 |
| 3.1.2 | Section 611 (b) | 24 |
| 3.1.3 | Cost-Effectiveness of the Drilling Operation | 24 |
| 3.1.4 | Cost-Effectiveness of the Village Sanitation | 26 |
| 3.2 | Social Soundness Analysis | 26 |
| 3.2.1 | Collaboration of Services and Local Organizations | 27 |
| 3.2.2 | Participation of Villagers | 27 |
| 3.2.3 | Beneficiaries | 28 |
| 3.2.4 | Spread Effect | 28 |

3.3 Technical Feasibility 29
3.3.1 Well Drilling 29
3.3.2 Pumps 30
3.3.3 Village Sanitation 30
3.4 Administrative Feasibility 32
3.4.1 Installation of Wells and Pumps 32
3.4.2 Health Education and Village Sanitation 33
3.4.3 Coordination of Project Activities 34
3.5 Environmental Concerns 36
4.0 FINANCIAL PLAN 38
4.1 Explanation of Tables 38
4.2 Summary Cost Estimate and Financial Plan 40
4.3 Costing of Project Outputs/Inputs 41
4.4 Projection of Expenditures by Fiscal Year 42
4.5 Recurrent Costs 43
5.0 IMPLEMENTATION PLAN 44
5.1 Implementation Schedule 44
5.2 Implementation Responsibilities 45
5.3 Procurement Plan 46
5.3.1 Waivers 46
5.3.2 Procurement Responsibilities 47
5.3.3 Procurement Schedule 47
5.4 Monitoring Responsibilities 47
6.0 EVALUATION PLAN 47
6.1 Base Data 48
6.2 Mid-Project Evaluation 49
6.3 Post-Project Evaluation 50
7.0 CONDITIONS, COVENANTS, AND NEGOTIATING STATUS 51

ANNEXES

A. Logical Framework
B. Section 611 (e) certification
C. PID Review of Rural Sanitary Water
D. Grantee's Application for Assistance
E. Statutory Checklist
F. I.E.E.
G. 611 A Certification

ABBREVIATIONS

| | |
|---|---|
| APS | Agent de Promotion Sociale |
| BOAD | Banque Ouest Africaine de Développement |
| BRGM | Bureau de Recherches Géologiques et Minières |
| DCD | Division of Community Development |
| DHS | Directorate of Hydraulic Services |
| FAC | Fonds d'Aide et de Cooperation (France) |
| FED | Fonds Européen de Développement (EEC) |
| FRG | Federal Republic of Germany |
| GOT | Government of Togo |
| UNDP | United Nations Development Program |

SUMMARY AND RECOMMENDATIONS

Fully aware of the need and desire of the rural population for water, the Government of Togo (GOT) declared the provision of water to be the first priority in the Third National Development Plan for 1976-1980. With the help of experts financed by the Fonds d'Aide et de Cooperation (FAC), the GOT first determined that an additional 3,500 water supply points were needed in the rural areas. It then established a national program for the provision of water.

The GOT was unable to finance the high cost of this program alone; therefore it launched an appeal to the international community for assistance. In response, the UNDP provided 1.5 million dollars for 60 test borings and an atlas of Togo's water resources and needs. The Fond Européen de Développement (FED) committed 5.3 million dollars for the installation of 280 tubewells in the rural areas. In March 1980, the Bank for the Development of West Africa (BOAD) agreed to make a loan of 3.2 million dollars for the drilling of 150 wells.

The project proposed in this document will provide 400 tubewells and complementary health education and village sanitation benefitting approximately 160,000 rural poor. In this multidonor project, AID will contribute 7.3 million dollars during FY's 1980-83 for health education/village sanitation activities and a drilling contract for the boring of 400 productive wells. For the purchase and installation of 400 pumps, FAC will provide 750,000 dollars. The collaboration of FED in this multidonor project will consist of providing the maintenance of all project pumps at least until 1983 and of financing the management services of the Bureau de Recherches Géologiques et Minières which is currently managing the FED project and which will be retained for the BOAD water project. The FED contribution will amount to 805,000 dollars. The Peace Corps will provide one staff member and five volunteers to assist in health education and village sanitation. The contribution of the government will consist primarily in providing 81 well trained persons full time and other staff personnel part time.

For reasons to be elaborated later, it is recommended that waivers be granted:

a. to extend the invitation for bids to companies already installed and operating in West Africa as well as to U.S. companies;

b. to purchase area code 935 trucks, vehicles, and motorcycles;

c. to procure shelf-items such as cement, rebar, and roofing from 935 countries only when goods produced locally and in 941 countries are not available.

For this project, it will be necessary to provide 1.3 million dollars in FY 1980; 1.7 in FY 81; 2.6 in FY 82; and 1.7 in 1983 for a grand project total of 7,384,000 dollars.

1.0 Background

1.1 General

Togo is a small and poor country with an area of 56,500 square kilometers (slightly smaller than West Virginia) and a population estimated at 2.3 million in 1976. Per capita GDP is only $ 250. Togo's economy is principally rural with approximately 80 percent of the population employed in agriculture, largely subsistence farming. The income of farm families is $ 100 per capita as a national average and even less in the north.

The pathology of Togo is similar to that of other West African countries. Life expectancy at birth is estimated at forty years for both sexes. The crude birth rate is estimated at 55 per 1,000 population and the crude mortality rate at 29, giving a natural population growth rate at 2.6 percent. The country-wide infant mortality rate (0 - 1 year) is estimated at 163 per 1,000 live births in contrast with the low rate of 15 per 1,000 in the United States. The total child mortality rate (0 - 5 years) approaches 50 percent in the rural areas.

In the Togo Health Sector Assessment it is stated that "acute broncho-pulmonary disease, diarrhea and dysentery, malaria, skin diseases, intestinal parasites, and measles account for about 80 percent of childhood morbidity in Togo". The water related diseases of schistosomiasis and onchocersiasis are numbered among the six major communicable diseases in this country.

Despite the danger of contaminated sources, the rural population cannot survive without water. During the rainy season, many farmer families fetch water in nearby marshes which are most often polluted. They also draw water from open hand-dug wells until these run dry several months before the rainy season. At that time, people must walk, oftentimes great distances, to the rivers where they bathe and wash clothes before drawing water to carry back home. The animals drink at the same source, the contamination of which is increased by human and animal wastes that seep into the river.

1.2 Third National Plan

In May 1976, the Government of Togo prepared and published its third national plan, entitled the ECONOMIC AND SOCIAL DEVELOPMENT PLAN 1976-1980. On page 53, the priorities of the plan are established. "In the strategy of the third plan, water constitutes priority number one around which all other programs will gravitate, because water constitutes the primary need. If this need is not satisfied, all other programs are more or less doomed to failure. The country will be covered by a network of wells. The consequent gain in time and improvement of health will permit an increase in productivity which will result in raising the level of life of the Togolese people."

1.3 National Water Program

With finances from the Fonds d'Aide et de Coopération (FAC) the GOT engaged the Société Hydraulique to prepare a program for the provision of water to Togo's rural population. During a research to determine the water resources and needs of the country, it was ascertained that 65 percent of the rural population live in groupings of less than 500 inhabitants; 19 percent in centers between 500 and 1,000 and 2,500. To provide safe water to these discrete groups scattered throughout the country the number of wells required rises above the 3,500 mark. The Société Hydraulique recommended that small bore tubewells should be installed rather than open wells many of which run dry during the year and all of which sooner or later become contaminated.

1.4 Appeal to and Response of Donors

Since the rural water needs exceed by far the personnel and budgetary constraints of the country, the Government launched an appeal for assistance to the international community.

UNDP

In response, the UNDP agreed to provide technical assistance and drilling equipment to make sixty test borings for additional data and to compile an atlas of Togo's water resources and needs. For this project, UNDP has made available 1.5 million U.S. dollars.

FED

The current FED No.4 assistance program in Togo includes a rural water component which began operations in March 1979. This project provides technical assistance, equipment, and materials for the installation of 280 tubewells costing 5.3 million U.S. dollars. The FED technicians have already begun to design a new rural water project for the installation of 240 tubewells beginning in 1982 at an estimated cost of 5 million dollars.

BOAD

After research and discussions that began in early 1979, the Development Bank for West Africa (BOAD) agreed on March 27, 1980 to make a loan to the Government of Togo for the installation of 150 tubewells. The loan will be for approximately 3.2 million U.S. dollars to be repaid at 5.5 percent interest over 13 years.

Federal Republic of Germany

In March 1980, the Federal Republic of Germany sent a team of experts to design a rural water project modeled on that of FED. It seems probable that in 1982 the Government of Germany will make funds available for the installation of 250 tubewells in rural villages.

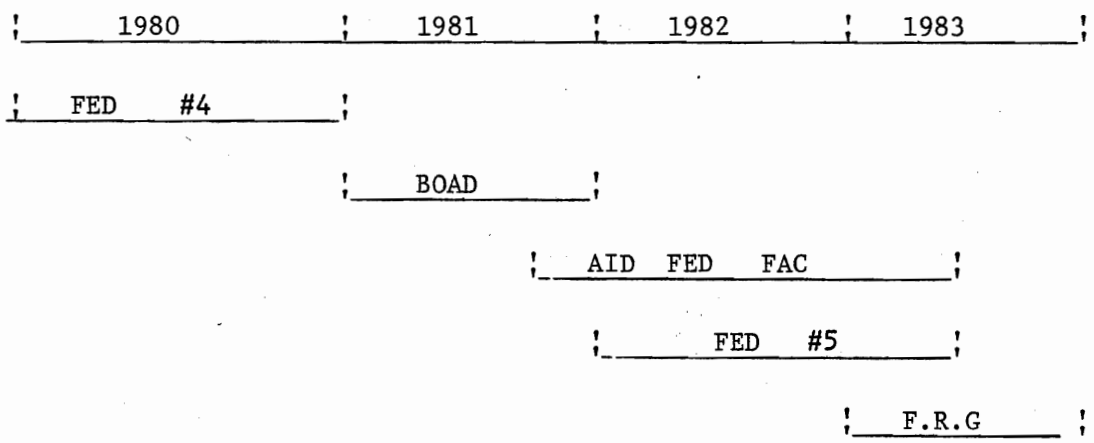
AID

In early 1977, the AID officer in Lome opened discussions with government officials regarding a rural water project. On October 10, 1977 AID/W despatched telegram No. 242375 stating that the Togo Rural Water Supply Project had been approved for design. Later that year AID/Washington despatched to Togo a study team which determined the need and feasibility of a rural water supply and sanitation project.

On April 6, 1978 AID/W sent telegram No. 087444 providing guidance to three countries, Togo included for the design of their rural water projects. The projects should provide safe water for human consumption, utilizing hand pumps. In addition the projects should include village sanitation/health education components. Peace Corps participation is desired and anticipated. Appropriate requirements for supply, repair, etc. should be built into the project.

Along with these instructions, AID/W organized and sent to Togo a team of technicians to prepare a comprehensive analysis of the proposed project. The team included two hydrogeologists, a drilling expert, an economist, an anthropologist, a doctor in Public Health and Rural Sanitation, and a Public Health engineer. After one full month of research and discussions, the team left on July 1, 1978 and submitted five analyses: technical, health, sociological, financial, and economic. These are available in their entirety as annexes to this document and form the basis for the specific analyses below. The project proposed in this paper is in full accord with the findings, proposals, and recommendations of the two technical teams as well as with the guidance provided in AID/W's telegram summarized above.

Schedule of Drilling Operations of Multidonor Wells Projects.



## 1.5 Multidonor Committee

After many donors responded to the appeal of the Government of Togo for safe rural water, it became necessary to organize a multidonor planning committee. It consists of the Director of Hydraulic Service, acting as chairman, and representatives of the major donors: namely, FED, FAC, UNDP, BOAD, and AID. This committee has been especially effective in apportioning to each donor a project area. It has also agreed on the utilization of the same management services and pump model for all rural water projects.

## 2.0 Detailed Description

## 2.1 Sector Goal

The primary sector goal of this project is to improve the health conditions of the rural population of Togo. Achieving this, the project will also increase the availability and potential of the Togolese people for productive activity. A reduction in the incidence of water-borne diseases means also decrease in:

a) deaths of actual and potential producers
b) absenteeism from work
c) numbers of hours spent in hauling water that can be utilized in productive activities.

In these various ways the project will attain the secondary goal of increasing agricultural production and the more general goal of improving the living conditions of the Togolese rural population.

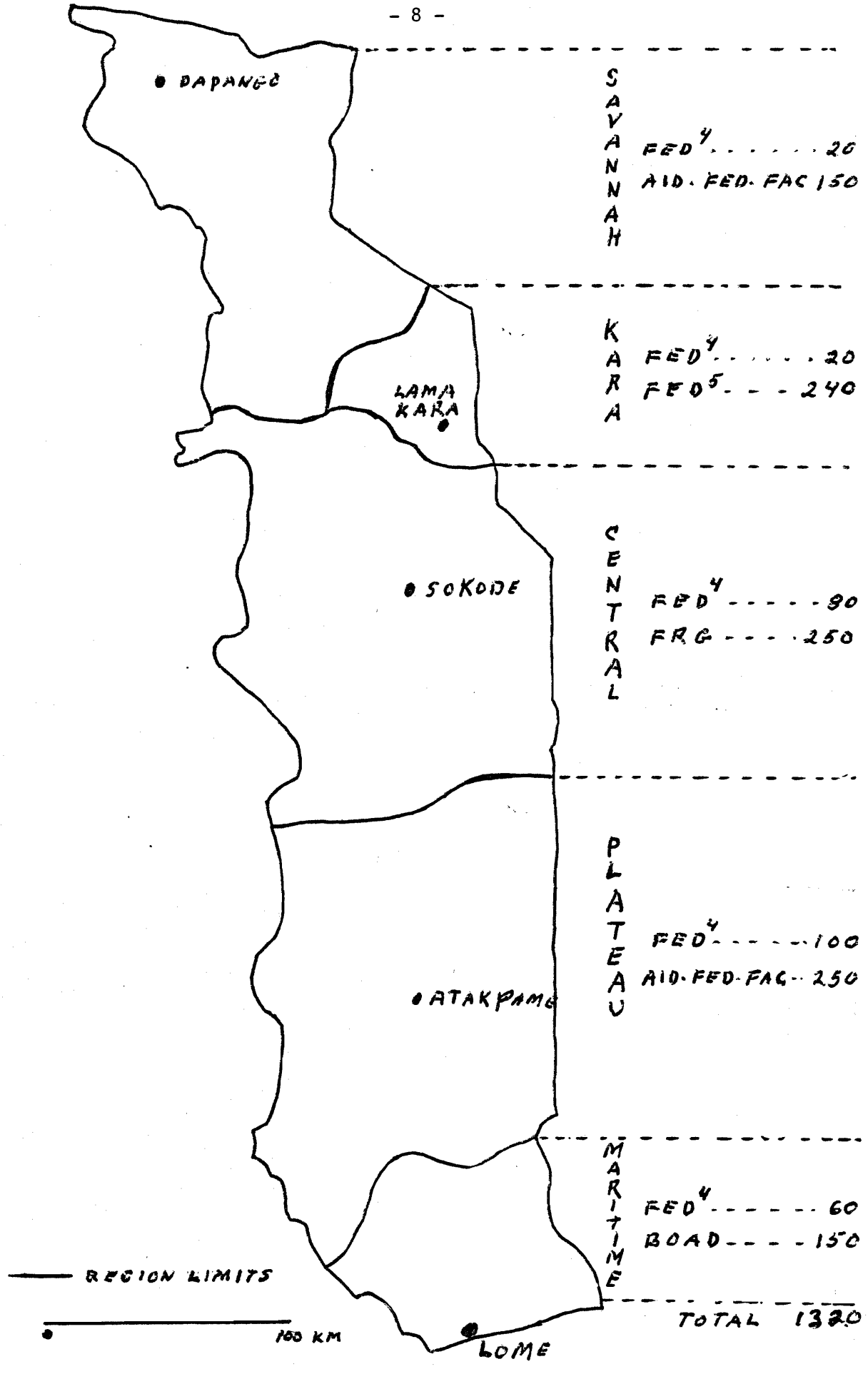
## 2.2 Purpose

In a World Bank paper, it is stated that "many health experts, and in particular, the World Health Organization believe that the provision of a safe and convenient water supply is the single most important and cost-effective activity that could be undertaken to improve the health of rural populations." Based on this belief, the project will attain its goal by providing an adequate supply of safe water to approximately 160,000 rural poor, thus eliminating the need to draw water from contaminated sources and reducing the exposure to water-borne diseases.

Unfortunately, the provision of a safe water supply is not by itself a guarantee of better health in a village. If the inhabitants continue utilizing contaminated water for bathing or washing clothes, if they carry or conserve well water in unclean containers, if body cleanliness is not practised, and if the population does not utilize latrines, the incidence of disease may decrease very little even with a safe water supply. To ensure that this does not happen, the project will provide health education and village sanitation including the construction of family latrines in every village where a project well is installed. Thus the project purpose is twofold: to provide safe water as well as health education and village sanitation.

## 2.3 Outputs

At the end of the project, 400 tubewells will have been installed in rural villages and equipped with hand pumps. They will provide an ample supply of safe water to approximately 160,000 persons who will have no need or reason to draw water from polluted sources. In addition, the villagers will have been fully informed regarding the dangers of contaminated water. They will have received education in personal and family hygiene and sanitation. In all the villages where project wells have been installed, the people will have constructed latrines at schools and dispensaries as well as latrines for individual family use. Thus, at the end of the project, the villagers should be enjoying better health and have more time and strength for increased productivity.


DAPANGO
LAMA KARA
SOKODE
ATAKPAME
LOME
SAVANNAH
FED4 . . . . . 20
AID. FED. FAC 150
KARA
FED4 . . . . . 20
FED5 . . . 240
CENTRAL
FED4 . . . . . 90
FRG . . . . 250
PLATEAU
FED4 . . . . . 100
AID. FED. FAC . . 250
MARITIME
FED4 . . . . . 60
BOAD . . . . 150
TOTAL 1320
REGION LIMITS
100 KM

These results will be achieved in two regions: the Savannah and the Plateau where AID, after consultation with government officials and representatives of donor countries and banks, has been asked to concentrate its project activities. The rationale for this request is based on the need of coordination with other rural water projects and of minimizing costs of installation and maintenance.

In Togo, there are five regions which, from south to north, are: Maritime, Plateau, Central, Kara, and Savannah. For the FED No.4 program, which was the first major project for the installation of tubewells in rural areas, it was deemed politically judicious to make an equitable distribution in all regions: Maritime 60; Plateau 100; Central 80; Kara 20; and Savannah 20. As a result, however, the drilling team, after installing a well in one village, bypasses six or more adjacent villages with equal needs and water potential, leaving behind a wake of frustrated and disgruntled villagers. The government officials are eager to fill in the gaps. The BOAD loan project will do this in the Maritime Region. AID has been requested to concentrate its activities in the Plateau and Savannah Regions where the poorest of the poor eke out an existence. During recent planning discussions, FED agreed to locate its No.5 water project already under design in the Central and Kara Regions. The Federal Republic of Germany has been asked to concentrate its wells activity in the Central Region. Thus at the end of the FED,[4] BOAD, AID, FED[5], and FRG rural water projects, approximately 1320 additional tubewells will have been installed and distributed equitably throughout the country.

## 2.3 Inputs

In order to achieve the end of project results, considerable inputs will be required for both components of the AID project:

a) the installation of wells and
b) health education and village sanitation. For the provision of wells, FED will finance the management services; AID the drilling contract; FAC the installation of pumps; and FED the maintenance of the pumps.

### 2.3.1 The Management Services

One of the first concerns of donors is to strengthen the capacity of the host government. With this objective in mind, FED provided extensive training for the Ministry of Mines, Energy, and Hydraulic

Resources. As a result, among its personnel it numbers: 27 professionals including hydrogeologists and geophysicists; and 170 skilled and semi-skilled workers, including drillers, mechanics, and welders. In addition, FED has provided 1.2 million dollars for the rehabilitation and/or purchase of three drilling rigs, compressors, trucks, and other equipment. The current UNDP project is providing 443,000 U.S. dollars for a new drilling rig, 3 trucks, and 5 vehicles. With an additional 150,000 U.S. dollars from the BOAD for materials, the Hydraulic Services admits that it cannot absord any more resources and that it is operating full capacity principally in cities and in the Maritime Region.

It is incapable of doing more for the rural areas that require, as mentioned earlier, over 3,500 water supply points. Moreover the need of safe water is urgent. For this reason, and at the request of the government, the FED project is providing for the installation of 230 tubewells by a drilling company and BOAD is providing a loan for 120 wells to be drilled by a contractor. Moreover, since the Hydraulic Service cannot manage and supervize these extensive drilling activities in addition to its regular program, both the FED and the BOAD projects are providing expert management services to assist the Director of Hydraulic Services.

The Bureau de Recherches Géologiques et Minières (BRGM) is a scientific, industrial, and commercial corporation with a staff of 2,200 of whom 850 are engineers. It has a long experience in Africa and is presently engaged in hydrogeological projects in over 11 African countries.

The first year of BRGM's management of the current FED has been eminently successful. Both the Government and FED officials are very satisfied with the performance of BRGM and are contemplating utilizing their services in the FED No.5 project that should begin sometime in 1982. It has also been decided that the BRGM will supervize and manage the wells project to be financed through the BOAD loan. Because of the efficiency of the BRGM and also for maximum integration of all related wells projects, the multidonor committee (including GOT, FED, FAC, BOAD, and AID) has made a strong recommendation that the BRGM be engaged to assist the Hydraulic Service in the management of the AID project to ensure these services. FED has made a committment to finance completely this French company.

Invitation for Bids (IFB) and Contracts

One of the first tasks of BRGM will be the preparation of the IFB for the drilling contract. This IFB will have to be very specific and in detail. It will include a geological and hydrogeological description of the project area. It will specify that about 535 borings will be made at an average depth of forty five meters and that four hundred of these will be equipped with PVC and handpumps, etc.. The frequency and distances of equipment displacement will be estimated. The average monthly rate of 25 borings will be specified. And the IFB will include all the other details needed so that U.S. companies can submit bids. Later this Mgt. Co. will analyze the bids and submit its comments and recommendations to the Togolese Government. After a company has been selected, the Mgt. Co. will assist the Government in preparing the contract. In this entire process of preparing IFB, reviewing the bids, and writing up the contract, REDSO/WA will be involved, AID regulations will be followed and the appropriate AID approvals obtained.

Supervision of the Drilling Company

The actual drilling of the wells will be contracted to a drilling company which will also be responsible for the installation of PVC and the development of the wells. In this operation, however, the drilling company will follow the instructions of the BRGM. If the discharge is inadequate or if chemical and bacteriological tests reveal that the water is not safe for human consumption, the BRGM will instruct the drilling company to cap the boring in such a way that the water supply source cannot become contaminated. The BRGM will closely supervize this operation. When an adequate supply of safe water has been reached, the BRGM will determine at what depth the PVC with slots should be placed and at what point a well has been fully developed for maximum discharge etc.. In a word, the BRGM has the responsibility of supervising and directing from start to finish the operations of the drilling company which is paid by the number and depth of the borings.

Selection of Project Villages

Another task of BRGM will be the selection of villages where well drilling will take place. For this selection, many factors will be considered. A socio-economic study of 525 villages was made in

preparation for the FED project. It included, among other factors, the water needs of the villages and their ground water potential. Since the FED project will install only 280 wells, there remain 245 villages about which useful data is available. The selection of villages will be based on demonstrated need and poverty. It seems that during the daylight hours a manually operated pump can provide an adequate supply of water (20 liters/person/day) for about 400 persons. Consequently sites will be selected that can provide a convenient source of water for at least two hundred fifty persons. The guiding principle here as elsewhere in site selection is that the project must benefit the maximum number of rural poor equally in need. This allows for the possibility of installing more than one well in a population center, e.g. 3 in a village of 1200 - 1500 inhabitants. Another criterion for site selection is the accessibility of the villages. Villages that cannot be reached by the drilling rig will not be included in this project. The loss of time and funds spent in bulldozing an approach road or building a bridge to reach a village means less wells installed during the project and less people supplied with safe water. Another criterion in site selection will be the willingness of the villagers to participate in a health education and village sanitation project to be carried out simultaneously with the wells project. This readiness will be verified by the Agents de Promotion Sociale (whose full function will be described later) and supplied to the BRGM. In addition, the BRGM will keep in mind the loss of time and the cost of the displacement of drilling equipment and personnel. It is more economical to install wells in a series of adjacent villages (provided all other criteria are satisfied) than to leapfrog over equally deserving villages. In addition, the closer the pumps are to one another, the easier becomes the maintenance. In preparing the list of project sites, the BRGM will naturally consult the Togolese officials in the interested Ministries as well as in the regions, circonscriptions, and cantons. One office that will provide guidance in the selection of villages will be the Direction du Développement Communautaire which has under its direction over four hundred well-trained Agents de Promotion Sociale scattered in cantons throughout Togo and assisted by Peace Corps volunteers.

Selection of Drilling Sites

A fourth and perhaps the heaviest responsibility of the BRGM is the selection of the drilling sites within the project villages. The primary consideration is the availability of water determined

by aerial photo interpretation and on-the-ground inspection by hydrogeologists. The rock substratum covering eighty five percent of Togo presents a formidable challenge to anyone looking for adequate supplies of safe water. Pinpointing a successful drilling site in Togo requires consummate skill. A distance of only two meters can make the difference between a dry hole and a productive boring.

An equally crucial consideration is the sanitary conditions of the drilling site. No borings will be made where there is danger that the water source can become contaminated e.g. near a corral or latrines. Other important aspects must be considered in the selection of the drilling site: the preference of the villagers, the most convenient location for the women, the local taboos, etc. Because of the difficulty of identifying productive well sites, the project allows for 27 percent failure. For villages where two or three drillings have been unsuccessful, the BRGM will conduct geophysical testings with appropriate instruments to locate a water source.

On-the-Job Training

The FED project is financing the academic training of three hydrogeologists, three geophysicists, and two master drillers. At the end of the FED project, the Ministry of Mines, Energy, and Water Resources will absorb four of these technicians. The Government has requested that the four others (2 hydrogeologists and 2 hydrophysicists) work in the AID project and receive practical field training from the BRGM technicians. This supervision of the trainees paid with project funds will be an additional responsibility of the BRGM.

Final Documentation

At the end of the project, the BRGM will publish a full report of the operation and comprehensive data on every project well, including rate of drilling speed through various strata, composition of these strata, water level, depth of PVC screen, etc.. These will be submitted in twenty copies, as is being done in other projects, to the government for judicious distribution.

2.3.2 Drilling Contract

With the resources provided by the FED and BOAD projects, the Hydraulic Service is installing, in addition to its regular water program in cities, eighty tubewells in the sedimentary zone of the Maritime Region. Since the Hydraulic Service cannot absorb more resources and install more wells, the great and urgent need of safe water in the rural areas dictates the utilization of drilling companies under contract. In the FED project, a drilling company is installing 230 tubewells and the BOAD loan will finance a drilling contract for 120 wells. Following this lead, the AID project will finance a contract for the drilling of 400 tubewells.

Under the instructions and supervision of the BRGM, the drilling company will make 400 successful 6 inch borings and equip them with 4 inch PVC screens and pipes. To obtain that number of wells, allowing for a 27 percent failure, it may be necessary to drill as many as 535 bores at an average depth of 45 meters. The drilling company will then develop the wells to obtain maximum discharge. The drilling of bores (535) will be accomplished at an average rate of 25 per month over a period of 23 months, including 2 months' interruption during the rainy season. To achieve this rapid rate of installation it will be necessary for the company to operate three drilling rigs. As in the FED project, the company will provide all required equipment, PVC and packers, and cement for the installation of the well to be more fully described in the technical analysis. In addition, the company will make arrangements for all transportation as well as for the lodging of its personnel.

The company engaged in the FED project is one of the twenty or more drilling companies operating in West Africa. Many of these companies utilize U.S. equipment such as rigs and compressors.

It is proposed to extend the invitation for bids to these companies as well as to the U.S. firms for the following reasons. First, several knowledgeable persons, including AID engineers, are of the opinion that U.S. companies will not be interested in tendering a bid for only 400 small tubewells. In that event, if the invitation for bid has been extended only to U.S. firms, three or four months will have been wasted. Secondly, the drilling firms already established in West Africa have let it be known that they could start the drilling operation within two months of the contract. A U.S. company would require at least 9 - 12 months for equipment and

material to arrive and to become operational. Thirdly, it is the opinion of technicians in and around Togo that the competition for this contract will be fierce among the 20 or more companies in West Africa and that their bids should be significantly lower than those of U.S. based companies. Fourthly, it is necessary that the drilling company provide operators who can understand and communicate in French. This project is a joint venture with the Togolese Government, FED, and FAC. Everyone engaged in this project, the managers, pump mechanics, manual laborers, etc. speak either French or some local language. Communication in English is out of the question.

For all of the above reasons, it is imperative that the invitation for bids be extended not only to U.S. firms but also to the drilling companies presently established and/or operating in West Africa. To make this possible, a waiver is being requested.

2.3.3 Purchase and Installation of Pumps

In the current FED wells project, the hand pump that is being installed is the new model of the Vergnet hydropump, manufactured in France by the Mengin company. The pump's design and operation will be described later in the technical analysis. Here it suffices to report that under the FED project, over one hundred Vergnet pumps have been installed, none has broken down, and all are functioning to the full satisfaction of the project technicians and the villagers.

For the FED project, a reliable system has been established for the supply of pumps and repair parts. The pump manufacturer Mengin has a long term contract with the biggest wholesale/retail supplier in Togo, the Société Générale du Golfe de Guinée (SGGG) which has 16 distributing centers scattered throughout the country. Under this agreement, SGGG maintains a supply of Vergnet pumps and parts at all times.

In addition, five Togolese mechanics have received training in the installation of Vergnet pumps. After spending several months at the factory in France and visiting installations in neighboring African countries, the pump mechanics have installed over 100 Vergnet pumps in the FED project. For greater insurance against mishaps, the manufacturer provides an expatriate supervisor. This experienced team is largely responsible for the superior performance of the Vergnet pump in Togo.

After installing the pump, the team pours a concrete slab measuring five feet square on which the surface superstructure of the pump is bolted. Then a large concrete enclosure is built around the pump by the villagers for maximum protection of the water supply. At the same time, the team members teach the villagers how to use and maintain the pump.

After a recent evaluation of the pumps being installed in the FED project, the multidonor committee has recommended that the Vergnet pump be installed in the BOAD and in the AID projects for standardization. In a country with limited personnel and material resources, it would be wasteful to install different pump models, each requiring special tools and stocks of spare parts and specialized training in installation and maintenance.

In response to this recommendation and at the request of the Government of Togo, the FAC has agreed to purchase 400 Vergnet pumps and repair parts for the AID project. In addition, FAC will finance the construction of the 5'x5' cement slabs around the pumps as well as the installation of the pumps by the Togolese mechanics and the expatriate supervisor. Thus all costs related to the purchase and installation of the Vergnet pumps will be borne by FAC.

2.3.4 Pump Maintenance

From the beginning of the FED project in March 1979, the Togolese and FED technicians wrestled with the problem of ensuring pump maintenance during and after the project. In December 1979, the Government of Togo and FED signed a special agreement, supplementary to the wells agreement, for the maintenance of all the hand pumps that have been and will be installed in Togo under the FED, BOAD, and AID projects.

For this maintenance component, the Hydraulic Service will make available three pump mechanics and FED will provide three more. The FED will finance their full support, including vehicles, tools, and operational costs for three full years until 1983. If funds should be required between 1983-85 for the continued maintenance of FED, BOAD, and AID pumps, AID has been assured that the FED No.5 program will provide the required funds.

In the meantime, however, FED is urging the government to include in its communications to the rural population, that they will have to organize themselves and raise funds to pay for the repair of the village pumps. As soon as the principle is accepted by the villagers and the system is established FED will terminate its support. But not before.

Thus, the maintenance of the pumps installed during the AID project will be financed by FED during the project and through 1985. At that time, the villagers will have assumed the financial responsibility of maintaining their village wells. This will not constitute a heavy burden. It is estimated that the maintenance cost of one village well averages about 75 dollars per year or about 20 cents per person.

2.3.5 Health Education and Village Sanitation

Earlier in this document, it was stated that the provision of a safe water supply by itself will not ensure the improvement of village health. If the inhabitants continue to draw water from more convenient polluted marshes and open wells, if safe water drawn at the project well is carried and stored in contaminated vessels, if personal hygiene and sanitation in the house or compound is grossly neglected, a rural water project may very well fail to attain its goal of improving the health conditions of the rural population. For this reason, the project proposed in this document will include as an essential element health education and village sanitation activities. Technical support will be provided by the Division of Environmental Health in the Ministry of Health and the "animation" of the villagers will be effected principally by the Agents de Promotion Sociale (APS) from the Ministry of Social Affairs with the assistance of Peace Corps volunteers.

The Current Program

The Division of Environmental Health is administered by a sanitary engineer and is responsible for water quality control, hygiene, excreta disposal control, health education, etc. The Division has five regional offices, each administered by a sanitary engineer and assisted by sanitarians and a sanitary inspector.

The environmental sanitation department works very closely with the hospital and its satellites. A physician in charge of the regional hospital and dispensaries is responsible for the health services provided in the region. Nurses function in the hospitals and in the dispensaries where they have itinerant workers to help them. The sanitarians provide sanitation training to nurses and itinerants and work with villagers. There is an active on-going environmental sanitation program in Togo. As regards excreta disposal, it is directed principally toward the construction of latrines for schools. The Health Department constructs the latrines providing some materials and manpower. UNICEF and other donors contribute to some extent. For example, the World Food Program provides food for workers at the site. The community, teachers, and students help dig the pit, mix the concrete, make the cement blocks or adobe, etc.. Sand for concrete is provided by the community.

As regards public health education, numerous agencies of the Republic of Togo share the responsibility. The health department has prime responsibility for health education of the people. Doctors, nurses, sanitarians, dispensary workers, sanitary engineers, midwives, itinerants and health workers are all responsible. This is done through a one-to-one relationship between health workers and those with whom they are working. The Department of Health uses its sanitarians to provide education. The sanitarians instruct school teachers and provide them with information that they may use in the classroom and as reference materials. They also work with nurses and itinerants to instruct them and consult on sanitation practices. Meetings are held in communities to inform adults of public health, particularly prevention of diseases through use of proper sanitary measures, and to promote community health programs.

In summary, for health education and village sanitation, the government has the infrastructure and sufficient competent technical personnel at the regional level. The Division of Environmental Health, however, lacks the means to launch an extensive health education and sanitation program in all the villages that will receive a project well. Funds are needed for educational materials such as posters and leaflets, for latrine construction materials, and for transportation.

The Proposed Program

The provision of safe water is not an easy matter. Once water supply has been discovered, however, the process of drilling and developing a well and installing a pump takes little more than forty-eight hours. By contrast, the process of raising the standard of home and village sanitation to a satisfactory level requires more time. It involves instructing people and making them understand the causal relationship between unhygienic practices and unsanitary conditions on the one hand and disease and death on the other. It also means changing long established practices of throwing garbage over the compound wall and of defecating in an open field. This change can occur but only as a result of persuasive and persevering "animation" or community development.

The task of instrucing the recipients of a project well about the benefits of safe water and sanitation as well as the dangers of contaminated water and unhygienic practices and unsanitary conditions will be accomplished by the Agents de Promotion Sociale (henceforth APS) in the Ministry of Social Affairs. Over 400 agents are scattered in the rural areas of Togo and are responsible for community development.

After four years of secondary education, men and women attend a special school in Lome, l'Ecole Nationale de Formation Sociale. During three years, they receive extensive training in all aspects of community development, including group dynamics, pedagogy, health education, sanitation, etc.. In each region, there is a center which directs the activities of the APS's within that area. The agents work in a team of three persons: one responsible for community development, another for alphabetization, and a third for the development of women. Each team is responsible for several villages. For this project, the Ministry of Social Affairs will set aside 25 teams.

Peace Corps Collaboration

These teams will receive the strong support of Peace Corps volunteers. There is an agreement between Peace Corps and the Ministry of Social Affairs that at least five Peace Corps volunteers will be engaged in this project. Each volunteer will assist about five teams of APS's. Peace Corps has also agreed that a staff member with Public Health

background will be the project coordinator, advising and helping the Director of Community Development who will be the project director of the health education and village sanitation activities.

The Peace Corps volunteers will provide middle management skills to ensure smooth functioning of the project. Their responsibilities will include:

a) assisting in the organization of seminars for the APS's and refresher courses in health education;

b) helping the teams to organize their activities and execute their plans according to a realistic schedule;

c) assisting the teams in the purchase and distribution of materials for latrine construction and supervizing this activity for quality control;

d) verifying the effectiveness of the pump maintenance program and instructing the villagers where to request this service.

Before sending the APS's on their mission, special seminars will be held in regional centers where the APS's will become acquainted with all aspects of the project and their specific responsibilities. Technicians from the Division of Environmental Health and the Hydraulic Service will participate in the seminars.

The APS-PC teams will then proceed to the villages that have been selected to receive wells. Whenever possible, their arrival will precede that of the drilling rig. They will explain that the well and the safe water will improve family health only if there are simultaneous improvements in hygiene and village sanitation. They will urge the villagers to participate in the overall project by cleaning up their village and constructing family latrines. The word will be spread that a village which shows no interest in improving village health and participating in project activities, will be deleted from the list of villages programmed to receive a well. The project well and village health and education will be the central theme of all activities of the APS's. During the alphabetization session, adults will learn to read and write about wells, safe water, cleanliness, sanitation, latrines. The APS's responsible for the development of women will encourage women to spend the time saved in fetching water in productive work and in keeping homes and compounds clean. As part of the instruction, the APS-PC teams will demonstrate the construction of family latrines. Following designs drawn by the Service

d'Assainissement in the region, each family group will dig its own latrine. Cement and rebar will be provided and, if necessary, shovels and picks.

In this work of village sanitation and health education, the APS-PC teams will receive assistance from other government services and organizations in the area. In the schools, teachers will cooperate and discuss the health advantages of the new well and the need of personal hygiene and village sanitation. Similar instructions will be given in dispensaries and medical centers especially to the mothers flocking to these facilities with sick children. This message will also be spread by the many village health agents who are responsible for the health education and sanitation of their villages. The support of the Village Development Committees wherever they exist will be solicited as well as the cooperation of the Union Nationale de Femmes Togolaises which has many dynamic village committees. This collaboration of all government services and local organizations in development activities is not just an ideal or a dream. It goes on in every region as a result of the catalytic action of the APS's. Other government services recognize the capabilities and talents of these agents and utilize them to inform and influence the village population. In return, those services are ready to collaborate in the special projects of the Agents de Promotion Sociale.

In order to assist the Peace Corps volunteers and the Divisions of Community Development and Environmental Health to prepare the 75 Agents de Promotion Sociale (APS) for their task of promoting family hygiene and village sanitation, the project will provide short-term technical assistance. During six months early in the project, an expert in public health with field experience in francophone countries, will help develop or adapt training materials for very concrete, practical tasks. The technician will return after about one year to check on the health education/village sanitation activities and make recommendations. The visit of two months will be repeated in the third year of the project for a last evaluation and recommendations.

Through this collaborative effort and especially through the activities of the APS-PC teams it is planned to construct a latrine in every compound which normally includes about 20 people. Since a project well provides water for about 400 villagers, the project

will provide for the construction of approximately 20 latrines per well. Two trucks will be made available for the transportation of materials to the regions. In addition, for maximum mobility of personnel and material to the project sites, Peace Corps volunteers will be provided with pickups and the Agents de Promotion Sociale with motorcycles.

## 3.0 Analyses

### 3.1 Economic Analysis

#### 3.1.1 Cost-Benefit Analysis

By providing safe water within the villages, this project will reduce sickness and death resulting from the consumption of or contact with contaminated water and it will reduce considerably the number of hours spent in fetching water from more distant supply points. In both instances, there will be an economic gain. Death reduces the number of actual or potential producers. In addition all the costs of feeding, training, and clothing a child up to his death is a loss. Production is diminished by reason of absenteeism due to disease. Sickness debilitates and reduces the quantity and quality of work. In Indonesia, the cure of anemia increased the productivity of workers 19 percent. Sickness diminishes the concentration of students and thereby reduces the effectiveness of costly education and training. Enteric diseases impair the intestinal absorption of nutrients. Another loss. In addition the costs of treating illness, whether by purchasing drugs or making payments to traditional healers, are an additional burden on the community. In the Savannes region during 1974, there were over 62,000 visits to medical facilities for treatment of water-related diseases. Such costs and losses could be eliminated by the provision of safe water.

A well situated in a village would also save many hours that are wasted fetching water. Several trips must be made every day and sometimes, especially during the dry seasons, at distances of 10 - 20 kilometers. Assuming that the women would utilize at least half of the hours saved in more productive tasks, there would be a significant economic gain.

It is impossible to estimate the economic advantages of a convenient safe water supply point and to balance these benefits against the cost of a well. As a result, one is inclined to disregard these intangible gains and consider them negligible. As a matter of fact, however, they are significant.

In 1978 for a tubewell project in Chad, an AID economist made an attempt to estimate the economic gains of a village well. He limited his analyses to only four benefits. First, he calculated the cost of food for an infant (0 - 6 months) and a child (0 - 5 years) and the extra food consumed by their mothers during pregnancy and lactation. Secondly, he estimated the average number of workdays missed because of water-related diseases and the resulting loss of income. Then he figured the average cost of treatment of water-related diseases in the village, and finally, he calculated the gains of a woman who earned money during half of the time saved in fetching water. After very conservative calculations, he arrived at the following savings resulting from the installation of a tubewell in an average village of 300 residents:

| | |
|---|---|
| Cost of food of infant and child before dying prematurely | $ 590.84 |
| Cost of absenteeism from work | $ 729.00 |
| Cost of medical treatment | $ 776.00 |
| Value of time gained | $1676 |
| Total annual gain | $3771.84 |

This amount represents more than 12 percent of the village's annual income. Since the installation of one project well costs $ 19,000 and the maintenance is estimated at 75 dollars per year, the total expenditure of a village well would be fully compensated at the end of six years.

For a similar rural water supply project in the southern part of Upper Volta, just north of Togo, it was estimated during the project design there, that women spend an average 2 1/2 hours per day fetching water. Assuming the women in northern Togo spend about the same amount of time to fetch water as do women in southern Upper Volta, it's likely that women in both countries experience the same general economic and social benefits from easier access to cleaner, more permanent sources of water. As presented in the Upper Volta Rural Water Supply Project paper, it can be assumed that time saved

as a result of rural water supply projects in the Sahel approximates 2 hours per day or 730 hours per beneficiary per year. With easier access to rural water supplies and assuming 50 women beneficiaries per well, women's time saved over the useful life of the project wells (20 years) is calculated at: 400 wells x 50 women per well = 20,000 women; and, 730 hours x 20,000 women = 14,600,000 hours x 20 years = 292,000,000 hours saved by 20,000 women over a 20 year period.

If the value imputed to a 12 hour work day for rural women is $.50/day then the value of time saved as a result of the project equals $ 12,166,666. This total benefit is arbitrarily calculated but exceeds AID's total contribution to the project.

3.1.2 Section 611 (b)

Section 611 (b) of the Foreign Assistance Act, as amended, applies to this project because its primary forcus is to develop water resource supplies and, also, because the construction costs of water resource development during the project exceeds $ 100,000. Consequently, the technical, economic, social and environmental analyses have, insofar as practicable, considered relative project costs and benefits. Overall national economic efficiency should improve as a result of increased productive output by women in other domestic and market activities, once they are freed somewhat from drawing water. The quality of the environment will be enhanced as a result of the drilled well technologies, sanitary facilities and expanded, improved instruction in hygiene which will be introduced over the life of the project.

3.1.3 Cost-Effectiveness of Rural Water Project

Since the above estimates are only indicative of the economic gains of a village well, one should not attempt to justify this project simply on its economic returns. The reason for financing a rural water project is principally humanitarian. It is a response to man's right to life and to what is essential for life: water. Thus this economic analysis will not attempt to establish the cost-benefit ratio of this project; it will simply demonstrate that the project as conceived is cost effective.

The primary purpose of this project is to provide safe water to villages throughout the year. Open wells therefore are excluded as an alternative because sooner or later they become contaminated and a source of disease. In addition, most of the open wells constructed in Togo run dry during several months every year. They can be deepened in or below the rock substratum but at great cost of time and money. For these reasons, FED discontinued the construction of open wells and, in its fourth project, programmed exclusively the installation of closed tubewells. This is also the preference and the policy of the Government.

Later, in the technical analysis, the need of special drilling techniques will be demonstrated as well as the advantages of the well material and the pumps selected for this project.

Perhaps what needs to be shown here is the necessity and the economic advantages of giving the drilling of the wells to a contract who will be responsible for all equipment, materials, (except pumps) transportation, and lodging. First, personnel constraints make it impossible for the OAR to provide administrative and logistic support to project technicians. The OAR can do little more than monitor the project activities.

Another advantage of a drilling contract is that an average rate of borings can be programmed by the management company (such as 25 per month) and the starting and termination dates of the project can be under some contract control.

In addition, a project executed under fixed contract seems to be less expensive than a project carried out by technical assistance and with equipment, materials, transportation, and lodging procured through the OAR. In early 1978, the PP design team technicians estimated the cost of a well with regular T.A. and normal administrative and logistic support from OAR at 20,000 U.S. dollars. In subsequent calculations during 1978, this cost was raised to 24,600 U.S. dollars. In the project here proposed, the complete cost of one well will be 19,000 dollars of which AID will finance 15,400 dollars. The difference in cost between the two methods of executing the project is due principally to a shorter life of project under a drilling contract. Secondly, when responding to an IFB made by the host government, companies in competition tend to trim costs and submit bids that are below the cost of a project executed through normal AID T.A. contracts. Thus it is preferable because less costly, less troublesome, and better controlled to entrust the installation of the wells to a drilling company under fixed price contracts that require no administrative and logistic support from the OAR.

### 3.1.4 Cost-Effectiveness of Village Sanitation Activities

The Ministry of Social Welfare and more specifically the Direction du Développement Social will have the main responsibility for the health education and sanitation in the villages where wells will be installed. These activities will be performed by 25 teams of Agents de Promotion Sociale (APS) whose salaries are paid by the GOT. In this difficult task, the personnel of the Social Affairs will be assisted by the health education and village sanitation technicians in the government service, and by the Peace Corps, which will provide a public health staff member and five volunteers. Each volunteer will support five teams of APS's.

In addition, the villagers will contribute the sand, gravel, and labor needed for the digging and construction of latrines. The project will provide only cement, rebar, and roofing sheets and, whenever necessary, picks and shovels. These will be bought on the local market at the lowest cost.

For the transportation of materials from Lome to the project areas, two trucks will be purchased with project funds. Each Peace Corps volunteer, supporting five Social Affairs teams and responsible for some 80 villages during the life time of the project, will receive a pickup. In addition, the Agents de Promotion Sociale, who must travel from village to village, need maximum mobility without which they lose all efficiency and the project founders. Motorcycles will be provided to ensure this transportation.

In short, AID's contribution to the health and sanitation portion of the project will be reduced significantly because all the project personnel will be provided by the Government and Peace Corps. In summary, it is apparent from the above that the project has economic benefits which unfortunately cannot be calculated except in an indicative manner and that the project is cost effective.

## 3.2 Social Soundness Analysis

At the suggestion of the multidonor planning committee for Rural Water and at the request of the Government, the AID project will install wells in the Savannah and Plateau regions. The solid social analysis, prepared by a member of the design team and available in AFR/DR, reveals that the population of the Savannah area would be very receptive to the proposed project activities. Nothing in their culture or practises would be obstacles to the success of the

project. In addition, the 90 tubewells that have been installed during 1979 in the Plateau region by the FED project, have been very well received and are being fully exploited and well maintained by the villagers. In those two regions, when the rural people were asked to identify their greatest need and desire, they inevitably answered: "water". A close second is improved health.

### 3.2.1 Collaboration of Government Services and Local Organizations

As mentioned above, this community development will be carried out principally by 75 Agents de Promotion Sociale (APS's). After three years of special training, these agents are assigned to work in their native areas. They speak the local language. Although well trained for this task, they will seek the collaboration of other services and groups.

The Service of Sanitation is already committed to assist. In fact, seven of their personnel will work full time with the APS's. These APS's will enlist the help of the teachers and nurses in the area to spread the message of personal hygiene and home/village sanitation in school and in the dispensaries. The village health workers and the local midwives will participate in the campaign.

In addition, the APS's will coordinate all their activities with the village chiefs and elders and depend upon these leaders to gather the villagers for the first meeting during which the project will be announced and explained. Later the leaders will help to organize the villagers for project activities and play an important role in the dedication ceremony of the well.

In many villages, moreover, there are Committees for Development. Their endorsement and support will be solicited. Even more widespread are the Committees for the Development of Women. The chairlady is usually a dynamic and influential person. The regular bi-weekly meetings offer an excellent opportunity to instruct the village women about the project activities, family hygiene, home and village sanitation, and to enlist and organize their support.

### 3.2.2 Participation of Villagers

Through the village structure and local organizations, the APS's will seek the maximum participation of the villagers. When the hydro-geologist visits the village to determine the drilling site, he must take into consideration the technician's recommendation based upon aerial photo interpretation. In addition, he must consult the villagers,

especially the women who are and have been for centuries the providers of water for the family. If at all possible, he should give them the choice of several sites with promising water potential. Doing this, he will win the goodwill and cooperation of the women and in addition he will avoid selecting sites that present social or cultural problems. Later, as soon as the surface concrete slab is poured around the well and the pump is installed, the villagers will construct an enclosure paved with stones for quicker drainage and fenced in to keep animals away. The village chief or elders will appoint people to maintain cleanliness in the pump area. At least two villagers will be trained and equipped for the ordinary maintenance of the pump. As for the construction of latrines, the villagers will dig the pits and build the superstructure in local materials. They will also provide the sand and the gravel for the concrete.

### 3.2.3 Beneficiaries

The primary beneficiaries of the project wells will be the women. Drawing water in the village rather than at great distances, the women will save hours every day. The women, who were interviewed by the anthropologist on the PP design team, indicated their intention to devote most of the time saved to farm work, crafts, etc.. Women folks are eager to earn more money for personal and family needs. The second greatest beneficiaries will be the children who are most affected by water-related diseases. According to the World Bank Paper quoted earlier, the provision of a convenient safe water supply could reduce diarrhea, the child killer, by approximately two thirds. The children and the women will be among the 160,000 beneficiaries of this project located in approximately 400 villages.

### 3.2.4 Spread Effect

The news of a well providing an abundant supply of clear water throughout the year spreads quickly. The less fortunate villages become envious and take every opportunity to let their needs and desires be known. In time, their cries may be heard and their needs satisfied. It will take longer for the beneficial effects of the wells and the improved sanitation on the village health to be realized and propagated. But it will happen sooner or later. And in that way, other villages will reap the benefits of the project. It is difficult to estimate the beneficial repercussions of a more healthy community upon productive activities and upon other communities; but the everwidening beneficial effects of a more healthy population is a certainty.

### 3.3 Technical Feasibility

This technical analysis will cover three aspects of the project: a) well drilling, b) pump installation and c) latrine construction.

#### 3.3.1 Well Drilling

The technical analysis of this activity in the AID project will consist principally in analyzing the FED project upon which the AID project is modeled. First, after the selection of project villages, aerial photos which are available for these as well as for all other villages in Togo are studied in the laboratories of the Bureau de Recherches Geologiques et Minières (BRGM) in Orleans. On overlays, technicians indicate the two or three sites in each village where the prospects of drilling and reaching water are greatest. Guided by this photo interpretation, a hydrogeologist visits the village and on the ground selects the drilling site with the greatest potential and most convenient and acceptable to the villagers. Following his instructions, the drillers begin their work. The percussion-rotation rig equipped with a down-the-hole hammer and air compressor makes a 6" bore averaging about 45 meters a day. During the drilling, a log is kept of all aspects: rate of descent, composition of geological strata, water level, the volume of water discharged per hour, etc.. When an adequate supply is located, PVC measuring 4 inches in diameter is lowered to the level of greatest discharge. With a carborandum blade, horizontal slots are made in the lower section of the PVC to allow the maximum flow of water into the tubewell. At the appropriate levels, non-corroding flanges or packers are positioned around the PVC, fitting smugly against the walls of the bore. Then grout is pored above the packer, around the PVC, up to the cement apron around the pump. All this to prevent seepage alongside the PVC into the aquifer. With an air-compressor, the well is cleaned and developed to obtain maximum discharge. That done, the PVC above ground is capped awaiting the installation of the pump to be described below.

On April 3, 1980, 182 drillings were completed; 133 reached an adequate supply of water (1 cu. m. per hour) and were developed and equipped with pumps; 49 drillings were unsuccessful (27% of drillings). Of the 131 villages in which drillings were made, only 9 villages were left without a well. Later in the project, these villages and others with the same ill fortune will be visited by a special team

who will make geophysical tests (electrical soundings and/or profiles of resistivity) to detect adequate water supplies. In the FED project, geophysical tests are not made at the first instance because they are costly in time and money and are unnecessary in 73 percent of the drillings.

It is evident from the success todate that the techniques and equipment employed in the FED project are appropriate for the drilling of small tubewells in the geological structures of Togo. The same proven techniques and equipment, which were also recommended by PP design team technicians, will be utilized in the AID project.

3.3.2 Pumps

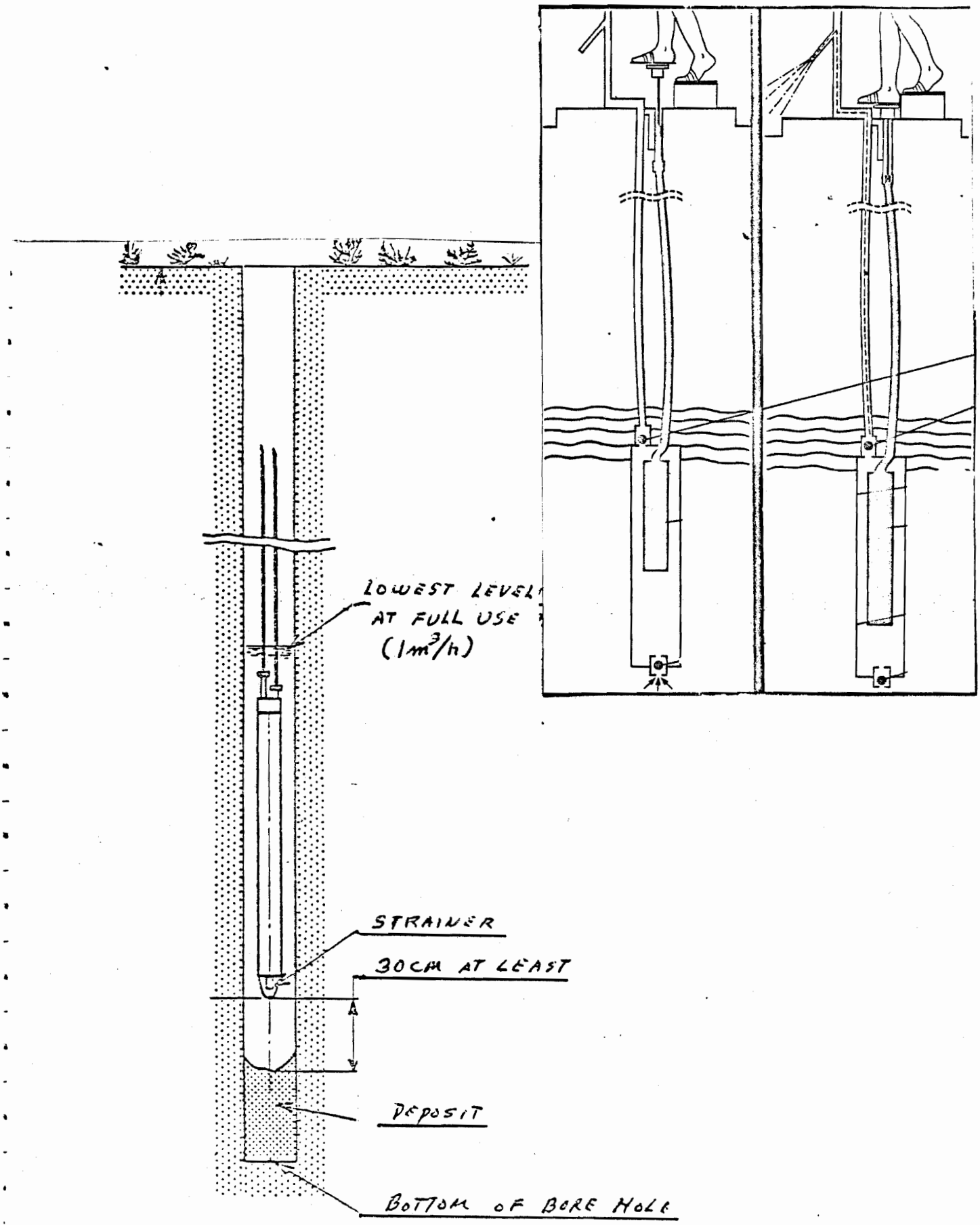
During the current FED tubewell project, Vergnet hydropumps are being installed. All are functioning properly to the full satisfaction of the Government, FED, and the villagers. The multidonor committee for wells has recommended that the same pump be utilized in the AID and BOAD projects. To make this possible, FAC has agreed to purchase the pumps and repair parts for the AID project.

The following diagrams should suffice for understanding the technical aspects of the Vergnet pump. See next pages.

3.3.3 Village Sanitation

Passing now from wells to village sanitation, the only technical concern in this second aspect of the project is related to the construction of latrines. The Ministry of Health has qualified sanitation engineers in every region.

Latrine construction crews are employed by the Department of Environmental Health. The crew obtains its technical advice on construction, location, etc., from the sanitary engineer and sanitarians. The construction crew usually includes: 5 masons, 3 carpenters, 1 iron worker, and 2 laborers. The department uses a standard plan in the construction of latrines. School and public latrines are six-hole "squat" type. In some cases, three holes are used for females and three for males. The pits are at least 4 meters deep. Cement block is used for the walls lining the pit and then plastered with cement. The vault is basically water tight. A beam at the top of the wall is reinforced with steel and extends beyond either side of the pit. The squat platform slabs


LOWEST LEVEL
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(1m³/h)
STRAINER
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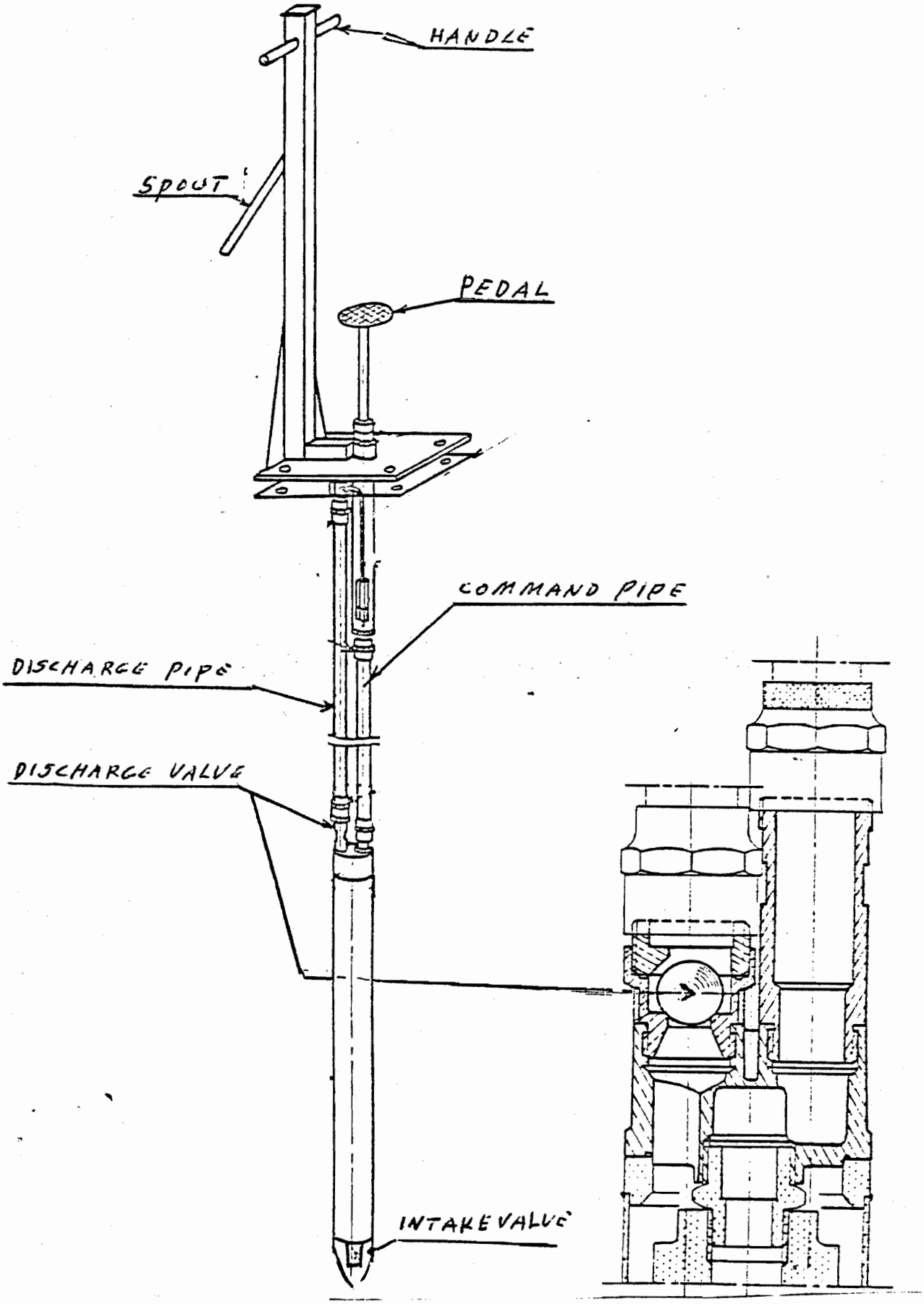

HANDLE
SPOUT
PEDAL
COMMAND PIPE
DISCHARGE PIPE
DISCHARGE VALVE
INTAKE VALVE

are made of reinforced concrete, each hole made separately. The walls of the protective building are generally made of adobe brick plastered with cement to prevent deterioration. A roof of corrugated metal and metal doors are then installed. Latrines for private use are one-hole (sometimes separate holes are required for males and females) and have basically the same design. The construction will be supervized by seven agents detached from the Sanitation Service for this project as well as by Peace Corps volunteers.

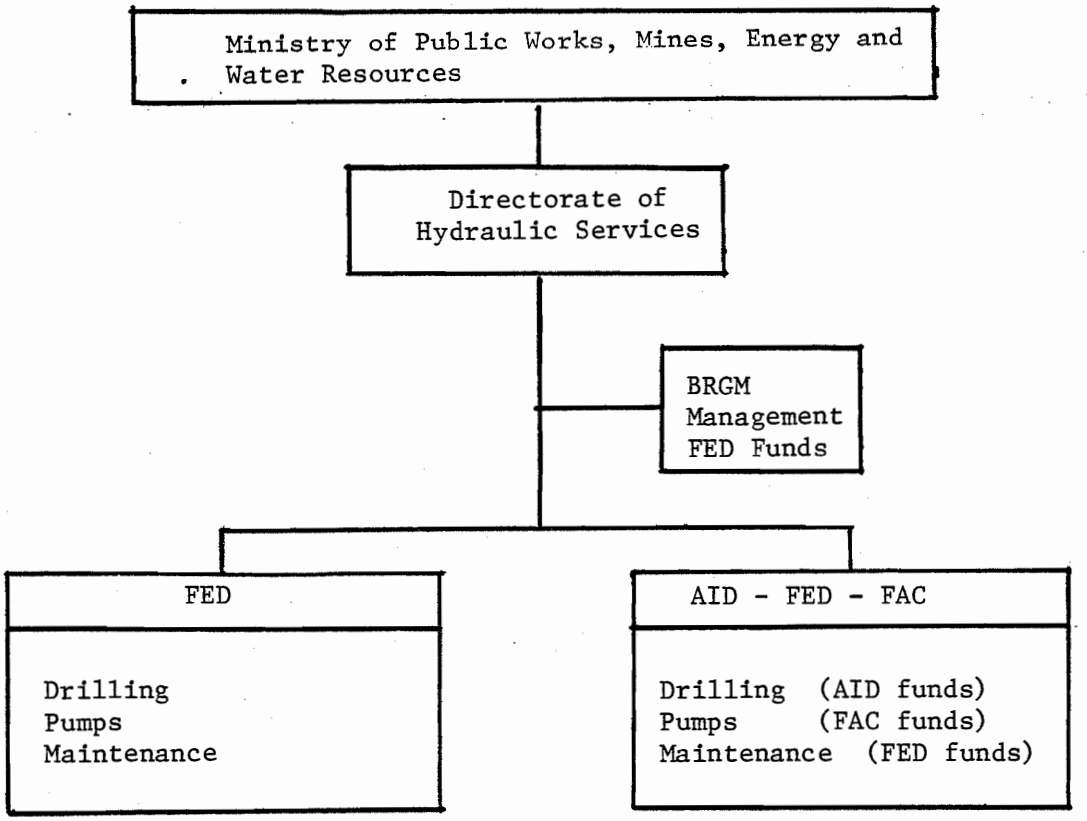
In summary, the success of the ongoing FED project proves the soundness of the technique and equipment which are being utilized in that project and which are also proposed for the AID project.

## 3.4 Administrative Feasibility

The AID project contains two distinct mutually related sections: first, the drilling of tubewells and secondly, health education and village sanitation. For the sake of clarity, the administrative units of each section will be discussed separately and there will follow a description of their coordination. Moreover, since the AID project forms an integral part of a multidonor program, it will be useful to indicate at the same time the agencies responsible for the administration of the FED project and their relationship to the AID project.

### 3.4.1 The Installation of Wells and Pumps

In table form, the administration of the AID and FED wells projects is as follows:

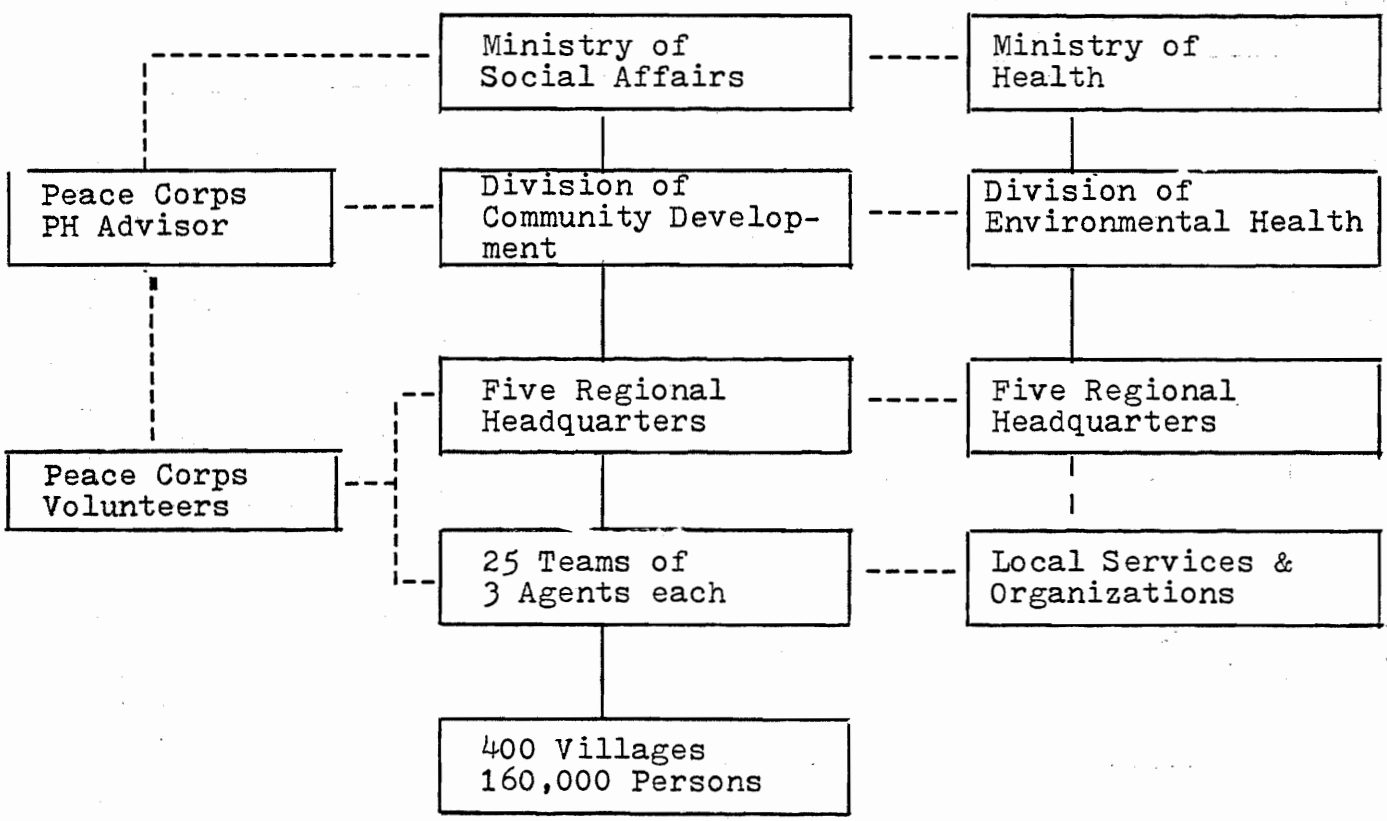


As indicated earlier, the Directorate of Hydraulic Services (DHS) has a competent staff of hydrogeologists, geophysicists, drillers, etc. This Directorate, however, is responsible for the installation and maintenance of rural and urban water systems throughout the country. Fully occupied with its regular program, the DHS cannot assume the full responsibility of executing and managing large multidonor projects in rural water development. They need assistance. For that reason, FED is providing a company (BRGM) to assist the DHS in the management of the rural water project of FED and AID.

3.4.2 Health Education and Village Sanitation

In contrast with the administration of the wells installation section of the AID project which is performed by a management company assisting a governmental office, the health education and village sanitation will be carried out principally by a government organization in collaboration with other government services, local organizations, and Peace Corps.

The following table shows clearly the agencies collaborating in the health/sanitation component of the project.

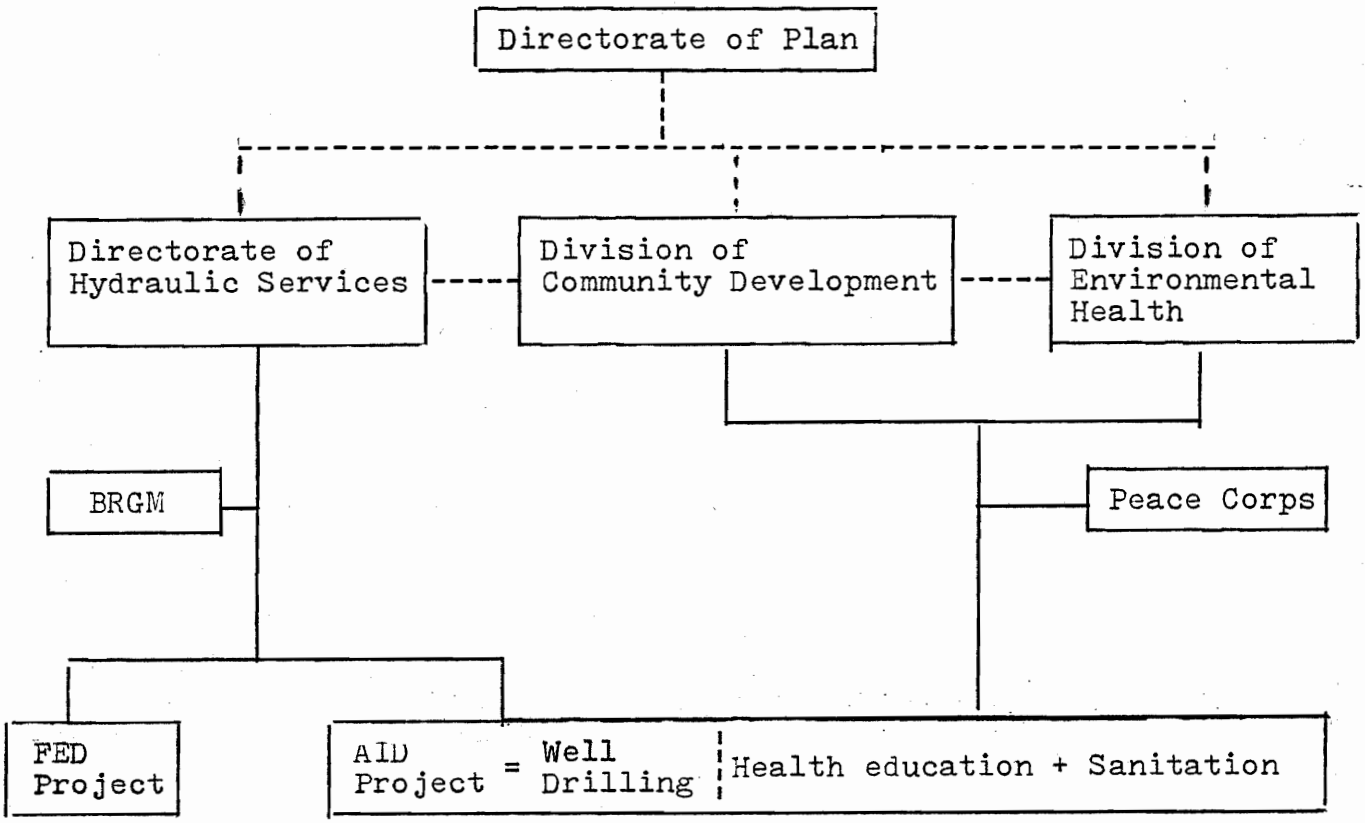


The principal responsibility for the health education and village sanitation activities in the AID project will be carried by the Division of Community Development (DCD) in the Ministry of Social Affairs. The DCD has functioning offices in every regional city and some 400 Agents de Promotion Sociale (APS) organizing community development in villages throughout the country. Twenty-five teams, each composed of three APS's (total 75) will carry out the project activities in the 400 villages receiving a well. In organizing and implementing the project, the DCD will be assisted by seven agents of village sanitation, detached from the Ministry of Health for three years. These technicians will help the APS's to organize and carry out village sanitation and latrine construction. In addition, a PC staff member with a degree in Public Health, will assist the Director of CD and five PC volunteers will help at the regional and village levels. This collaboration between the DCD (including its regional staff and the APS's) with other government services and Peace Corps is nothing new. All have been working together on various projects for several years.

### 3.4.3 Coordination of Project Activities

In the AID project, there are principally three implementing governmental departments: the Hydraulic Service, the Division of Community Development, and the Division of Environmental Health. The leading role, however, will be played by the Director of Hydraulic Service because the primary purpose of the project is the provision of safe water. Considering the difficulty of finding water in the geological formations of Togo, the responsibility for selecting the project villages will fall first of all upon the Hydraulic Service. Health education and village sanitation will be provided in the villages where an adequate supply of drinking water has been reached and will be exploited.

Since several government agencies are involved in the planning and execution of project activities, there will be needed, especially at the beginning, of a coordinating mechanism or agency. Whenever necessary, this catalytic role will be played by the Directorate of Plan. Thus the interrelationship of the various project organizations can be represented as follows:




From the above description of the administration of the project, it is apparent that the AID responsibilities can be fulfilled by the General Development Officer in the OAR with occasional assistance from REDSO/WA. The principal one-time activities requiring REDSO/WA assistance will be the review of IFB's for drilling contract prepared by the management company, review of bids, and selection of contractor, and contract.

In addition, the OAR will require the continued support of the REDSO/WA controller's office. From AID/W no special support will be required.

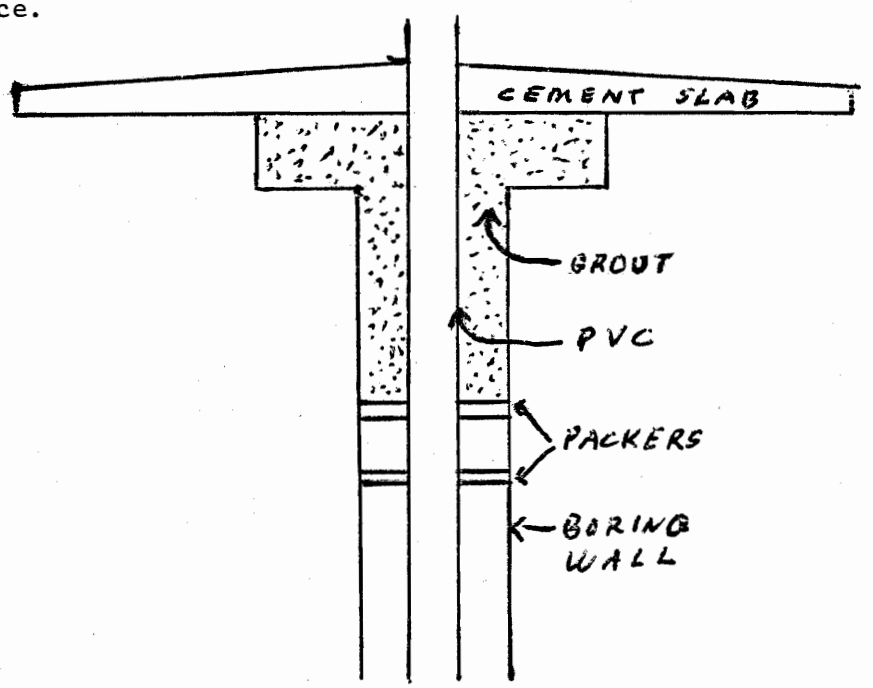
3.5 Environmental Concerns

The purpose of this project is to provide safe water to the rural population. To ensure the purity of the water from the first drawing to the last, the project will take certain measures.

In the process of selecting the drilling site, great care will be taken to ensure safe water and to protect the water supply from future contamination. Thus borings will not be made near or below corrals, latrines, marshes, etc..

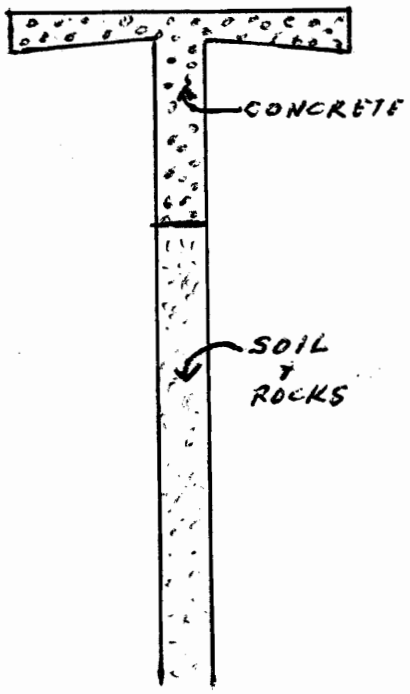
In the project, the rig bores first through the soil stratum and then through the rock until an adequate supply of water is reached at an average depth of 45 meters. The presumption is that surface water filtered through sand and clay and flowing along rock fissures is safe. In the FED wells project, the water has been tested regularly and found chemically and bacteriologically safe. In the AID project likewise, tests will be conducted in every instance to ensure the purity of the water before the pump is installed.

To protect the underground water supply against possible contamination, great care will be taken to seal off the boring. One or two meters below the surface, two sets of packers will be placed around the PVC pipe and fit smuggly against the walls of the boring. Grout will be poured above the packers up to the surface.



A concrete slab 25 by 25 feet will be poured sloping away from the pump. A trough will carry the spillage away from the pump area in the direction of the lower ground. A fence whether in wood or cement blocks keeps the animals away from the pump area.

Whenever a boring has been unable to reach an adequate discharge of water, drilling is discontinued and the boring is completely filled with rock and soil and capped with about two feet of concrete and a cement slab constructed as follows:




According to experts familiar with the hydrogeological structures and supply of Togo, there is no danger of a well running dry or of one well depleting the supply source of another well. Rainfall is plentiful throughout Togo. Rain filters through the soil and then flows through the fissures in the rock. Since the villagers cannot pump more than 800 meters per hour or about 9.6 cu. m. per day, the water source is replenished as quickly as water is drawn. In most cases, only one well is installed in a village, but even when 2 or 3 wells are installed in the same village because of larger populations, wells are spaced at sufficient distances to guarantee a steady water supply.

## 4.0 Financial Plan

### 4.1 Explanation of Financial Tables

The AID project contains two related components: installation of wells and health education/village sanitation. For the latter, the budget was calculated on current market prices with an additional inflation factor. Twenty percent was added to the cost of vehicles for spare parts. Since there is no distributor and no repair facilities for U.S. manufactured vehicles in Togo, the two trucks, seven pickups, and eighty-five motorcycles will be purchased from 935 countries such as France and Japan. The trucks and pickups are available at all times in Lome and likewise a good number of Yamahas and Hondas. The balance can be obtained in less than three months.

In the following tables, the figures for the drilling contract are based on the current costs of boring and installing identical wells under the ongoing FED project. These costs also coincide with the budget recently prepared by a design team for a similar wells project to be financed with a BOAD loan. In addition, the figures in the following tables are in agreement with the most recent research of FED technicians who are engaged in planning another FED wells project to be executed in 1982-83.

The financial figures include an annual 15 percent inflation factor. Since the drilling contract is all inclusive and the village sanitation activities are not expensive (after the initial purchase of vehicles), the contingency figure is relatively low.

It is important to realize fully the financial requirements of the drilling contract. The project calls for the installation of 400 tubewells. To attain that number of successful wells, it may be necessary to make as many as 535 borings at a monthly average of 25. There will be penalties for delays in drilling. In order to maintain the rate of 25 borings per month, the drilling company will be compelled to import three rigs (undoubtedly new to avoid breakdowns), three powerful compressors, wells materials, trucks, and camper trailers. For the purchase and transportation of this equipment to Togo, the drilling company will expect an initial advance of approximately 750,000 U.S. dollars which is 15 percent of the estimated contract price. This is common practise in West Africa. Thus, when the contract is signed probably in May 1981, 750,000 dollars must be available. In addition, since the

original contract will also include the drilling of 130 wells during the first six months, another 1,350,000 dollars must have been allotted for the project. Thus at the signature of the contract, 2,100,000 dollars must be available for drilling. To plan this requirement, the financial table 4.2.3 shows 900,000 dollars required in FY 80 and 1,200,000 in FY 81. During 10 months in FY 82, 250 wells will be drilled at a total cost of 2,250,000 dollars. Inasmuch as the drilling company will be repaying, during that period, 500,000 dollars of its initial advance, only 1,750,000 dollars will be required in FY 82. Likewise in FY 83, the company will liquidate the balance of its advance (250,000 dollars) and the drilling costs during that year will be reduced to 1,100,000 dollars.

## 4.2 Summary Cost Estimate and Financial Plan (in $000)

| | AID | | P.C. | FED | FAC | Host Government | Total |
|---|---|---|---|---|---|---|---|
| | FX | LC | FX | LC | LC | LC | |
| Drilling Contract | 4950 | - | - | - | - | - | 4950 |
| Technical Assistance | 51 | - | 240 | - | - | - | 291 |
| Management Contract | - | - | - | 730 | - | - | 730 |
| Training | - | 60 | - | - | - | - | 60 |
| Pumps | - | - | - | - | 750 | - | 750 |
| Pump Maintenance Operations | - | - | - | 75 | - | - | 75 |
| Vehicles | - | 271 | - | - | - | - | 271 |
| Commodities | - | 391 | - | - | - | - | 391 |
| Local Salaries | - | 65 | - | - | - | 500 | 565 |
| Other Costs | - | 65 | - | - | - | - | 65 |
| Inflation | 1186 | 151 | - | - | - | - | 1337 |
| Contingency | - | 194 | - | - | - | - | 194 |
| Total | 6187 | 1197 | 240 | 805 | 750 | 500 | 9679 |

## 4.3 Costing of Project Outputs/Inputs (in $000)

| Donor | | 400 Tubewells | Health ed. Village Sanitation | Total |
|---|---|---|---|---|
| | Drilling Contract | 4950 | - | 4950 |
| | Short term Consultant | - | 51 | 51 |
| | Training | 60 | - | 60 |
| | Vehicles | - | 271 | 271 |
| AID | Commodities | - | 391 | 391 |
| | Local Salaries | - | 65 | 65 |
| | Operations | - | 65 | 65 |
| | Inflation | 1186 | 151 | 1337 |
| | Contingency | - | 194 | 194 |
| | Sub-total | 6196 | 1188 | 7384 |
| PC | Technical Assistance | - | 240 | 240 |
| FED | Management and Pump Maintenance | 805 | - | 805 |
| FAC | Pumps and Installation | 750 | - | 750 |
| H.G. | Mostly Salaries | - | 500 | 500 |
| | Total | 7751 | 1928 | 9679 |

## 4.4 Projection of Expenditures by Fiscal Year (in $000)

| | 1980 | 1981 | 1982 | 1983 | Total |
|---|---|---|---|---|---|
| Drilling Contract | 900 | 1200 | 1750 | 1100 | 4950 |
| Short-term TA | 25 | 26 | - | - | 51 |
| Training | - | 20 | 20 | 20 | 60 |
| Vehicles | 225 | 46 | - | - | 271 |
| Commodities | 61 | 140 | 140 | 50 | 391 |
| Local Salaries | 20 | 20 | 20 | 5 | 65 |
| Operations | 20 | 20 | 20 | 5 | 65 |
| Sub-total | 1251 | 1472 | 1950 | 1180 | 5853 |
| Inflation | 0 | 221 | 585 | 531 | 1337 |
| Contingency | 49 | 60 | 55 | 30 | 194 |
| Total | 1300 | 1753 | 2590 | 1741 | 7384 |
| Peace Corps | - | 80 | 80 | 80 | 240 |
| FED | 100 | 235 | 235 | 235 | 805 |
| FAC | 150 | 200 | 200 | 200 | 750 |
| Host Government | 100 | 200 | 100 | 100 | 500 |
| Total | 1650 | 2468 | 3205 | 2356 | 9679 |

## 4.5 Recurrent Costs

The question arises as to whether the GOT will have the ability to finance the recurrent costs of this project after the termination of AID support. As regards the health education and village sanitation, the only recurrent cost will be the repair of the latrines or the construction of new ones. That responsibility will rest with the village population.

The only recurrent cost of the wells component will be related to pump maintenance. The average annual cost of maintaining a project well, including the salaries of technicians, transport, and materials is estimated at 75 dollars or about 20 cents per person.

To ensure the availability of funds for pump maintenance, the government is considering several alternatives: either increase the existing urban water tax or impose a water tax upon the rural population.

Until a reliable system is established however, the FED officials are ready to finance this activity. In December 1979, the FED reserved the equivalent of 150,000 U.S. dollars for the maintenance of all tubewells installed under the FED, AID, and BOAD projects until CY 1983. In the meantime, the FED representatives, BOAD, and OAR will encourage the government to establish an effective system of raising funds for rural pump maintenance.

## 5.0 Implementation Plan

### 5.1 Implementation Schedule

| Wells | Month after Signature of PRO. AG. | Village Sanitation |
|---|---|---|
| FED - BRGM contract | 1 | |
| | 2 | Purchase of pickups and motorcycles |
| | 3 | Plan of Action |
| IFB for drilling contract | 4 | Seminar for Social Agents |
| | 5 | Start of health ed. Village Sanitation |
| | 7 | Purchase of motorcycles |
| Opening of bids | 8 | |
| Signing of drilling contract | 10 | |
| | 15 | Health ed. and sanitation completed in 125 villages |
| 150 wells equipped | 20 | |
| Mid-project evaluation | 21 | Mid-project evaluation |
| | 22 | Seminar for Social Agents |
| | 25 | Health ed. and Sanitation completed in 250 villages |
| 400 wells equipped | 36 | Health ed. and sanitation completed in all project villages |
| Post-project evaluation | 38 | Post-project evaluation |
| Final report | 39 | Final Report |

## 5.2 Implementation Responsibilities

| Project Activities | Responsibility |
|---|---|
| Project agreement | OAR, Redso/WA |
| PILS | OAR, Redso/WA |
| Purchase of vehicles | Division of Community Development (DCD) in Ministry of Social Affairs |
| Seminar | DCD, PC |
| Selection of villages | Mgt. Co. DCD, DHS, PC |
| IFB for drilling contract | Mgt. Co. DHS, Redso/WA, OAR |
| Selection of bid and contract | " " " " " " |
| Drilling of wells | Drilling contractor |
| Health Ed/village sanitation/latrines | DCD through agents and PC volunteers |
| Mid-project evaluation | DCD, DHS, PC, Redso/WA, OAR |
| Seminar | DCD, PC |
| Post-project evaluation | DCD, DHS, PC, Redso/WA, OAR |
| Final report | DCD and PC for village sanitation Mgt. Co. for wells. |

5.3 Procurement Plan

The services of a drilling company will be procured by contract. Drilling company will be responsible to provide at drilling sites all equipment and wells materials except the following, which will be procured by GOT.

2 twelve-ton trucks
7 pickups
85 motorcycles
32,000 bags of cement
432,000 m of 6 mm rebar
wire
16,000 (2'x5') roofing sheets
400 picks and 400 shovels

5.3 Waivers

For the above procurement, the following waivers will be requested:

(a) to extend the IFB for the drilling contract to companies that are already installed or engaged in tubewell drilling in West Africa as well as to U.S. companies.

(b) to purchase on the local market from code 935 source:
1. 2 twelve-ton trucks and spare parts
2. 7 pickups and spare parts
3. 85 motorcycles
Total is valued at 236,000 U.S. dollars

(c) to purchase shelf items from Area Code 935 for the construction of latrines only when materials produced locally and in Area Codes ooo and 941 are not available on local market. Total is estimated at 100,000 U.S. dollars.

5.3.2 Procurement Responsibilities

a) IFB and host country contract with Drilling Company will be prepared by Management Company, REDSO/WA, GOT, and OAR.
b) purchase orders for trucks, pickups, and motorcycles will be prepared by the Division of Community Development, assisted by REDSO/WA and OAR.
c) purchase orders for shelf-item materials for construction of latrines will be issued by the Division of Community Development which will receive and store materials in existing warehouses in every region.

5.3.3 Procurement Schedule

The implementation plan in section 5.1 above shows the schedule for procurement of the services of a drilling company, trucks, pickups, and motorcycles. The procurement of materials for latrine construction will be made at the most opportune moment which can best be determined later.

5.4 Monitoring Responsibilities

The General Development Officer of OAR will have the responsibility of monitoring all project activities. For the health education/ village sanitation portion of the project, he will be assisted by a Peace Corps staff member.

In the GOT, the Director of the Hydraulic Service will be the chief monitor of the drilling of wells and the Director of the Community Development will be the principal monitor of the health education and village sanitation activities.

6.0 Evaluation Plan

On page 57 of the IBRD paper entitled VILLAGE WATER SUPPLY, it is stated that "the World Bank has recently retained a high-level panel of medical experts to help determine whether refinement of health-impact studies to precede or accompany village water supply projects is feasible or desirable and whether such studies will lead to ways of predicting more accurately the extent of disease reduction through improved water supplies. The panel concluded that limited investigations might be considered in selected projects but that large-scale vigorous investigations were unlikely to be justified." For this project, the evaluation plan is as follows:

a) Base data will be collected in every village where a well will be installed;
b) A record of project activities in every village will be kept;
c) A mid-project and a post-project evaluation will be conducted.

6.1 Base Data

The Division of Community Development (DCD) will have the primary responsibility of preparing the questionnaire to be asked in every home to be benefitted by a project well. In this task the DCD will be assisted by agents detached from the Ministry of Health, Peace Corps volunteers, a short term PH consultant, as well as by the Direction of Hydraulic Service and the Management Company.

Illustrative of the data that will be gathered are the following questions:

a) As regards the water supply:
Where do members of your family fetch water for home use?
Estimated distance?
Number of trips each day for all members of the family?

b) As regards sanitation:
Where is garbage thrown?
Is it buried or burned?
Where do family members go to toilet?
Condition of that area?
Would you help improve the sanitation of your compound if a well were installed in your village?

c) As regards health:
During the last three months (or some period significant to local population) have members of your family been ill?
Nature, duration, and seriousness of sickness?
Did you seek medical help from village doctor or at a medical facility?
Cost of service?

Questions such as the above will have to be couched in terms that are intelligible to the villagers and that are ultimately quantifiable.

These questionnaires will be explained and distributed to the Agents de Promotion Sociale (APS) during the pre-project seminar. Then the 75 APS's assisted by the PC volunteers will visit the villages before the start of any project activity and fill a card for every family in the village.

Records of all project activities in every village will be kept by the Management Company for the installation of wells and pumps and by the APS's for all health education, village sanitation, and the construction of latrines. This data will be collected in the Division of Community Development.

6.2 Mid-Project Evaluation

After about 150 wells have been installed and many latrines constructed, a mid-project evaluation will take place. The APS's assisted by the Peace Corps volunteers will return to all the villages that have had a project well for at least six months and ask the same people the questions that were put to them before the start of project activities. A few more will be added such as the following:

a) Did the pump fail to discharge water?
b) How many days elapsed before it was repaired?
c) Does the well discharge all the water needed for home?
d) Number of latrines constructed, their utilization, and condition?

All this data will be collated by the Division of Community Development and an analysis made by all concerned management units: first, the Hydraulic Service and the Management Company for the installation of pumps and secondly the Division of Community Development, Peace Corps, and the Direction d'Assainissement of the Ministry of Health for the health education and village sanitation project activities.

Following this analysis, a seminar will be convened for all APS's, the agents of village sanitation and the Peace Corps volunteers. A report of the first year activities and an analysis will be communicated to the APS's and their associates. Experiences will be compared. After discussions and suggestions, appropriate instructions will be given to the APS's for the remainder of the project.

## 6.4 Post-Project Evaluation

At the end of the project activities, the APS's will return to all the villages in which a well was installed and repeat the earlier questionnaire to the villagers. This survey can be done rapidly by seventy five agents each covering less than six villages. All this data as well as the information provided by the Management Company will be collated and analyzed by the same cast of characters that participated in the mid-project evaluation. This evaluation will be separate from and in addition to the technical report that will be submitted by the Management Company relative to the drilling activities in each village.

At the end of the project, if 400 tubewells have been installed and are discharging at least 700 liters per hour of safe water, the primary purpose of the project will have been attained. Moreover if several thousand latrines have been constructed and are utilized and kept clean, these will be an indication that the secondary purpose of the project (health education and village sanitation) has also been achieved.

## 7.0 Conditions, Covenants, and Negotiating Status

There are no Host Country actions which have to be taken prior to the execution of the Project Agreement.

### Conditions Precedent

Before the obligation of any AID funds for the procurement of services and materials, two conditions precedent will have to be fulfilled:

a) There must be an agreement between the GOT and FED for the provision of the management services of the BRGM and another grant agreement between the GOT and FAC for the provision of pumps and their installation

b) The GOT shall assign an official of the Ministry of Public Works, Mines, Energy, and Hydraulic Resources to act as project director of the wells drilling activities and one official of the Ministry of Social Affairs and the Promotion of Women to act as project director of the health education/ village sanitation project activities. Specimens of their signatures shall be submitted to AID.

Covenant

Since the primary purpose of the project is to provide safe water, the Grantee and Grantor will formally agree (a) that the pumps will be installed only on wells that discharge water which is potable according to WHO standards and (b) that measures, such as those described in the project paper, will be taken to conserve the wholesomeness of the water.

Negotiating Status

The scope of this project, the technical assistance to be furnished, the necessity for the appointment of counterparts, and the project schedule have all been discussed with the Director of Hydraulic Service and the Director of Community Service. There is complete agreement on all the essential elements of the project.

In addition, the representatives of FAC and FED fully understand all the elements of this project and have already committed their collaboration as spelled out in this paper.

ANNEX A.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: 4 years
From FY 1980 to FY 1983
Total U.S. Funding $7,384,000
Date Prepared: April 1, 1980

Project Title and Number: Togo Rural Water Supply 693-0210

| NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | MEANS OF VERIFICATION | IMPORTANT ASSUMPTIONS |
|---|---|---|---|
| Program or Sector Goal: The broader objective to which this project contributes: | Measures of Goal Achievement: | | Assumptions for achieving goal targets: |
| (a) The general goal is to improve the living conditions of the Togolese rural population. The primary sector goal is to improve their health conditions and the secondary goal is to increase their availability and potential for productive activity. | (a) Reduction of diseases in project area. | (a) Records of dispensaries and clinics servicing project area. | (a) That other sources of disease and contact with vectors do not increase. |
| | (b) Reduction of time spent hauling water for domestic uses. | (b) Visits and surveys of project area. | |

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: 4 years
From FY 1980 to FY 1983
Total U.S. Funding 7,384,000
Date Prepared: April 1, 1980

Project Title and Number: Togo Rural Water Supply 693-0210

| NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | MEANS OF VERIFICATION | IMPORTANT ASSUMPTIONS |
|---|---|---|---|
| Project Purpose: | Conditions that will indicate purpose has been achieved: End of project status. | | Assumptions for achieving purpose: |
| (a) Provide an adequate supply of safe water to approximately 160,000 rural Togolese for drinking and other domestic uses, thereby eliminating the need to draw water from contaminated sources and reducing the people's exposure to waterborne diseases and increasing their availability and potential for productive activity. | (a) Provision of up to 20 liters/person/day of sanitary water for village population. Population will discontinue drawing water from polluted sources once adequate supply of safe water is available. | (a) Periodic testing of water to ensure required quantity and quality. Periodic survey to ensure nonusage of contaminated water supply sources. | (a) That aquifer with adequate supply of water exist where villages have been established. |
| (b) Provide health education and means to improve village sanitation. | (b) Population has improved personal hygiene and village sanitation. | (b) Periodic visits to the villages to ensure construction, use, and maintenance of latrines. | (b) That population can be induced to change established unsanitary practises. |

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3

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: 4 years
From FY 1980 to FY 1983
Total U.S. Funding $7,384,000
Date Prepared: April 1, 1980

Project Title and Number: Togo Rural Water Supply 693-0210

| NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | MEANS OF VERIFICATION | IMPORTANT ASSUMPTIONS |
|---|---|---|---|
| Outputs: | Magnitude of Outputs: | | Assumptions for achieving outputs: |
| (a) Small tubewells providing adequate supply of safe water for rural population | (a) 400 wells installed, each providing up to 20 liters/person/day for approximately 160,000 persons | (a) Reports of the Hydraulic Services and period survey of population of project area. | (a) Aquifer continues to supply steady flow of water. No major population shifts and normal population increase. |
| (b) Togolese personnel fully trained in drilling and in pump installation and maintenance. | (b) Four Togolese working 88 man/months during project and fully capable of drilling wells. | (b) During project, records of Mgt. Co. and after project personnel records of the Hydraulic Service. | (b) Personnel willing to accept this training. |
| (c) Improved village sanitation | (c) Two or more thousand family latrines constructed, utilized, and kept clean. | (c) Survey of project villages | (c) Villagers can be convinced of causal relation between poor sanitation and disease. |

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52

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: 4 years
From FY 1980 to FY 1983
Total U.S. Funding $7,384,000
Date Prepared: April 1, 1980

Project Title and Number: Togo Rural Water Supply 693-0210

| NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | MEANS OF VERIFICATION | IMPORTANT ASSUMPTION |
|---|---|---|---|
| Inputs: | Implementation Target (Type and Quantity) | | Inputs: |
| (a) Short-term TA 10 p/m | (a) Developing/adapting training materials for the Agents de Promotion Sociale | (a) PIO/T and reports | |
| (b)Drilling Contract | (b)1. Utilizing three rigs, rotary-percussion with down-the-hole hammer and compressors, making up to 5356" borings at average depth of 45 meters.<br><br>2. Equipment and development of 400 borings. | (b) Same as (a) above | (b) No abnormal delays due to uncontrollable events. |

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: 4 years
From FY 1980 to FY 1983
Total U.S. Funding $7,384,000
Date Prepared: April 1, 1980

Project Title and Number: Togo Rural Water Supply 693-0210

| NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | MEANS OF VERIFICATION | IMPORTANT ASSUMPTION |
|---|---|---|---|
| Inputs: | Implementation Target (Type and Quantity) | | Assumptions for providing inputs: |
| (c) Peace Corps Assistance | (c) 1. PC staff member for 36 man/months<br>2. 5 PC Volunteers for 180 man/months | (c) Personnel records in PC office | (c) Availability of PC Volunteers |
| (d) Host Government Assistance | (d) 1. Project coordinator of wells project and one geophysicist to work with Mgt. Co. during 48 man/months<br>2. Project coordinator for health education and village sanitation activities during 36 man/months<br>3. Seven technicians from Health Services 252 man/months<br>4. Seventy five Agents of Promotion Sociale during 2,400 man/months | (d) Personnel records in GOT. | (d) No change in Government Plans and priorities. |
| (e) Means of transportation for village sanitation program | (e) 1. Two transport trucks<br>2. Seven pickups for project coordinator and six PC personnel<br>3. Eighty two motorcycles for the 75 APS's and 7 sanitation agents. | (e) Purchase orders and delivery documents | (e) No abnormal delays in delivery |
| (f) Materials needed for construction of latrines. | (f) Picks and shovels when needed; Cement and rebar, and roofing sheets when indicated for about 20 latrines for each of the 400 project wells. | (f) as (e) above | (f) Availability of material. |
| (g) Collaboration of European Economic Community (FED) | (g) Provision of management services for wells project and pump maintenance up to 1983. | (g) Reports/visits | |
| (h) Collaboration of French Government (FAC) | (h) Purchase and installation of 400 pumps. | (h) Reports/visits | |

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Annex B

Section 611 (e) Certification on Capacity to Maintain and Utilize.
Under this project, four hundred small tubewells will be installed to provide an adequate supply of safe water to approximately 160,000 rural Togolese for drinking and other domestic uses, thereby eliminating the need to draw water from contaminated sources and reducing the people's exposure to waterborne diseases and increasing their availability and potential for productive activities. In addition, in every village, where a well has been installed, the inhabitants will receive tools and materials to build family latrines.

Each family will have the capability and means of maintaining its own latrine. As regards the maintenance of the wells, the Hydraulic Service has six brigades, formerly engaged in constructing open wells, that are being assigned to pump maintenance. The FED project is providing pickups to the Hydraulic Service for this purpose. In short, the Hydraulic Service has the personnel and the transportation for pump maintenance.

Both the FED and the AID projects will provide at the end of the project a three year supply of pump spare parts. After that, the cost of maintaining a project pump, including parts, salaries, and transportation, has been estimated at seventy five U.S. dollars per year. For the 400 AID wells and the 280 FED wells, the maintenance cost per year would be approximately 51,000 U.S. dollars. It seems that the budget planners would set aside that amount in order to preserve a 13 million dollar project that is listed as number one priority in the national plan.

In addition, under the advice and with the promised support of FED and UNDP, the Government is planning the establishment of a parastatal agency responsible for all hydraulic services, including pump maintenance. Since this agency would be expected to be self - supporting, it would organize its personnel to collect fees from the villagers, about 20 cents/person/year for the maintenance of pumps.

In light of the above, I certify that this government has the capability, both financial and human resources, to maintain effectively and utilize the project.

John A. Lundgren
AID Representative
8/30/79

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# TELEGRAM

Annex C.

ACTION AID

UNCLASSIFIED STATE 242375
Classification

OCT 18, 77
1033

INFO CHRON AMB DCM

P 072322Z OCT 77
FM SECSTATE WASHDC
TO RUFHYC/AMEMBASSY NIAMEY PRIORITY 0961
RUFJLE/AMEMBASSY LOME PRIORITY 1613
RUTAOU/AMEMBASSY COTONOU PRIORITY 0021
INFO RUTAIJ/AMEMBASSY ABIDJAN PRIORITY 9116
BT
UNCLAS STATE 242375

AIDAC

E.O. 11652:N/A

TAGS:

SUBJECT: PID REVIEW - 680-0201 RURAL WATER SUPPLY - BENIN
693-0214 RURAL WATER SUPPLY - TOGO

1. COMMITTEE REVIEW OF RURAL WATER SUPPLY, FY 1978 PID HELD JULY 12 RECOMMENDED THAT PROJECT MOVE FORWARD TO PP DESIGN SUBJECT TO RECOMMENDATIONS AND SATISFACTORY RESULTS OF EVALUATION MENTIONED BELOW. HOWEVER, EACH COUNTRY PROJECT WILLBE DESIGNED AS A DIRECT COUNTRY PROJECT. PROJECT WOULD BE FUNDED UNDER REGULAR FUNDS.

2. RECENT IBRD STUDY SUGGESTS THAT PROVIDING POTABLE WATER ALONE MAY NOT PROVIDE DIRECT BENEFITS ON HEALTH AND CAN HAVE OTHER ADVERSE HEALTH AND ENVIRONMENTAL EFFECTS. OTHER SAHEL POSTS, I.E., UPPER VOLTA, HAVE PROPOSED SIMILAR PROJECTS. THE FEABILITY AND ENVIRONMENTAL SOUNDNESS HAVE BEEN QUESTIONED IN LIGHT OF THE IBRD REPORT. HOWEVER, AID/W UNDERTAKING AREA WIDE EVALUATION OF IMPACT OF PREVIOUSLY FUNDED VILLAGE WELL PROJECTS, THEREFORE PP DESIGN SHOULD NOT START UNTIL RESULTS FROM EVALUATIONS ARE AVAILABLE; I.E., EARLY CALENDAR YEAR 1978.

3. IN ADDITON DESIGN OF PP SHOULD BE DELAYED UNTIL AN ACTION MEMO SUPPORTING THE CASE FOR A BILATERAL PROGRAM IN BENIN AND A MINI DAP ON TOGO ARE AVAILABLE AND APPROVED.

4. THE PP DESIGN MUST SATISFACTORILY ADDRESS THE ISSUES BELOW IDENTIFIED DURING THE PID REVIEW:

- ENVIRONMENTAL ASSESSMENT UNDER REG 16 AS REQUIRED; AREAS

Classification

FORM FS-412
REV. 6/73

58

DEPARTMENT OF STATE

# TELEGRAM



OF PARTICULAR CONCERNS ARE INCREASE WATER SUPPLY AS IT MAY AFFECT DEGRADATION OF NEW WELLS, WATER RESOURCES AND POSSIBLE INCREASED POLLUTIONOF SUCH RESOURCES.

- PLANS FOR MANAGEMENT AND MAINTENANCEOF THE WELLS;

- INTEGRATION OF HEALTH AND SANITATION EDUCATION INTO THE NDESIGN OF THE PROJECT;

- APPROPRIATENESS OF PHASING, TOTAL PROJECT COST AND MAN-POWER CONSTRAINTS; AND

- EVIDENCE OF HOW VILLAGE-LEVEL COMMITMENT, MANAGEMENT AND MAINTENANCE OF WELLS PROJECTS WILL BE OBTAINED.

5. DISCUSSION- IF MANAGEMENT AND MAINTENACE PROBLEMS CAN BE IDENTIFIED AND SOLUTIONS DEVELOPED, AND HEALTH EDUCATION AND ENVIRONMENTAL ISSUES ARE PROPERLY ADDRESSED, THE PRO-JECT CLEARLY AND EFFECTIVELY AIDS RURAL POOR AT A SIGNIFICANT LEVEL. CHRISTOPHER



FORM FS-41
REV. 6/73

59

# TELEGRAM

ACTION AID : UNCLASSIFIED STATE 87444
Classification
AFR 6, 278
INFO CHROM AMB DCM 8300

P 031964Z APR 78
FM SECSTATE WASHDC
TO RUTAIJ/AMEMBASSY ABIDJAN PRIORITY 2629
RUTACU/AMEMBASSY COTONOU PRIORITY 0707
RUFJLE/AMEMBASSY LOME PRIORITY 2656
RUFHVC/AMEMBASSY NIAMEY PRIORITY 2 572350
RUFNYOS/AMEMBASSY OUAGADOUGOU PRIORITY 6253
BT
UNCLAS STATE 087444

AIDAC FOR RSDCO/WA

E.O. 11652: N/A

TAGS:

SUBJECT: RURAL WATER SUPPLY FOR UPPER VOLTA, BENIN AND TOGO

REF: A) ABIDJAN 2580 B) ABIDJAN 2581

1. SUMMARY:SG: IN ANSWER TO QUESTIONS POSED IN REF (A). AID/W DISCUSSION INDICATES THAT PROJECTS FOCUS WILL BE ON WELLS AND SPRINGS (EITHER NEW INSTALLATIONS OR IMPROVED EXISTING ONES) DESIGNED IN SUCH A WAY AS PREVENT SOURCE CONTAMINATION WHILE FURNISHING SAFE WATER TO RURAL PEOPLES. DEVELOPMENT O BE LIMITED TO PROVIDING IMPROVED SOURCE OF WATER FOR DOMESTIC HUMAN CONSUMPTION. EMPHASIS WOULD BE PLACED ON THE DEVELOPMENT OF WELLS WHICH CAN BE SERVICED BY MANUALLY POWERED PUMPS WITH SECOND PRIORITY BEING ASSIGNED TO WELLS REQUIRING PUMPS POWERED BY ELECTICTY/FOR INTERNAL COMBUSTION ENGINES.S . RAINING OF MAINTANCE BE INCLUDED ON A COUNTRY-BY-COUNTRY BASIS BUT HIGHER LEVE TECHNICAL TRAINING PROBABLY NEEDS TO BE ADDRESSED IN A REGIONAL OUTLOOK. PROJECT SHOULD INCLUDE VILLAGE SANITATION/HEALTH EDUCATION COMPONENTS. PEACE CROPU PARTICIPATION IS DESIRED AND ANTICIPATED.

N2. DETAILED ANSWERS TO QUESIONS AND ISSUES RAISED IN REF (A) ARE: A) DESIGN TEAMS WILL BE PRIMARILY INTERESTED IN EASILY DEVELOPABLE SOURCES SUCH AS WELS (EITHER NEWLY DEVELOPED OR RECONSTRUCTED EXISTING WELLS WHERE FEASIBLE) AND SPRING PROTECTION. RAINWATER CATCHMENT AND STORAGE (CISTERNS) OR OTHER MORE COMPLEX MEANS OF PROVIDING, TREATING, DELIVERY, ETC. OF WATER WILL NOT RECEIVE

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OPTIONAL FORM 161
(Formerly FS-412
January 1975
Dept. of State

50161-101

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60

# TELEGRAM



PRIORITY ATTENTION IN THIS PHASE OF THE PROJECT; B) AID/W IS NOT ENTIRELY CLEAR ON WHAT IS MEANT BY THE PHRASE QUOTE TRADITIONAL AND MODERN DUG WELLS UNQUOTE BUT ASSUMES THAT BOTH OF THESE WOULD BE UNCAPPED AND/OR OTHERWISE UNPROTECTED WELLS. SINCE MAJOR EMPHASIS CONTEMP-

ATED IN AID-SPONSORED INTERVENTION WILL BE TO PROVIDE WATER FOR PUBLIC HEALTH BENEFITS, BOTH QUALITY AND QUANTITY MUST BE CONSIDERED. HENCE ONLY WATER SOURCES (WELLS AND SPRINGS) WHICH ARE PROTECTED (CAPPED OR OTHERWISE SEALED) AGAINST SOURCE CONTAMINATION WILL BE INCLUDED; C) WE OPT FOR OPTIONS 2 AND 3 OF REF (A) PARA. 3.C. (SEE SUB-PARA. B) ABOVE. DO NOT BELIEVE THAT T ESE OPTIONS WOULD REQUIRED QUOTE COMPLEX UNQUOTE SYSTEMS OF SUPPLY, REPAIR, ETC. APPROPRIATE REQUIREMENTS FOR SUPPLY, REPAIR, ETC. SHOULD BE BUILT INTO PROJECT. AID/W ALSO AGREES THAT COMPLEMENTARY PROGRAMS OF SANITATION AND HEALTH EDUCATION SHOULD BE INCLUDED FOR MAXIMUM EFFECTIVENESS. REGARDING TRAINING NEEDS FOR INSTALLATION AND REPAIR PERSONNEL N LOCATIONS, ETC. IT IS FELT THAT THIS SHOULD BE LEFT TO PROJECT DESIGN TEAM. WILL PROBABLY NEED SIMPLE SHORT-TERM TRAINING FOR MAINTENANCE AND SIMPLE INSTALLATIONS BUT LONGER-TERM MORE TECHNICAL TRAINING FOR WELL-DRILLERS, MECHANICS, ETC.; D) THE FUNDING GOALS IN THE APPROVED PIDS (U.V. DOLS 12,000,000 BENIN/TOGO DOLS 6,000,000) SHOULD BE CONSIDERED AS THE APPROPRIATE LEVEL FOR AID FINANCIAL INPUTS FOR THESE PROJECTS; E) AID/W DOES NOT FORESEE EXPANSION OF PROJECT CONCEPT TO INCLUDE FULL AGRICULTURAL WATER REQUIREMENTS. RECOGNIZE THAT SOME WATER MAY BE USED FOR ANIMAL WATERING, SMALL GARDEN PLOTS, ETC. BUT DESIGN CRITERIA SHOULD BE BASED ON HUMAN DOMESTIC NEEDS; F) RESEARCH INTO INNOVATION TECHNOLOGY MUST RECEIVE HIGH PRIORITY. SEPTEL WILL FOLLOW ON THIS SUBJECT; G) SCOPE OF WORK, SIZE OF VILLAGES SERVED, ETC. WILL LARGELY BE DETERMINED DURING PROJECT DESIGN BY ECONOMIES OF SCALE ETC. LARGER VILLAGES WILL PROBABLY PAN OUT SINCE MULTIPLICITY OF WELLS, ETC. WILL PROVE UNECONOMICAL WHEN COMPARED TO SUCH ALTERNATIVES AS SINGLE WELLS WITH SURFACE DISTRIBUTION SYSTEMS. THIS AND OTHER GOVERNING PARAMETERS (SOCIO-ECONOMIC GROUPS, TARGET POPULATION, ETC.) SHOULD SERVE TO SET LIMITS OF POPULATION GROUP SIZES; H) AID LOOKS FORWARD TO PEACE CORPS PARTICIPATION IN ALL THREE COUNTRIES.

3. IT HAS BEEN SUGGESTED THAT DESIGN AND IMPLEMENTATION OF THESE PROJECTS MAY PROVIDE AND OPPORTUNITY O USE SINGLE CONTRACTOR FOR BOTH TASKS IN EACH COUNTRY ON A



OPTIONAL FORM 151
(Formerly FS-412
January 1975
Dept. of State

50161-101

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# TELEGRAM

PAGE 3 STATE 87444 UNCLASSIFIED
Classification

COLLABORATIVE CONTRACT BASIS. SUCH CONTRACTORS COULD BE DRAWN FROM SMALL BUSINESS OR 8-A SET ASIDES. WOULD APPRECIATE FIELD COMMENTS ON FEASIBILITY T IS APPROACH. VANCE

Classification

50151-101

OPTIONAL FORM 151
(Formerly FS-412
January 1975
Dept. of State

OG/SG.-

MINISTERE ~~DES TRAVAUX PU~~
~~ET~~ DES MINES

~~SERVICE DES TRAVAUX PUBLICS~~

Arrondissement de l'Hydraulique
et de l'Electricité

REPUBLIQUE TOGOLAISE
TRAVAIL-LIBERTE-PATRIE

Annex D.

Lomé, le 26 JAN. 1979 19

N° 0099 /MIMREH/DHE.-

LE MINISTRE

OBJET : Demande d'assistance à l'USAID
pour l'Hydraulique Villageoise

Madame,

Faisant suite aux entretiens que mes services techniques et moi-même avons eus avec la mission PINEO au sujet d'une demande d'assistance à l'USAID pour l'Hydraulique Villageoise, j'ai l'honneur de vous faire connaître que le troisième plan quinquennal du Gouvernement Togolais ( 1976 - 1980 ) accorde une grande priorité à l'approvisionnement en eau propre et saine des populations rurales. Ce faisant le plan demande la création de points d'eau potable dans les villages nécessiteux sur toute l'étendue du territoire national. Etant donné que le Gouvernement du Togo ne peut financer ce programme entièrement de ses propres ressources, nous nous sommes adressés à plusieurs donateurs internationaux.

Au cours de nos séances de travail, il y avait été fait mention que le Gouvernement des Etats-Unis était intéressé à participer dans cet effort multi-donateur. Etant entendu que plusieurs organismes internationaux assistent déjà le Gouvernement du Togo dans ce programme d'Hydraulique Villageoise :

- L'ACDI vient de terminer un projet d'approvisionnement en eau potable de neuf villages avoisinants de Lomé.

- Le 3è FED a financé la construction de 138 puits dans les régions des Savanes, de la Kara et Centrale notamment.

Madame la Représentante de l'USAID
S/C de l'Ambassade des Etats-Unis
d'Amérique
L O M E

.../...

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63

Le 4è FED finance un programme de construction de 290 forages sur toute l'étendue du territoire national dont 50 dans le bassin sédimentaire côtier.

- Quant au PNUD il s'apprête à commencer un programme d'étude hydrogéologique qui aboutira à la confection d'un atlas hydrogéologique du Togo.

- Le Conseil de l'Entente a poussé les études jusqu'au niveau de l'évaluation et de la recherche de fonds nécessaires pour une campagne de fonçage de 1 000 puits.

- La BOAD vient de confier l'étude de factibilité d'une campagne de 500 forages à BURGEAP.

Malgré ces efforts déployés par le Gouvernement du Togo, le problème de l'eau reste toujours prioritaire. C'est pourquoi, je saisis l'occasion qui nous est offerte pour demander au Gouvernement des Etats-Unis par l'intermédiaire de l'USAID de nous assister dans cet effort multi-donateur. Etant donné que les régions des Savanes et Maritime manquent encore d'eau, nous demandons que les ressources de l'USAID soient concentrées dans ces régions. Les services techniques de mon département sont disponibles pour travailler avec vous et votre équipe technique à l'élaboration d'une proposition qui sera soumise aux autorités de l'USAID/Washington.

Veuillez agréer, Madame, l'expression de nos sentiments distingués./-

République Togolaise
MINISTERE DES MINES, DE L'ENERGIE ET DES RESSOURCES HYDRAULIQUES

A. NIVEDOR.-

AGO/CXE.-

MINISTERE DES MINES
ET DES RESSOURCES HYDRAULIQUES

DIRECTION DE L'HYDRAULIQUE
ET DE L'ENERGIE

REPUBLIQUE TOGOLAISE
PAIX - UNION - SOLIDARITE

Lomé, le 22 JUIN 1979 19

N° 0316 MIMREH/DHE.-

LE MINISTRE

OBJET : Projet de 400 forages équipés au TOGO.

Monsieur le Représentant,

Par lettre en date du 6 Juin 1979 vous avez bien voulu me faire connaître que votre agence se propose de mettre en route très incessamment un projet de 400 forages équipés dans les régions maritimes et des savanes de notre pays.

D'autres projets similaires étant actuellement en cours de réalisation au Togo, et dans le souci d'assurer une meilleure coordination de ces divers projets.

J'ai l'honneur de vous demander de bien vouloir étendre votre champ d'action à l'ensemble des régions de notre pays.

Pour se faire, les services techniques de mon département et vos responsables de projets pourront, en temps opportun et d'un commun accord après concertation, arrêter la liste des villages à équiper en tenant compte de nos priorités.

Monsieur le Représentant de
l'Agence Américaine pour le
Devéloppement International

L O M E

.../2

Par ailleurs dans le cadre d'un autre projet, le projet d'aménagement des eaux du Togo, le programme des NATIONS-UNIES pour le devéloppement doit pour sa part procéder à des forages de reconnaissance dont certains sont susceptibles d'être équipés en vue de fournir de l'eau à nos populations rurales.

Malheureusement, les contraintes financières dudit projet ne permettent pas de prevoir des installations d'exhaure de l'eau.

C'est pour quoi je souhaiterais que votre budget puisse intervenir ici aussi, pour la fourniture et l'installation des pompes manuelles sur les forages positifs du projet d'aménagement des eaux du Togo à réaliser par le programme des NATIONS-UNIES.

Dans l'espoir de voir demarrer très prochainement votre projet de forages pour le bien être et le mieux être de nos populations en même temps qu'il vous sera possible de prendre en compte nos suggestions ci-dessus je vous prie de croire, Monsieur le Représentant, à l'assurance de mes sentiments distingués.-

REPUBLIQUE TOGOLAISE
MINISTERE DES MINES ET DES RESSOURCES HYDRAULIQUES

B.M. BARQUE.-

66

Annex E.

## 5C(1) - COUNTRY CHECKLIST

Listed below are, first, statutory criteria applicable generally to FAA funds, and then criteria applicable to individual fund sources: Development Assistance and Security Supporting Assistance funds.

### A. GENERAL CRITERIA FOR COUNTRY

| | |
|---|---|
| 1. FAA Sec. 116. Can it be demonstrated that contemplated assistance will directly benefit the needy? If not, has the Department of State determined that this government has engaged in consistent pattern of gross violations of internationally recognized human rights? | 1. Yes, project inputs of AID-funded development assistance programs in Togo are directed towards improving the social and economic well-being of low-income urban and rural populations. |
| 2. FAA Sec. 481. Has it been determined that the government of recipient country has failed to take adequate steps to prevent narcotics drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully? | 2. No. |
| 3. FAA Sec. 620(b).. If assistance is to a government, has the Secretary of State determined that it is not controlled by the international Communist movement? | 3. Yes. |
| 4. FAA Sec. 620(c). If assistance is to government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) debt is not denied or contested by such government? | 4. No. |
| 5. FAA Sec. 620(e) (1). If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities? | 5. No. |

A

6. FAA Sec. 620(a), 620(f); App. Sec. 107, 114. Is recipient country a Communist country? Will assistance be provided to the Socialist Republic of Vietnam, Cambodia, Laos, Cuba, Uganda, Mozambique, or Angola?

6. No.

7. FAA Sec. 620(i). Is recipient country in any way involved in (a) subversion of, or military aggression against, the United States or any country receiving U.S. assistance, or (b) the planning of such subversion or aggression?

7. No.

8. FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction, by mob action, of U.S. property?

8. No.

9. FAA Sec. 620(l). If the country has failed to institute the investment guaranty program for the specific risks of expropriation, inconvertibility or confiscation, has the AID Administrator within the past year considered denying assistance to such government for this reason?

9. No.

10. FAA Sec. 620(o); Fishermen's Protective Act, Sec. 5. If country has seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters,

10. No such action has occurred.

a. has any deduction required by Fishermen's Protective Act been made?

a. Not applicable (N/A)

b. has complete denial of assistance been considered by AID Administrator?

b. N/A

11. FAA Sec. 620(o); App. Sec. 503. (a) Is the government of the recipient country in default on interest or principal of any AID loan to the country? (b) Is country in default exceeding one year on interest or principal on U.S. loan under program for which App. Act appropriates funds, unless debt was earlier disputed, or appropriate steps taken to cure default?

11. No.

12. FAA Sec. 620(s). "If contemplated assistance is development loan (including Alliance loan) or security supporting assistance, has the Administrator taken into account the percentage of the country's budget which is for military expenditures, the amount of foreign exchange spent on military equipment and the amount spent for the purchase of sophisticated weapons systems?" (An affirmative answer may refer to the record of the taking into account, e.g.: "Yes as reported in annual report on implementation of Sec. 620(s)." This report is prepared at the time of approval by the Administrator of the Operational Year Budget.

12. N/A

Upward changes in the Sec. 620(s) factors occuring in the course of the year, of sufficient significance to indicate that an affirmative answer might need review, should still be reported, but the statutory checklist will not normally be the preferred vehicle to do so.)

13. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?

13. No.

14. FAA Sec. 620(u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the AID Administrator in determining the current AID Operational Year Budget?

14. Not in arrears.

15. FAA Sec. 620A. Has the country granted sanctuary from prosecution to any individual or group which has committed an act of international terrorism?

15. No.

16. FAA Sec. 666. Does the country object, on basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. there to carry out economic development program under FAA?

16. No.

17. *FAA Sec. 669, 670. Has the country, after August 3, 1977, delivered or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards? Has it detonated a nuclear device after August 3, 1977 although not a "nuclear-weapon State" under the nonproliferation treaty?*

17. No.

18. FAA Sec. 901. Has the country denied its citizens the right or opportunity to emigrate?

18. No.

B. FUNDING CRITERIA FOR COUNTRY

1. Development Assistance Country Criteria

a. FAA Sec. 102(c), (d). Have criteria been established, and taken into account, to assess commitment and progress of country in effectively involving the poor in development, on such indexes as: (1) small-farm labor intensive agriculture, (2) reduced infant mortality, (3) population growth, (4) equality of income distribution, and (5) unemployment.

B.1.a. Yes, in 1981 CDSS, FY 80 ABS, Togo Family Health 693-0212, Togo Low Income Shelter 693-0213.

| | |
|---|---|
| b. FAA Sec. 104(d)(1). *If appropriate, is this development (including Sahel) activity designed to build motivation for smaller families in programs such as education in and out of school, nutrition, disease control, maternal and child health services, agricultural production, rural development, and assistance to urban poor?* | B.1. b<br>Health education, which is essential project activity, will provide occasion for communicating to rural families advantages of smaller families. |
| c. FAA Sec. 201(b)(5), (7) & (8); Sec. 208; 211(a)(4), (7). Describe extent to which country is: | |
| (1) Making appropriate efforts to increase food production and improve means for food storage and distribution. | B.1.c.(1) Yes, see FY 1981 CDSS. |
| (2) Creating a favorable climate for foreign and domestic private enterprise and investment. | B.1.c.(2) Yes, see FY 1981 CDSS. |
| (3) Increasing the public's role in the developmental process. | B.1.c.(3) Yes. |
| (4) (a) Allocating available budgetary resources to development. | B.1.c.(4) (a) Yes. |
| (b) Diverting such resources for unnecessary military expenditure and intervention in affairs of other free and independent nations. | B.1.c.(4) (b) A minimum amount of Togo's budget resource is used for military purposes. |
| (5) Making economic, social, and political reforms such as tax collection improvements and changes in land tenure arrangements, and making progress toward respect for the rule of law, freedom of expression and of the press, and recognizing the importance of individual freedom, initiative, and private enterprise. | B.1.c.(5) Togo is continually reforming new laws for the improvement and welfare of its people. |
| (6) Otherwise responding to the vital economic, political, and social concerns of its people, and demonstrating a clear determination to take effective self-help measures. | B.1.c.(6) The GOT is sensitive to the economic welfare, political expressions and social needs of its people. |
| d. FAA Sec. 201(b), 211(a). Is the country among the 20 countries in which development assistance loans may be made in this fiscal year, or among the 40 in which development assistance grants (other than for self-help projects) may be made? | N.A. |
| e. FAA Sec. 115. Will country be furnished, in same fiscal year, either security supporting assistance, or Middle East peace funds? If so, *has Congress specifically authorized such use of funds*, or is assistance for population programs, humanitarian aid through international organizations, or regional programs? | N.A. |

B

2. Security Supporting Assistance Country Criteria

a. FAA Sec. 502B. Has the country engaged in a consistent pattern of gross violations of internationally recognized human rights? Is program in accordance with policy of this Section? 2.a. N/A

b. FAA Sec. 531. Is the Assistance to be furnished to a friendly country, organization, or body eligible to receive assistance? 2.b. N/A

c. FAA Sec. 533(b)(2). *Will assistance under the Southern African Special Requirements fund be provided to Mozambique, Angola, Tanzania, or Zambia? If so, has President determined (and reported to the Congress) that such assistance will further U.S. foreign policy interests?* 2.c. N/A

d. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made? 2.d. N/A

e. App. Sec. 113. *Will security assistance be provided for the purpose of aiding directly the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights?* 2.e. N/A

f. FAA Sec. 620B. *Will security supporting assistance be furnished to Argentina after September 30, 1978?* 2.f. N/A

## 5C(2) - PROJECT CHECKLIST

Listed below are, first, statutory criteria applicable generally to projects with FAA funds, and then project criteria applicable to individual fund sources: Development Assistance (with a sub category for criteria applicable only to loans); and Security Supporting Assistance funds.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? IDENTIFY. HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

A. GENERAL CRITERIA FOR PROJECT.

1. App. Unnumbered; FAA Sec.

   (a) Describe how Committa tions of Senate and House will be notified concerni (b) is assistance within Year Budget) country or i organization allocation r Congress (or not more tha over that figure

   A CN is being prepared since the funding for FY 1980 has been increased from 1 million dollars to 1.3 million dollars.

2. FAA Sec. 611(a)(1). Prior to obligation in excess of $100,000, will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

   This requirement has been met as part of the project design process

3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

   No further legislative action is required on the part of the host country.

4. FAA Sec. 611(b); App. Sec. 101. If for water or water-related land resource construction, has project met the standards and criteria as per *the Principles and Standards for Planning Water and Related Land Resources dated October 25, 1973*?

   To the extent applicable, the intent of 611(b) has been met. See the economic (section 3.1), social (section 3.2), and environmental (Annex F) analyses.

5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed $1 million, has Mission Director certified the country's capability effectively to maintain and utilize the project?

   OAR has certified host country's capability. See Annex B.

6. FAA Sec. 209, 619. Is project susceptible of execution as part of regional or multilateral project? If so why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. If assistance is for newly independent country, is it furnished through multilateral organizations or plans to the maximum extent appropriate?

   The European Market Fund, FAC, and AID are combining inputs with the GOT for a national rural water program. Specific geological conditions and political factors require that the project not be implemented as a regional activity.

7. FAA Sec. 601(a); (and Sec. 201(f) for development loans). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.

This project was designed to improve the most basic living conditions of the rural poor. For health education and village sanitation, the local organizations will encourage and support the collaboration of all villagers.

8. FAA Sec. 601(b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

Invitation for bids on a 5 million dollar drilling contract will be extended to U.S. firms.

9. FAA Sec. 612(b); Sec. 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.

GOT is contributing 500,000 dollars in local currency which includes the full time services of 84 persons during three years.

10. FAA Sec. 612(d). Does the U.S. own excess foreign currency and, if so, what arrangements have been made for its release?

The U.S. owns no excess foreign currency in Togo.

11. ISA 14. *Are any FAA funds for FY 78 being used in this Project to construct, operate, maintain, or supply fuel for, any nuclear powerplant under an agreement for cooperation between the United States and any other country?*

(a) No FY 78 funding being used.
(b) No nuclear power concerns as part of this project.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(c); Sec. 111; Sec. 281a. Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production, spreading investment out from cities to small towns and rural areas; and (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions?

Local organizations will collaborate in organizing rural poor to improve village sanitation and health.

B1

b. FAA Sec. 103, 103A, 104, 105, 106, 107. Is assistance being made available: [Include only applicable paragraph -- e.g., a, b, etc. -- which corresponds to source of funds used. If more than one fund source is used for project, include relevant paragraph for each fund source.]

(1) [103] for agriculture, rural development or nutrition; if so, extent to which activity is specifically designed to increase productivity and income of rural poor; [103A] if for agricultural research, is full account taken of needs of small farmers;

(2) [104] for population planning or health; if so, extent to which activity extends low-cost, integrated delivery systems to provide health and family planning services, especially to rural areas and poor;

400 tubewells will provide safe water to 160,000 rural poor who will receive health education and means to improve village sanitation.

(3) [105] for education, public administration, or human resources development; if so, extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, or strengthens management capability of institutions enabling the poor to participate in development;

(4) [106] for technical assistance, energy, research, reconstruction, and selected development problems; if so, extent activity is:

(a) technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;

(b) to help alleviate energy problem;

(c) research into, and evaluation of, economic development processes and techniques;

(d) reconstruction after natural or manmade disaster;

(e) for special development problem, and to enable proper utilization of earlier U.S. infrastructure, etc., assistance;

(f) for programs of urban development, especially small labor-intensive enterprises, marketing systems, and financial or other institutions to help urban poor participate in economic and social development.

74

9 b

(5) [107] by grants for coordinated private effort to develop and disseminate intermediate technologies appropriate for developing countries.

c. FAA Sec. 110(a); Sec. 208(e). Is the recipient country willing to contribute funds to the project, and in what manner has or will it provide assurances that it will provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or has the latter cost-sharing requirement been waived for a "relatively least-developed" country)?

This section does not apply to the project because it is multinational.

d. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, *or is the recipient country "relatively least developed"?*

No.

e. FAA Sec. 207; Sec. 113. Extent to which assistance reflects appropriate emphasis on; (1) encouraging development of democratic, economic, political, and social institutions; (2) self-help in meeting the country's food needs; (3) improving availability of trained worker-power in the country; (4) programs designed to meet the country's health needs; (5) other important areas of economic, political, and social development, including industry; free labor unions, cooperatives, and Voluntary Agencies; transportation and communication; planning and public administration; urban development, and modernization of existing laws; or (6) integrating women into the recipient country's national economy.

(1) Local organizations will collaborate in improving village sanitation.
(3) Togolese will be trained in installation of wells.
(4) 400 tubewells will provide safe water to 160,000 rural poor.
(6) Convenient wells will spare women many hours spent in fetching water and allow them more time for productive work and self-improvement.

f. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civic education and training in skills required for effective participation in governmental and political processes essential to self-government.

Aware of people's need and desire for water, GOT has declared the provision of water as the country's number one priority.

g. FAA Sec. 201(b)(2)-(4) and -(8); Sec. 201(e); Sec. 211(a)(1)-(3) and -(8). Does the activity give reasonable promise of contributing to the development: of economic resources, or to the increase of productive capacities and self-sustaining economic growth; or of educational or other institutions directed toward social progress? Is it related to and consistent with other development activities, and will it contribute to realizable long-range objectives? And does project paper provide information and conclusion on an activity's economic and technical soundness?

With safe water, health education, and sanitaiton, village health will improve, contributing to the development of the various sub-points.

h. FAA Sec. 201(b)(6); Sec. 211(a)(5), (6). Information and conclusion on possible effects of the assistance on U.S. economy, with special reference to areas of substantial labor surplus, and extent to which U.S. commodities and assistance are furnished in a manner consistent with improving or safeguarding the U.S. balance-of-payments position.

U.S. firms can bid on a 5 million dollar contract for drilling and installation of wells.

i. Development Assistance Project Criteria (Loans only)

a. FAA Sec. 201(b)(1). Information and conclusion on availability of financing from other free-world sources, including private sources within U.S.

N/A

b. FAA Sec. 201(b)(2); 201(d). Information and conclusion on (1) capacity of the country to repay the loan, including reasonableness of repayment prospects, and (2) reasonableness and legality (under laws of country and U.S.) of lending and relending terms of the loan.

N/A

c. FAA Sec. 201(e). If loan is not made pursuant to a multilateral plan, and the amount of the loan exceeds $100,000, has country submitted to AID an application for such funds together with assurances to indicate that funds will be used in an economically and technically sound manner?

N/A

d. FAA Sec. 201(f). Does project paper describe how project will promote the country's economic development taking into account the country's human and material resources requirements and relationship between ultimate objectives of the project and overall economic development?

N/A

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e. FAA Sec. 202(a). Total amount of money under loan which is going directly to private enterprise, is going to intermediate credit institutions or other borrowers for use by private enterprise, is being used to finance imports from private sources, or is otherwise being used to finance procurements from private sources? N/A

f. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete in the U.S. with U.S. enterprise, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan? N/A

3. Project Criteria Solely for Security Supporting Assistance

a. FAA Sec. 531. How will this assistance support promote economic or political stability? N/A

b. FAA Sec. 533(c)(1). *Will assistance under the Southern African Special Requirements Fund be used for military, guerrilla, or paramilitary activities?* N/A

4. Additional Criteria for Alliance for Progress

[Note: Alliance for Progress projects should add the following two items to a project checklist.] N/A

a. FAA Sec. 251(b)(1), -(8). Does assistance take into account principles of the Act of Bogota and the Charter of Punta del Este; and to what extent will the activity contribute to the economic or political integration of Latin America? N/A

b. FAA Sec. 251(b)(8); 251(h). For loans, has there been taken into account the effort made by recipient nation to repatriate capital invested in other countries by their own citizens? Is loan consistent with the findings and recommendations of the Inter-American Committee for the Alliance for Progress (now "CEPCIES," the Permanent Executive Committee of the OAS) in its annual review of national development activities? N/A

## 5C(3) - STANDARD ITEM CHECKLIST

Listed below are statutory items which normally will be covered routinely in those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by exclusion (as where certain uses of funds are permitted, but other uses not).

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

### A. Procurement

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of goods and services financed?

   For the provision of certain commodities it is anticipated that U.S. small business will be able to participate equitably.

2. FAA Sec. 604(a). Will all commodity procurement financed be from the U.S. except as otherwise determined by the President or under delegation from him?

   YES

3. FAA Sec. 604(d). If the cooperating country discriminates against U.S. marine insurance companies, will agreement require that marine insurance be placed in the U.S. on commodities financed?

   YES

4. FAA Sec. 604(e). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity?

   N/A

5. FAA Sec. 608(a). Will U.S. Government excess personal property be utilized wherever practicable in lieu of the procurement of new items?

   YES

6. MMA Sec. 901(b). (a) Compliance with requirement that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S.-flag commercial vessels to the extent that such vessels are available at fair and reasonable rates.

   Yes

7. FAA Sec. 621. If technical assistance is financed, will such assistance be furnished to the fullest extent practicable as goods and professional and other services from private enterprise on a contract basis? If the facilities of other Federal agencies will be utilized,

   Yes

are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?

8. International Air Transport. Fair Competitive Practices Act, 1974 — Yes

If air transportation of persons or property is financed on grant basis, will provision be made that U.S.-Flag carriers will be utilized to the extent such service is available?

Construction

1. FAA Sec. 601(d). If a capital (e.g., construction) project, are engineering and professional services of U.S. firms and their affiliates to be used to the maximum extent consistent with the national interest? — Yes

2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? — Yes

3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed $100 million? — Yes

Other Restrictions

1. FAA Sec. 201(d). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter? — N/A

2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights? — N/A

3. FAA Sec. 620(h). Do arrangements preclude promoting or assisting the foreign aid projects or activities of Communist-Bloc countries, contrary to the best interests of the U.S.? — Yes

4. FAA Sec. 636(i). Is financing not permitted to be used, without waiver, for purchase, long-term lease, or exchange of motor vehicle manufactured outside the U.S. or guaranty of such transaction? — Yes

C

5. Will arrangements preclude use of financing:

a. FAA Sec. 114. to pay for performance of abortions or to motivate or coerce persons to practice abortions, *to pay for performance of involuntary sterilization, or to coerce or provide financial incentive to any person to practice sterilization?* — Yes

b. FAA Sec. 620(g). to compensate owners for expropriated nationalized property? — Yes

c. FAA Sec. 660. to finance police training or other law enforcement assistance, except for narcotics programs? — Yes

d. FAA Sec. 662. for CIA activities? — Yes

e. App. Sec. 103. to pay pensions, etc., for military personnel? — Yes

f. App. Sec. 105. to pay U.N. assessments? — Yes

g. App. Sec. 106. to carry out provisions of FAA Sections 209(d) and 251(h)? (transfer to multilateral organization for lending). — Yes

h. App. Sec. 112. *to finance the export of nuclear equipment, fuel, or technology or to train foreign nationals in nuclear fields?* — Yes

i. App. Sec. 501. to be used for publicity or propaganda purposes within U.S. not authorized by Congress? — Yes

ANNEX F

# INITIAL ENVIRONMENTAL EXAMINATION

| | |
|---|---|
| Project Location: | Republic of Togo except Coastal Plain |
| Project Title: | Togo Rural Water Supply |
| Fundings: | FY 1980 - $1,300,000<br>LOP $ 7,384,000 |
| Life of Project: | Four Years |
| IEE Prepared by: | Lawrence Bond, REDSO/WA and revised by Ray Fontaine June 1979 |
| Environmental Action Recommended: | A negative determination and no further environmental action is required. |

John A. Lundgren
OAR, Lome, Togo

Sept. 30, 1979

Assistant Administrator's Decision:

Approve: _____ Date: _____

Disapprove: _____ Date: _____

1. Examination of Nature, Scope and Magnitude of Environmental Impacts

The propose project for the development of rural water supplies and environmental sanitation in Togo will have minimal impacts on both the physical and social environments. The project will utilize technology rather recently introduced for the withdrawl of water supplies, namely pumps, improving the available quantity and quality of water and changing through education, personal health habits in regard to excreta disposal and sanitation.

A. Description of Project

The project will assist the GOT to provide 400 villages with reliable supplies of safe water and excreta disposal facilities. The project will essentially have two components; one which supports existing government services concerned with the installation and maintenance of rural water supply systems and the other which assists the villagers to install latrines for excreta disposal. Project activities under these two components will be coordinated at the village and regional level in order to insure that the village water supplies provided by the project are properly used and the quality of water is maintained.

The project will include the training of Togolese in well drilling and construction, pump installation, operation and maintenance, latrine construction and health education.

Rural Water Supply

During the four year life of the project, all equipment, materials and manpower will be provided to drill approximately 400 new wells in villages which currently do not have a well or a reliable safe water supply. The new wells to be installed will be 4-inch diameter cased wells equipped with a manual pump to withdraw the water. Based on the hydrogeologic conditions and the capacity of the pump when operated manually, the project anticipates an average use of approximately 300 persons per well. However, the available capacity from each well should enable as many as 420 persons to obtain their daily water requirements (20 L/day/person — 12 hrs. of operation).

Most of these new wells will be located in villages that have either a school or a dispensary. The well will supply water for both the public facilities and the neighboring villages. In those areas where the population densities surpass the capacity of a single well, an additional well will be installed to supply the minimum daily water requirements of the villagers.

Health/Sanitation

The project will provide the equipment and personnel to construct excreta disposal facilities (latrines) and to implement a health education program. Approximately 8,000 family latrines will be constructed. All of these facilities will be installed in villages where wells are to be located.

The health education program is designed to teach the local people about the personal and community benefits of utilizing both the newly developed water supplies and the excreta disposal facilities. Many water supply and environmental sanitation programs have failed in the past because of the lack of motivation through education and understanding which results in only superficial participation by the prospective beneficiaries. Community participation in the health effort will be stimulated by the training of personnel from the villages and integrating the existing traditional health beliefs, treatments and everyday activities with accepted public health principles. In addition, health education will be taught to the children that attend school.

B. Identification and Evaluation of Environmental Impacts

The potential areas for environmental impact are few with the impact being limited. Every effort will be made to prevent the contamination of the aquifer. First of all, the village well will be installed at a safe distance from the nearest family latrines. The depth of these latrines are usually about four meters whereas the wells are drilled at an average depth of 45 meters in the rock substratum. To prevent seepage of dirty surface into the aquifer, a 4 ft. by 4 ft. concrete slab is poured sloping away from the pump. A fence keeps the animals away from an enclosure paved with stones. At an appropriate level, non-corroding packers or flanges are positioned around the PVC which fit snugly against the walls of the boring to prevent seepage along the PVC to the aquifer. Under the supervision of the project technicians, the potential of ground-water contamination will be reduced to the minimal level.

Water, a natural resource, will of course be extracted. The impact of this will of course be negligible in that the rate of withdrawal will not exceed the recharge rate for the aquifer. Again, technical assistance, supervision and training will be provided to assure proper placement of wells.

There are expected to be socioeconomic and cultural practices changes. Out migration could be reduced as adequate supplies of water will make the area more attractive. This could result in a slight increase in the project area population. At the same time, the easing of water collection for home use should allow more time for other economic activities, especially for women. Cultural practices are to change with the introduction of a health education program and safe excreta disposal. This will result in a positive impact on the health of the project beneficiaries.

## II. Recommendation for Environmental Action

The project will not have a significant effect on either the physical or social environments. It is recommended, therefore, that a Negative Determination is appropriate as the Threshold Decision, and no further environmental action is needed. This recommendation is based upon the impact evaluation and discussion attached.

### Discussion of Possible Impacts

A. LANDUSE

1. Changing the character of the land through:

a. Increasing the population of people or animals in an area:
With reliable sources of water throughout the year in the project villages, seasonal outmigration of people should be stabilized or reduced. This could result in a slight increase in population. The wells to be developed are to provide sufficient water for domestic uses (approximately 20 L/person/day). They will not have sufficient flows to water large numbers of animals and, thus, no increase in the domestic animal population is anticipated.

b. Extracting natural resources such as minerals or water.
The rural water supply project will exploit limited quantities of ground water. The wells, equipped with manual pumps, will be capable of withdrawing water at a rate of approximately 1m3/hr/well. The criteria for acceptance of each well is to be established at the

same rate, so that discharge will equal aquifer recharge.

c. Land Clearing. No land will be cleared by the project other than that immediately around the wells. No impact on the environment should be anticipated.

d. Changing the character of the soil. There will be no disturbing of the soil other than that required to drill the wells.

2. Altering some of the significant natural defenses provided by an area. There will be no natural defenses altered or disturbed.

3. Foreclosing important and perhaps better uses of the land. There will be none as the land will not be significantly disturbed.

4. Jeopardizing man or his works because either is put into a zone of potential disaster. This will not happen.

B. WATER QUALITY

1. Changing the physical state of the water.

2. Changing the chemical or biological states of the water. As explained in I, B above, under the supervision of the project technicians, the potential of groundwater contamination will reduced to the minimal level.

3. Changing the ecological balance of a water body, thereby changing its chemical and biological balance. No body of water will be disturbed. Well discharge will be less than aquifer recharge.

C. ATMOSPHERIC

There will be no air additives used in the project, nor will there be any air pollution or noise pollution caused as the pumps installed will be manual.

D. NATURAL RESOURCES

1. Diversion, storage or increased use of water.
Increased availabilities of water is a major purpose of the project, thus there will be an increased use of water. As previously stated, however, well criteria will be established such that well discharge will equal aquifer recharge.

2. Irreversible or inefficient commitments of natural resources.
The natural resource to be drawn on, water, is "renewable" in that there is aquifer recharge. Thus there will be no irreversible or inefficient commitments of natural resources.

E. CULTURAL

1. Altering or destroying important physical symbols of a culture.
No physical symbols will be altered or destroyed. With traditional village leaders participating in the decision making process for the placement of wells, any potential disturbing of sacred areas will be avoided.

2. Dilution of cultural traditions. No cultural traditions will be diluted though certain changes in cultural practices will be required. Care will be taken to avoid taboos.

F. SOCIOECONOMIC

1. Changes in patterns of economic growth and employment.
There will be little if any effect on the existing patterns of employment in the project. The assured availability of water may moderate out migration and the easing of water collection may provide more time for other economic activities, especially for women and/or children.

2. Movement, resettlement or changes in population. As previously stated, out migration from the project area may moderate and result in a natural slight increase in the local population. Sites or areas where wells are installed and equipped with pumps will be capable of providing water during the dry season, whereas little or no water has been available at that time of year in the past. There does exist a slight potential for temporary gatherings or clusterings of people during extreme drought conditions.

3. Changes in cultural patterns that could affect socioeconomic patterns. The purposes of the project is to provide a more adequate and sanitary water supply to a rural population, and to improve hygienic practices through proper disposal of human excreta. This will require certain changes in cultural practices such as drawing water from a well with a pumps, rather than from a stream, and point specific excreta disposal as opposed to open, though private, disposal. With the adoption of these practices, economic and/or leisure activities could be increased as time required for gathering water or recovering from illnesses is reduced.

G. HEALTH

1. Altering or destroying a natural environment. No natural environment will be disturbed by the project which could cause an impact.

2. Eliminating an element in an ecosystem. The ecosystem will not be disturbed.

3. Other factors. Though difficult to quantify, it is generally accepted that an adequate safe water supply especially when combined with health education and sanitary excreta disposal, reduces disease incidence. The reduction of morbidity and mortality could have a moderate impact in other project area activities, such as economic activities for adults and time for schooling for children.

H. GENERAL

The project will have no direct or indirect international impacts. It will be located in 400 villages scattered throughout Togo. The only controversial impacts which could arise would be local and be more concerned with required changes in certain cultural practices, which are desirable. Though part of a general country program for the development of rural water supplies supported by other donors, the AID program can be assessed on its own without larger program impacts.

IMPACT IDENTIFICATION AND EVALUATION FORM

| Impact Areas and Sub-areas | Impact Identification and Evaluation 1/ |
|---|---|
| **A. LAND USE** | |
| 1. Changing the character of the land through | |
| a. Increasing the population | L |
| b. Extracting natural resources | L |
| c. Land clearing | N |
| d. Changing soil character | N |
| 2. Altering natural defenses | N |
| 3. Foreclosing important uses | N |
| 4. Jeopardizing man or his works | N |
| **B. WATER QUALITY** | |
| 1. Physical state of water | Potential M |
| 2. Chemical and biological states | Potential M |
| 3. Ecological balance | N |

1/ Use of the following symbols:

N - No environmental impact
L - Little environmental impact
M - Moderate environmental impact
H - High environmental impact
U - Unknown environmental impact

IMPACT IDENTIFICATION AND EVALUATION FORM

C. ATMOSPHERIC

| | |
|---|---|
| 1. Air additives | N |
| 2. Air pollution | N |
| 3. Noise pollution | N |

D. NATURAL RESOURCES

| | |
|---|---|
| 1. Diversion, altered use of water | L |
| 2. Irreversible, inefficient commitments | N |

E. CULTURAL

| | |
|---|---|
| 1. Altering physical symbols | N |
| 2. Dilution of cultural traditions | N |

F. SOCIOECONOMIC

| | |
|---|---|
| 1. Changes in economic/employment patterns | L |
| 2. Changes in population | L |
| 3. Changes in cultural patterns | L - M |

IMPACT IDENTIFICATION AND EVALUATION FORM

G. HEALTH

1. Changing a natural environment---------- N

2. Eliminating an ecosystem element---------- N

3. Other factors

Improved health through provision of adequate safe water supplies health education, and village sanitation M

H. GENERAL

1. International impacts---------- N

2. Controversial impacts---------- N

3. Larger program impacts---------- N

4. Other factors

_____ _____

_____ _____

OPTIONAL FORM NO. 10
JULY 1973 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

# *Memorandum*

ANNEX G

TO : John Lundgren, AID Rep., Lome

DATE: April 11, 1980

FOR : Raymond Fontaine, Project Officer

FROM : W.D. Davies, Ch. Engr., REDSO/WA

SUBJECT: 611 (a) determination for Togo Rural Water Supply and Sanitation Project 693-0210

Cost estimates for this project have been analyzed and compared with costs of other similar projects in Togo and found to be reasonable. Since the project paper proposes to contract all capital costs (well drilling only) of this project, I have determined that the requirements of section 611(a) of the FAA have been satisfied to the best of our knowledge.

It should be noted that no site inspections have been made since actual sites of wells have not as yet been selected. The project paper defines the method to be used in site selection and this is deemed to be a method which should ensure a reasonable degree of success and therefore sufficient to satisfy the requirements of section 611 (a) of the FAA.

5010-110

*Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan*