

PD BAV 400

T. Zee
4/4

NOTICE OF MEETING

TO: See Distribution
FROM: AFR/PD, Norman Cohen
MEETING: Chad - Strengthening Road Maintenance Project
677-0050 PP Issues and ECPR

	<u>ISSUES</u>		<u>ECPR</u>
DATE:	April 9, 1985	DATE:	April 12, 1985
TIME:	10:00 a.m.	TIME:	2:00 p.m. 10:00 a
PLACE:	Room 1406	PLACE:	Room 3524 3886

AGENDA

The attached Project Paper for the Chad Strengthening Road Maintenance project will be reviewed. Issues can be submitted to Cameron Pippitt, AFR/PD/SWAP, Room 2733a, NS (tel. 632-8242).

Attachments: Project Paper. Annexes have not been attached to all copies. If you want to review annexes, please call Cameron Pippitt.

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Project Committee Members:

AFR/PD/SWAP: Cameron Pippitt
GC/AFR: BBryant
AFR/DP: HMerrill
AFR/TR/ENGR: RCline
AFR/SWA: YJohn

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add
 C = Change
 D = Delete

Amendment Number

DOCUMENT CODE

3

COUNTRY, ENTITY

CHAD

3. PROJECT NUMBER

677-0050

4. BUREAU/OFFICE

AFRICA

5. PROJECT TITLE (maximum 40 characters)

Strengthening Road Maintenance

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)

MM DD YY
09 | 30 | 90

7. ESTIMATED DATE OF OBLIGATION

(Under "B" below, enter 1, 2, 3, or 4)

A. Initial FY 81 5

B. Quarter 3

C. Final FY 81 7

8. COSTS (\$000 OR EQUIVALENT \$) =

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	7,000	3,000	10,000	12,115	15,385	27,500
(Grant)	7,000	3,000	10,000	12,115	15,385	27,500
(Loan)						
Other 1.						
U.S. 2.						
Host Country		528	528		5,144	5,144
Other Donors)						
TOTALS	7,000	3,528	10,528	12,115	20,529	32,644

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROXIMATE PRIMARY RELATION/PURPOSE CODE	C. PRIMARY TECH CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) ESF					20,000		20,000	
(2) SDP					7,500		7,500	
(3)								
(4)								
TOTALS					27,500		27,500	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

061

11. SECONDARY PURPOSE CODE

220

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code

BR

BL

BS

B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

To develop a technically competent and financially responsible organization for maintenance of the road network in Chad.

14. SCHEDULED EVALUATIONS

Interim MM YY MM YY Final MM YY
0 6 8 8 | | | | 0 1 9 0

15. SOURCE, ORIGIN OF GOODS AND SERVICES

000 941 Local Other (Specify) 935

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP. Amendments)

Richard M. Thacher, EXO

Samir M. Zoghdy, ODO

Kurt Shafer, PO

Harry C. Dorcus, Controller

17. APPROVED BY

Signature

Title

John B. Woods

AID Representative to Chad

Date Signed

MM DD YY
0 3 0 8 8 5

18. DATE DOCUMENT RECEIVED IN AID/W. OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

MM DD YY

STRENGTHENING ROAD MAINTENANCE

(677-0050)

PROJECT PAPER
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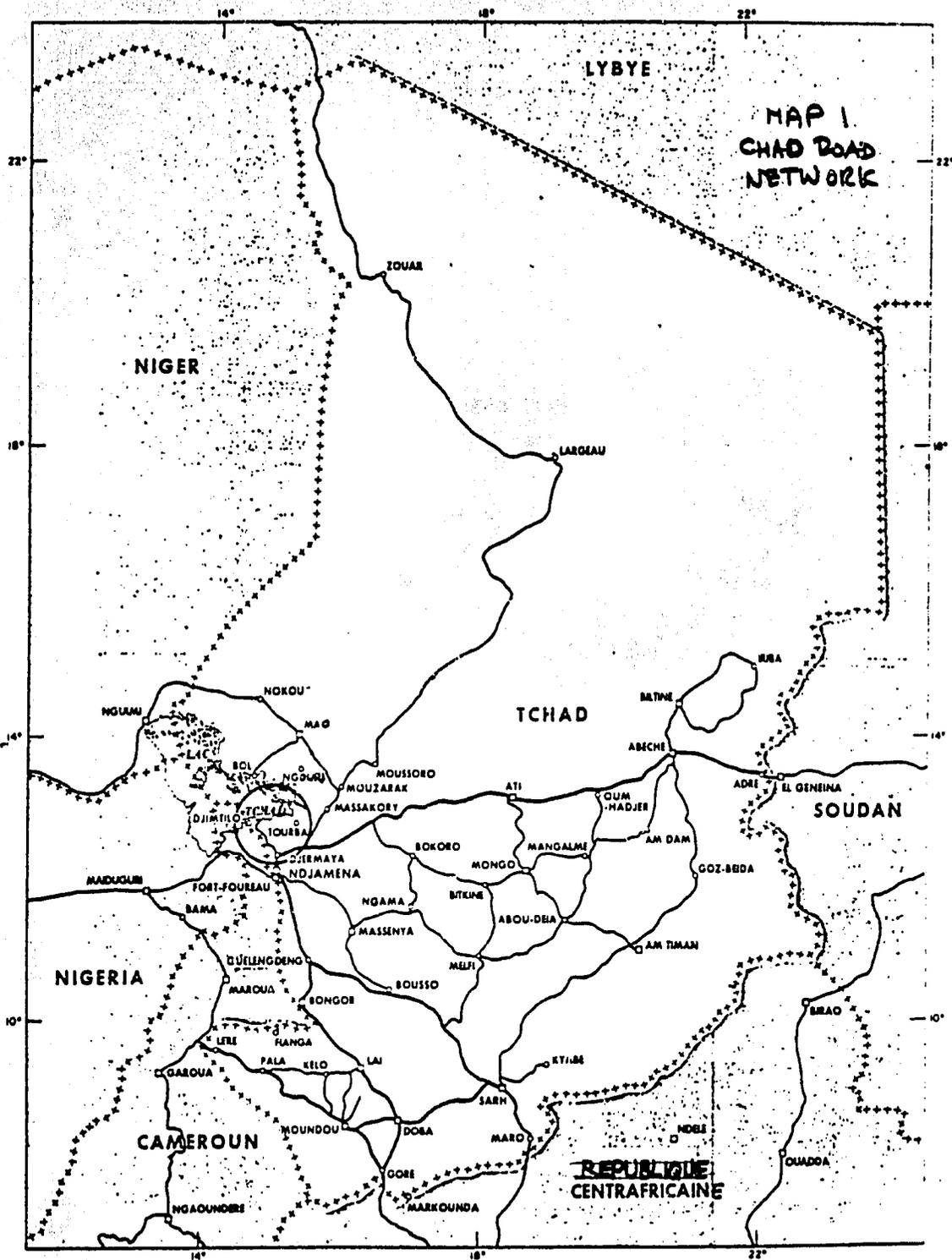
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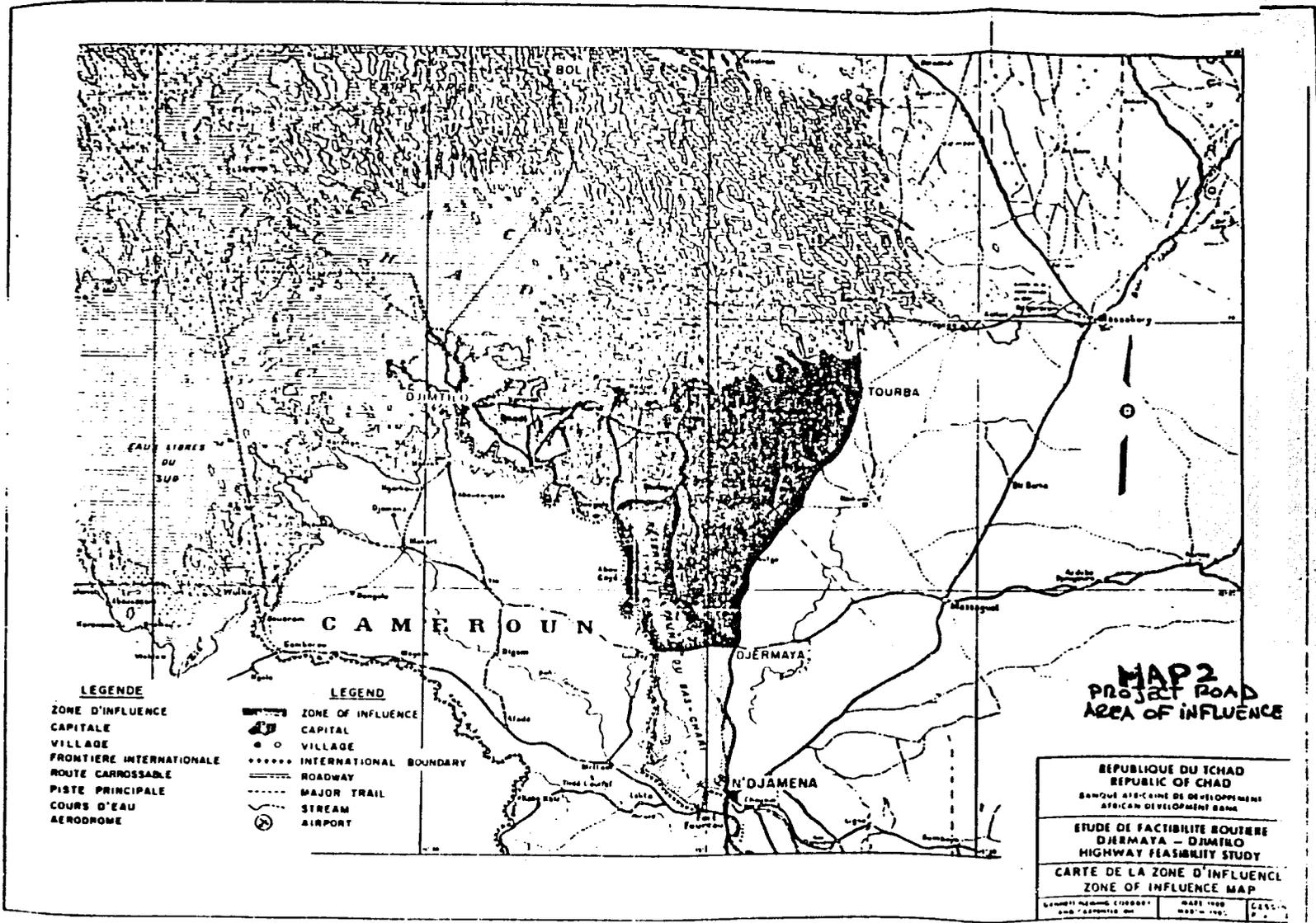
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ACRONYMS

	<u>French</u>	<u>English</u>
ADF	-	African Development Fund
ASECNA	Agence pour la Sécurité de la Navigation Aérienne en Afrique et Madagascar	Agency for Aerial Navigation Security in Africa and Madagascar
BAD	Banque Africaine de Développement	African Development Bank
BCECM	Bureau Central d'Etude pour l'Equipement d'Outre-Mer	French Central Studies Bureau for Overseas Heavy Equipment
BDT	Banque de Développement du Tchad	Chad Development Bank
CBD	-	Commerce Business Daily
CFA	Communauté Financière Africaine	CFA Franc
COTONCHAD	Société Cotonnière Tchadienne	Chad Cotton Company
CTT	Coopérative des Transporteurs Tchadiens	Chad Transport Cooperative
DMS	-	Development Management Systems
DOM	Division Outillage Mécanique	Tools and Mechanical Division
DOT	-	US Department of Transportation
ESF	-	Economic Support Funds
FAC	Fonds d'Aide et de Coopération	French Foreign Aid
FED	Fonds Européen de Développement	Common Market Development Fund
GOC	-	Government of Chad
IBRD	-	International Bank for Reconstruction and Development
IDA	-	International Development Association
IEE	-	Initial Environmental Examination
MTP	Ministère des Travaux Publics, des Mines et du Pétrole	Ministry of Public Works
OFNAR	Office National des Routes	National Highway Office
ORT	-	Organization for Rehabilitation through Training
PASA	-	Participating Agency Service Agreement
PDO	-	Project Development Officer
PID	-	Project Identification Document
PM&R	-	Program Management & Research
POL	-	Petroleum, Oils and Lubricants
PSC	-	Personal Service Contract
PP	-	Project Paper
REDSO	-	Regional Economic Development Services Office (Abidjan)
RFP	-	Request for Proposals
SMDP	-	Sahel Manpower Development Program
SODELAC	Société de Développement du Lac	Lake Chad Development Company
SONACOT	Société Nationale de Commercialisation du Tchad	National Trading Company of Chad
UNSO	Bureau des Nations Unies pour la Région Soudano-Sahélienne	United Nations Office for the Sudan-Sahelian Region
USAID/Chad	-	AID Mission to Chad



MAP 1
CHAD ROAD
NETWORK

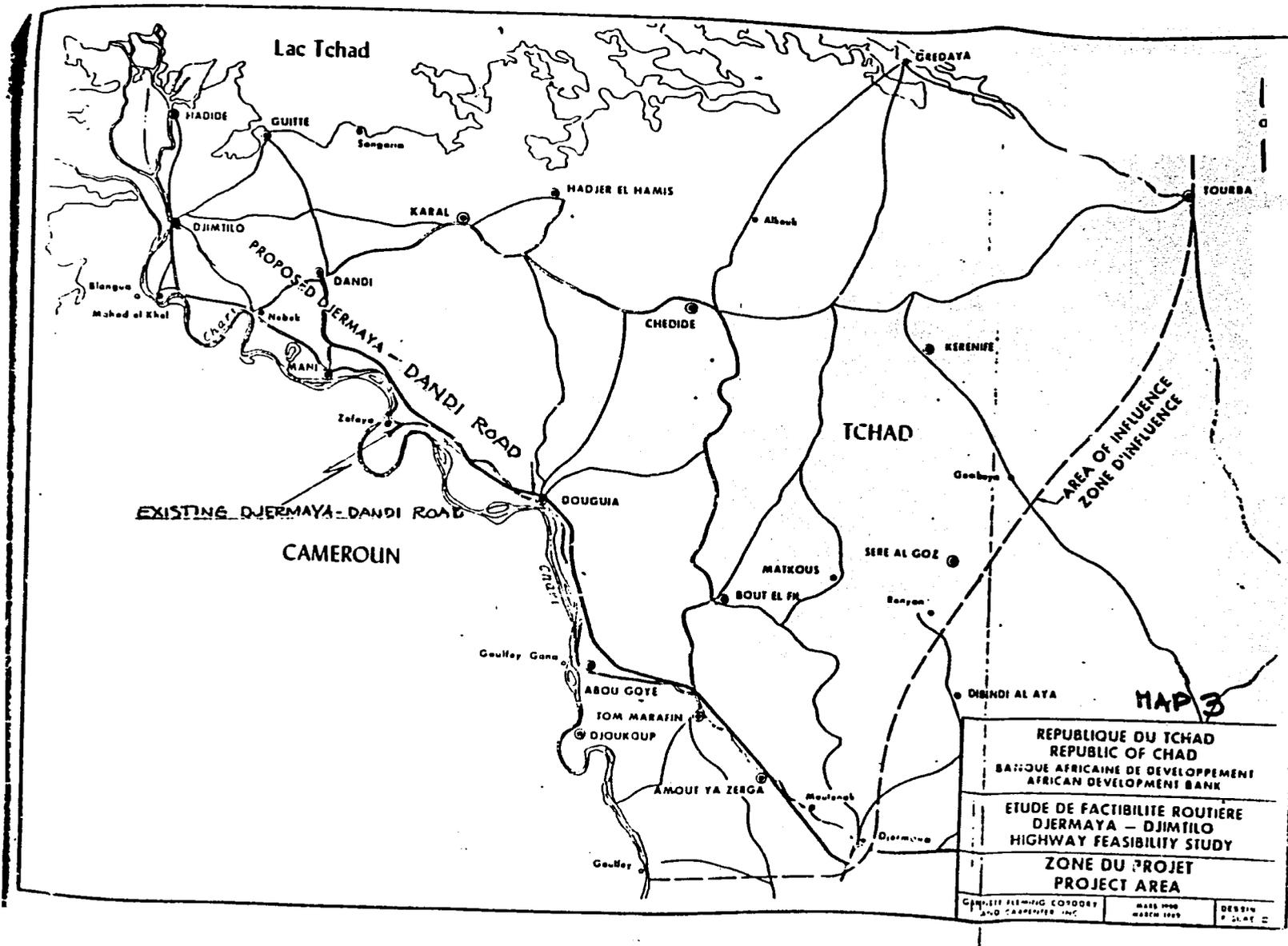


LEGENDE
 ZONE D'INFLUENCE
 CAPITALE
 VILLAGE
 FRONTIERE INTERNATIONALE
 ROUTE CARROSSABLE
 PISTE PRINCIPALE
 COURS D'EAU
 AERODROME

LEGEND
 ZONE OF INFLUENCE
 CAPITAL
 VILLAGE
 INTERNATIONAL BOUNDARY
 ROADWAY
 MAJOR TRAIL
 STREAM
 AIRPORT

MAP 2
 PROJECT ROAD
 AREA OF INFLUENCE

REPUBLIQUE DU TCHAD REPUBLIC OF CHAD		
BANQUE AFRICAINE DE DEVELOPPEMENT AFRICAN DEVELOPMENT BANK		
ETUDE DE FACILITE ROUTIERE DJERMAYA - DJMITLO HIGHWAY FEASIBILITY STUDY		
CARTE DE LA ZONE D'INFLUENCE ZONE OF INFLUENCE MAP		
SCALE 1:500,000 SHEET 1/100,000	MADE 1968 MAP 100	CLASS. P. 1



PROJECT PAPER DESIGN TEAM MEMBERS

Allan E. Dean, Project Design Officer
Michael I. Kingery, Asst. Dir. & Chief Engr, REDSO
Alex E. Mansour, Civil Engineer
Richard L. Braida, Transportation Economist
Samir M. Zoghby, GDO, USAID/Chad
Modibo Sangare, Associate Engineer, USAID/Chad
Allen F. Roberts, Social Scientist
Isaac Tedambe, Training Specialist, USAID/Chad
Paul Libiszowski, Financial Advisor, SRFMP Project

OTHER CONTRIBUTORS

Cameron Pippitt, Project Development Officer, AID/W
Donald Keene, Legal Officer, REDSO/WCA
Thomas Stephens, Procurement Specialist, REDSO/WCA
Harry C. Dorcus, Controller, USAID/Chad

I. PROJECT RATIONALE AND DESCRIPTION

A. Summary and Recommendations

1. Introduction

The Strengthening Road Maintenance Project will assist the Government of Chad (GOC) to re-institute regular maintenance for its road network. Assistance will be needed over ten years to achieve this goal. This Project covers the first five years, and its purpose is to develop a technically competent and financially responsible organization for the maintenance of the road network in Chad. The first five years will cost \$27.5 million in US grant assistance, \$20.0M of which is from the ESF account and \$7.5 million is from the Sahel account. GOC project-related costs will amount to a U.S. dollar equivalent of \$5 million during this Phase I period. A follow-on (Phase II) project will be conditioned on the ability of the GOC to expand its capacity for road maintenance and to meet its increasing operating costs. Major elements of assistance in the Project are:

- o Technical assistance in planning and administering a road maintenance program;
- o Training and equipment of a road brigade; operational support;
- o Rehabilitation and equipping of workshop facilities, and training in equipment maintenance; and
- o Rehabilitation of a 63-km (40 miles) road through host country contracting.

The PID for this Project was submitted in November 1984 and approved by the Executive Committee for Project Review in AID/Washington on December 7, 1984. State 378526(84) authorized the USAID to prepare a Project Paper. All of the issues raised at the PID review were satisfactorily resolved during the final project design.

2. Summary Project Description

Chad's roads are rapidly deteriorating, and road transport has become slow and costly. The civil war years of the late 70s and early 80s saw a collapse of effective government, including those agencies which had been responsible for road maintenance. Shop facilities were looted and destroyed as hostilities continued. Since the establishment of a new government in 1982, relative calm has returned, enabling the GOC to undertake reunification and reconstruction initiatives and begin efforts for economic recovery.

Restoration of roads is a high priority for the GOC. In 1984, the GOC established a special agency for this purpose, the Office National des

Routes (OFNAR), within the Ministry of Public Works. The Project will strengthen OFNAR, building its capability to reinstitute a program of road maintenance.

Construction of all-weather roads began in 1964, and by 1975 the national road network connected and served most major population centers and areas. Following the war years, most sections of the road network had to be rehabilitated. Donor organizations (FAC and FED) are financing this work. USAID's current assistance has helped restore OFNAR's heavy equipment repair capability through a small PVO (AFRICARE) activity and other interim measures. Project assistance will build on this start.

The GOC's commitment to restoring regular maintenance of its roads is reflected in the extraordinary authority and operational flexibility which has been provided OFNAR. It has been given its own source of operating revenues from tax receipts on petroleum product imports and exemption from civilservice administrative processes. This flexibility will enable OFNAR to develop rapidly and to operate effectively. As it is starting up, trained personnel and equipment are in short supply. However, considerable repairable maintenance equipment is deadlined at various locations around the country, and OFNAR has begun to retrieve and rehabilitate some of these items. Former road maintenance employees, dislocated because of the war, are being re-employed. The Project will retrain these technicians and train new cadre who will be needed. The Project will finance the retrieval and rehabilitation of old equipment and the purchase of new. Advisory assistance will strengthen OFNAR's ability to plan and administer its operations.

The creation of employment is an intended benefit of the Project. While the Training Brigade is capital-intensive, it is so designed to provide concentrated training for operators and foremen who later will be assigned to smaller, more labor-intensive operating units in the subdivisions. In view of prevailing high rates of unemployment and underemployment, the Project will move toward a more labor-intensive technology for future road maintenance.

Practical on-the-job training has been chosen as the most desirable training mode for the Project. Structured learning by doing will achieve a more rapid and technically appropriate level of expertise than would theoretical training. It will provide the added benefit of actual maintenance performed on roads and equipment. The Project will give the GOC experience in contracting with private firms for major repairs on roads and on heavy equipment, and for supervising contractor performance. A 63-km road will be rehabilitated under private contract, as will a number of units of road maintenance equipment which require major overhaul.

OFNAR's increasing capacity and level of operations will mean higher operating costs. Its ability to absorb these costs also will increase. OFNAR's main source of revenues is from taxes on imported petroleum products, imports of which are expected to rise as a result of reconstruction activities and economic recovery. Initially, OFNAR's expected revenues may not keep pace with the rise in its total recurrent costs, as additional trained personnel and operating equipment come on line in road maintenance operations. OFNAR will be assisted during the first phase of the program, and into the second

phase at a declining rate to help meet these costs. The goal is total GOC financing of operating costs within ten years, and OFNAR has agreed to a formula and annual target amounts which will reach that goal. The GOC is aware that a second phase Project will depend on OFNAR's success in meeting its recurrent costs obligations during the first phase. OFNAR has accepted, pending confirmation by the Board of Directors, to pay its employees the full salaries to which they are entitled.

The Project will be implemented through eleven expatriate professional and technical personnel, two of whom will be provided through a Participating Agency Service Agreement (PASA) with the US Department of Transportation (DOT). Nine others will be provided by a contract with a U.S. consulting firm. The DOT advisors will guide OFNAR in planning and administrative functions at high levels of OFNAR's central organization and field sub-divisions. The contract technicians, with significant responsibility and control within OFNAR's organization, will organize and supervise shop operations and training of road maintenance and equipment workshop personnel.

Although the AID Representative has certified that the GOC can maintain a system of accounts adequate to identify and control receipts and expenditures (121(d) certification), the Project includes a long-term financial advisor to work with OFNAR to develop and improve OFNAR's own financial management processes.

3. Findings

The 1984 Country Development Strategy Statement (CDSS) submitted by USAID/Chad in May 1984 included short-term and long-term priority activities in the area of transportation. Accelerated rehabilitation of heavy road maintenance equipment and workshops and maintenance of the road network were identified as of immediate priority. A longer term priority is for establishing a technically competent and financially responsible organization for rehabilitation and maintenance of roads (OFNAR).

The Project is fully consistent with the reconstruction and development strategy of the GOC and with the Country Development Strategy. The Project is also consistent with the priorities of the GOC and USAID to develop OFNAR's institutional capacity to perform regular maintenance on the road network and thereby improve and protect the road infrastructure of the country. This will impact directly on the GOC's efforts to achieve national unity and will greatly facilitate economic and social development.

The Project has been carefully designed with the close collaboration of OFNAR, and there is complete understanding by the GOC as to the provisions and conditions. The GOC agencies responsible for project execution, with the support of project-provided technical assistance, have been found to be adequate to provide the necessary administrative capability for project administration. The OAR has attested that the GOC has the financial capability and human resources to maintain and utilize effectively the goods

and services procured under this Project (611e certification). An Initial Environmental Examination was submitted with the PID and a Negative Determination was approved by the Africa Bureau's Environmental Officer. The Project has been determined to be economically, financially, and technically feasible. The Project meets all other applicable statutory criteria. The Statutory Checklist can be found in Annex X-3.

4. Waiver Requirements Waivers which will be required for the Project are:

a. The requirement that motor vehicles financed by AID have their source and origin in the United States will need to be waived in order to permit the procurement of 4 automobiles, 8 pick-up trucks, 8 heavy-duty trucks with dump bodies, one field service truck, one supply and maintenance truck, and one low boy truck tractor (290 HP), in a total amount not to exceed \$ 750,000, from countries included in AID Geographic Code 935. The provisions of Section 636 (i) of the Foreign Assistance Act of 1961, as amended, should also be waived.

b. A source and origin waiver from AID Geographic Code 941 (Selected Free World) to AID Geographic Code 935 (Special Free World) will be required in order to permit the procurement of equipment parts necessary to maintain the operation of equipment to be used under the Project, in a total amount not to exceed \$ 300,000.

c. A source and origin waiver from AID Geographic Code 941 to 935 in the amount of \$300,000 will be required to allow host country contracting of services with the local Caterpillar dealers in Chad and Cameroon for the recovery of existing OFNAR deadlined Caterpillar equipment assets. Sole source procurement will have to be authorized for this part of the project, as well.

d. A proprietary procurement waiver will be authorized in order to permit standardization on these types and manufacture of equipment:

i. The following Caterpillar-manufactured items:

ii Two motor graders, one front-end loader, one crawler tractor, one compactor, one fork-lift truck.

iii Approximately 12 Peugeot light motor vehicles.

e. Limited competitive procurement will be used to purchase the following Mercedes or Berliet trucks:

8 heavy-duty trucks with dump bodies, one field service truck, one supply and maintenance truck, one low boy truck tractor (290 HP).

5. Recommendation That a grant in the amount of \$27,500,000 over a period of five years be obligated in the third quarter of FY 1985 to the Government of Chad for the execution of this Project.

Major conditions precedent and covenants include the following:

a. Conditions Precedent

1). Prior to the first disbursement under the Grant, or to the issuance by AID of documentation pursuant to which disbursement will be made, the Grantees shall, except as the parties may otherwise agree in writing, furnish to AID, in form and substance satisfactory to AID, a statement of the names of the persons holding or acting in the office of the Grantee (to be specified in the Grant Agreement), and a specimen signature of each person specified in such statement.

2). Prior to any disbursement to the road contractors for the rehabilitation of the Djermaya-Dandi road under the Project, or to the issuance by AID of documentation pursuant to which disbursement will be made, the Grantee shall, except as the parties may otherwise agree in writing, furnish to AID, in form and substance satisfactory to AID, evidence that the Grantee has executed, and AID has approved, contracts with those private sector firms for elements of road reconstruction and rehabilitation work planned under the Project.

b. Covenants

The Project Agreement(s) shall contain in substance the following essential covenants:

1). The Grantee agrees to use its best efforts, including priority consideration, to pay all Government of Chad employees assigned to OFNAR one hundred percent (100%) of their official salary level.

2). The Grantee agrees that it shall not withdraw for its separate use tax or other revenues deposited in the OFNAR account unless, and only to the extent that, such revenues exceed the operational and personnel costs of OFNAR.

3). Consistent with the Project purpose to improve the institutional capacity and capability of OFNAR to perform adequate road maintenance, the Grantee will make every effort to assure that OFNAR personnel who receive training under the Road Maintenance Training Brigade or OFNAR Central Workshop components of the project shall be assigned to appropriate road maintenance activities of OFNAR for not less than two years after such training, unless the Parties otherwise agree in writing.

4). The Grantee agrees to finance OFNAR recurrent costs of expanded road maintenance activities resulting from the Project, absorbing these costs in accordance with and agree upon formula for increasing OFNAR's absorption of its operating costs, starting with 10 percent, increasing by 10 percent each year thereafter. Project assistance for these costs will decline as Grantee financing increases.

Activities of the Project which might be implemented through contracts with small business and minority firms include the procurement of workshops tools and equipment (see Annex X-8), and provision of social science consultants (V-C).

B. Project Description

1. Project Goal and Purpose

The long-term goal of the Project is to maintain the road network throughout Chad. This cannot be accomplished within the Project's limited time frame; a minimum of ten years will be required in order to achieve that objective. Consequently, this Project will be the first phase of a two-phase program. During Phase I of the program, the Project purpose will focus on developing a technically competent and financially responsible organization for the maintenance of the road network. This organization, the Office National des Routes (OFNAR) is newly established but has a number of available physical facilities which have been transferred from the Ministry of Public Works, of which OFNAR is a constituent part.

Phase II of the Program will begin in 1990. It will provide continued but reduced support for OFNAR operating expenses, as well as continued but limited technical assistance. It will also allow the geographic scope of OFNAR operations to be substantially expanded.

At the end of the five-year term of this Project (Phase I) of the program), OFNAR will be capable of regularly maintaining, with its own personnel and heavy equipment, over 1,600 kilometers of road per year. Measurable indicators of progress toward achieving the overall goal of the project include: a) increased total volume of vehicular traffic on upgraded and maintained roads; b) increased volume of agricultural production and agricultural inputs carried on the road network; c) increased longevity of the road network as a result of regular maintenance efforts, and; d) reduced vehicle operating costs.

2. Expected Achievements

The primary output of the Project will be an OFNAR trained and equipped to provide administrative direction to an expanding national road maintenance effort, organized to perform maintenance on roads, and to maintain road maintenance equipment.

During the five-year span of activities, an OFNAR work force of 18 supervisors and managers, 40 equipment operators and 50 mechanics and shop technicians will be trained and equipped with tools and maintenance equipment. OFNAR's central administrative and equipment repair facilities will be reconstructed and refurbished.

In addition to the training, OFNAR will be assisted in the organization, staffing, and financing of small road maintenance equipment spreads intended for the conduct of regular road maintenance, staffed by this expanded work force.

A 63-kilometer road will be rehabilitated by private sector contract, providing OFNAR with experience in this mode for major work.

3. How the Project will work

There are several elements of US assistance that must be provided to the Project by various types of contracts:

- o Technical assistance in planning and administering a road maintenance program.
- o Training and equipping a road brigade; operational support.
- o Rehabilitation and equipping workshop facilities, and training in equipment maintenance.
- o Rehabilitation of a 63-km (40 miles) road through host country contracting.

Both host country and AID direct contracts will be used to provide these services to the GOC. The critically urgent technical service contract for supervisory services to OFNAR will be done by REDSO AID direct contract, in order to ensure timely mobilization of these personnel that are so critically needed by OFNAR.

The equipment recovery program which is to survey and recover existing deadlined Caterpillar equipment presently in Chad, will be executed by host country contracts between OFNAR and the local Caterpillar dealer. Support to OFNAR to execute these agreements will be provided by expatriates already on site on an interim basis. Further backing will be given by REDSO technical, contracting, and legal personnel, as necessary. The host country contracting mode was chosen for this activity because it lends itself to local contracting, and sufficient support resources exist to allow the contracts to be done with minimal delay.

Procurement of goods will for the most part be handled by AID, under PIO/Cs, to save time. However, the procurement of repair parts for maintenance shop operations will be done by OFNAR, since this activity will be an on-going task that they may as well undertake from the outset, considering that sufficient technical expertise is available from the expatriate side.

Construction services required for the rehabilitation of the shop and office buildings for OFNAR will be handled by AID direct contract. The small value of these contracts, as well as the nature of the work, are such that the USAID can easily handle them.

The road rehabilitation contract is more ambitious, though relatively simple as such projects go. The work will be handled by host country contract, since it is ideally suited for such, will develop the contractual

support relationship between OFNAR and the Ministry of Public Works, stimulate local construction firms, and as in the case of the equipment recovery program contracts, can be done without endangering the financial or operational integrity of the Project.

The individual Project elements are described in further detail in the following sections:

a. Central Management of OFNAR

As shown in Figure II, OFNAR is managed by a Director who is responsible for two functional areas of activity: Central Services and Regional Services. Central Services, located in N'Djamena, is composed of five Divisions: Administration, Finance, Inspection, Road Planning and Equipment Maintenance. Regional Services consists of two geographic areas (Arrondissements), each of which is divided into Subdivisions. Road maintenance operations in the Subdivisions are the responsibility of the respective Subdivision Chiefs. With this organization, OFNAR, when fully mobilized at authorized strength, will maintain the entire national road system.

Because of the newness of OFNAR, and the scarcity of trained human resources, it will be necessary to provide an immediate infusion of management assistance to allow OFNAR to function, and meet its current responsibilities, while at the same time providing in service training to OFNAR's inexperienced staff.

An American senior engineer furnished by DOT will serve as advisor to the OFNAR Director. DOT will also provide a planning engineer, who will advise the OFNAR Road Maintenance Planning Division of Central Services. A third expatriate who serves in an advisory role will be an accountant, furnished under a consulting service contract with a U.S. firm, who will serve as advisor to the OFNAR chief accountant. These two men will be counterparts both responsible to OFNAR for financial management of the various funds that flow to the project.

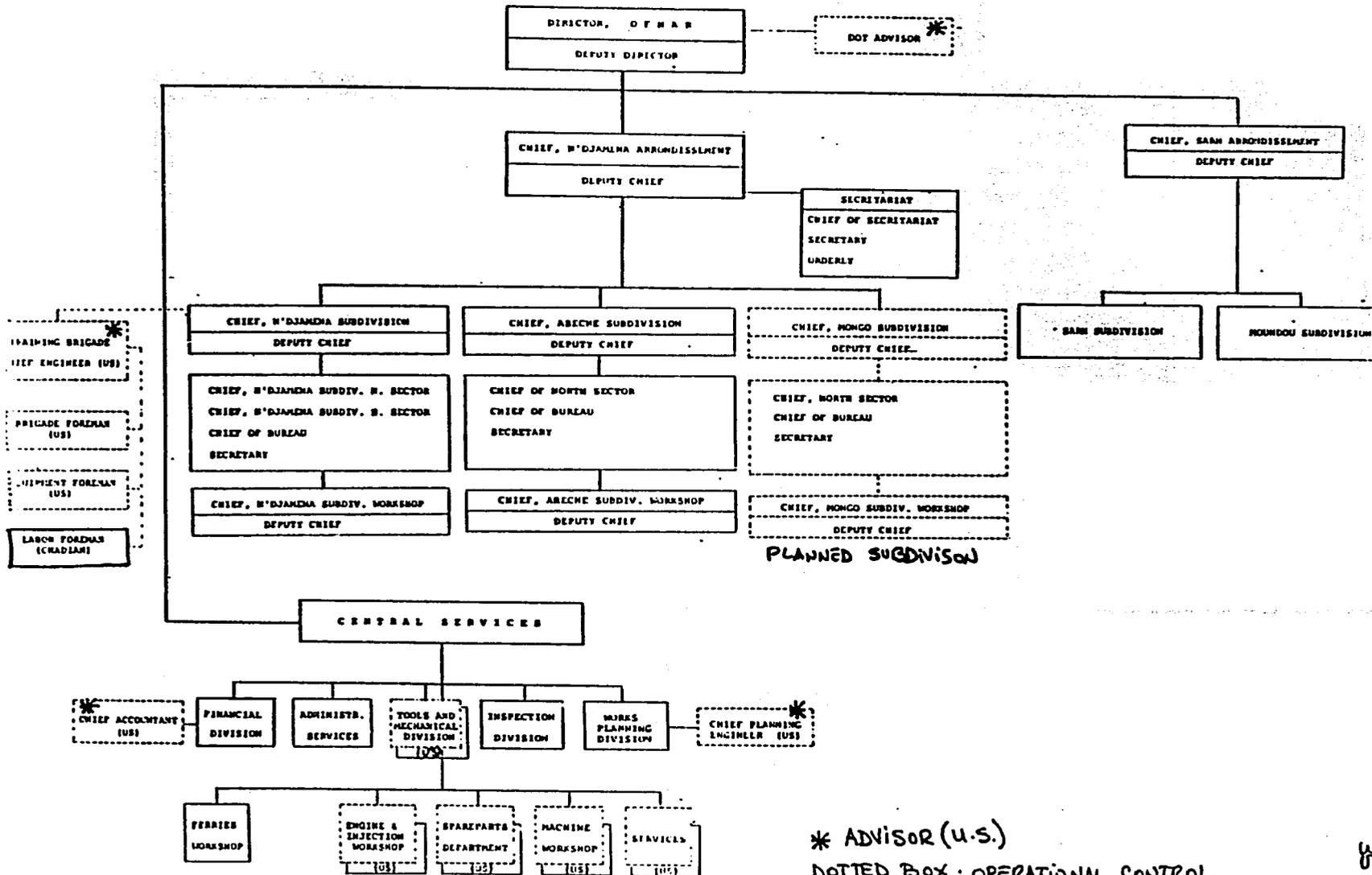
The balance of expatriates, all part of the technical assistance contract team, will be highly qualified and experienced persons who will serve in responsible, supervisory positions integral to the OFNAR organization, ultimately reporting to the OFNAR Director.

One of these eight persons will be a field engineer, who will in addition to other duties, advise the chief of the N'Djamena subdivision in road maintenance and rehabilitation activities. The field engineer will also be responsible for the overall operation of the Field Training Brigade, as well as for supervision of construction contractors performing work for OFNAR under host country contracts.

The greater number of these supervisory expatriates are located in Central Services, where they, through the chief of Central Services, report to the director, OFNAR, and his deputy.

b. Equipment Workshop Operations and Training

FIGURE II
O F N A R, Table of Organization



* ADVISOR (U.S.)

DOTTED BOX : OPERATIONAL CONTROL

Five expatriates will direct the recommissioning, equipping and operation of the OFNAR Equipment Maintenance Division. They will include a shop superintendent, a parts specialist, an engine maintenance foreman, a machine shop foreman and a service foreman. In addition to immediately taking over the responsibility for day-to-day operation of the shop, they will conduct on-the-job training operations of their Chadian counterparts, for a period of two years. As the project gets underway, this on-the-job training will be extended downward through the shop organization, until it reaches virtually all OFNAR Central Workshop personnel. (See Technical Analysis V-A for discussion of the workshop personnel, their operations and training).

c. Road Maintenance Training and Operations

Two expatriates, an equipment foreman, and a maintenance foreman, will direct the creation, equipping and operation of a Road Maintenance Training Brigade. These expatriates will each have counterparts under training, and under the general oversight of the Field Engineer, will direct the brigade operations (see Technical Analysis V-A for composition of the brigade and the method of operation).

The training cycle for brigade personnel will be up to twelve months, during which the members of the brigade will learn by performing actual maintenance on roads in the N'Djamena Subdivision. Upon completion of their training, personnel will be released from the brigade and assigned by OFNAR to an appropriate subdivision sector. An additional group will be selected for training by the brigade during the second year.

The Project will provide relatively small amounts of new equipment, sufficient to equip the Training Brigade for road maintenance. To recover other existing equipment assets suitable for use in the maintenance of the road system, the Project will finance the recovery of existing OFNAR equipment throughout the country, currently in varying degrees of inoperability. While significant amounts of this equipment will no doubt be found to be nothing but scrap, there will be many items of equipment that will be made serviceable, and put to use in the maintenance program.

Graduates of the Brigade training will be assigned by OFNAR to road maintenance work crews, using new and rehabilitated equipment which is provided by the Project. OFNAR road maintenance operating costs will receive Project assistance during initial years (see II C 2).

d. Rehabilitation of the Djermaya-Dandi Road

The road from Djermaya to Dandi (63 km) will be rehabilitated under a host country contract with a private sector construction firm, using existing engineering designs. This contract will be executed by the Contract Services Office of the Ministry of Public Works, on behalf of OFNAR, using bid documents prepared by OFNAR and the technical assistance team. To the extent required, REDSO and USAID inputs will be applied to ensure a contract meeting AID regulations. The contract will be administered by OFNAR, with contractor

performance being inspected and monitored by the Field Engineer and his counterpart, providing OFNAR with on-the-job expertise in this function. (Section V-A describes the technical aspects of this road design and construction activity).

II. FINANCIAL PLAN AND COST ESTIMATES

A. Financial Management - US Inputs

1. US dollar expenditures will provide for: a) TA expatriate services under a PASA and a TA contract; b) short term TA services under contract, services for evaluations and external audit; c) purchase of road maintenance equipment and heavy retrieval equipment; d) purchase of spare parts for road maintenance equipment; e) and purchase of tools and equipment for the OFNAR Central Workshops for maintenance and equipment repair. These expenditures will be funded through PIO/T and PIO/C processes as appropriate, initiated by USAID. USAID will process disbursements in accordance with contractual provisions, including administrative and fiscal certifications by appropriate USAID officials.

2. Local currency expenditures funded by US dollars will provide for a) the local purchase of Project vehicles; b) rehabilitation by private contractors of OFNAR office and Central Workshop facilities; c) rehabilitation of the Djermaya-Dandi road through host-country contracts with local and foreign private contractors; d) operating expenses of the road maintenance training brigade and OFNAR operating expenses in maintaining roads; e) the costs of recovery of disabled heavy equipment; f) operating and maintenance costs of Project vehicles. USAID will initiate PIOs and PILs required to fund these activities, and the Financial Advisor on the TA team will administer the banking arrangements and financial management controls for disbursements and accounting. (Disbursements made prior to the arrival of the TA team, e.g. for rehabilitation of OFNAR buildings and purchase of project vehicles, will be administered directly by USAID officials).

Local currency expenditures of Project funds managed by the host country will be accounted for at the Directorate of Foreign Aid Programming at the Ministry of Plan pending certification of OFNAR's system of accounting. An accountant and his supervisor at the Direction have been trained to account for AID financed local currency expenditures in accordance with 121 (d) certification requirements by the SRFMP/Chad Team Leader. Dual signatory authority on checks for the local currency account will rest with the Directorate of Foreign Aid Programming and with the Director of OFNAR, pending certification of OFNAR's accounting system.

3. Internal and external audits of project financial accounts and procedures will be performed in accordance with provisions in the Project Agreement. (Funding for an external audit during the third year is provided in the budget).

B. Financial Management -GOC

1. Support Resources and Sources

GOC contribution to the Project will amount to approximately

20

ESTIMATED ANNUAL GOC LOCAL COSTS (\$000)
FOR OFNAR OPERATIONS

Table 1

	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Personnel					
Central Services	43	43	43	43	3
Workshop	49	49	49	49	49
N'Djamena Arrondissement	37	4	4	4	4
Sarh Arrondissement	41	41	7	7	7
Maintenance Training Brigade	-	30	30	-	-
Field personnel	-	-	30	60	60
Salary supplement	-	26	26	26	26
Perdiem	29	9	7	7	7
Emergency Services	250	250	250	250	250
SUBTOTAL	449	452	446	446	446
<u>Project Related Recurrent Costs</u>					
Perdiem	-	20	39	39	39
Materials	-	100	200	200	200
Equipment Operation	-	160	433	867	867
SUBTOTAL	-	280	673	1,106	1,106
TOTAL	449	732	1,118	1,552	1,552
Contingencies (15%)	67	110	168	233	233
Inflation (5.0% compounded)	-	42	132	281	385
GOC contribution to recurring costs	-	56	202	444	555
Total GOC contribution	528	634	927	1,402	1,653
Project Contribution to recurring costs	-	224	471	662	551

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\$5.1 million during the life of the Project. Included in this amount are salaries of Chadian personnel, and operating costs to be incurred by OFNAR during the life of the Project (Table 1).

GOC sources for financing these costs include funds received from taxation of imports of ground use petroleum products and direct payroll support from the Central Treasury for salaries of civil servants detailed to OFNAR. The dependability of these resources for OFNAR are largely determined by the tax revenues received (93.6% of OFNAR's 1984 revenues). These are expected to rise, as the impact of reconstruction and economic recovery is reflected in increased petroleum imports.

OFNAR received approximately \$0.87M in revenues from ground use petroleum product taxation during almost eleven months of activity in 1984 (about \$1.0M on an annualized basis). These receipts represented taxation on official imports of ground use petroleum products into Chad. A portion of these imports are exonerated from the tax. This portion represents that used by foreign agencies and by industrial users. In addition to these quantities of ground use petroleum products imported into Chad, an unknown quantity is smuggled into the country. An improvement in tax collection by the GOC customs service would provide an increase in revenues for OFNAR.

The quantity of ground use petroleum products consumed by Chad is a function of economic activity. Political stability and normalization of rainfall are the two variables with the largest impact upon economic improvement. Political stability in the provinces will encourage transport between N'Djamena and these areas as well as between the provinces themselves, thereby increasing demand for ground use petroleum products.

During years of average rainfall Chad has proven itself to have significant agricultural potential. An improvement in climatic conditions conducive to agricultural production will result in increased production and transport of agricultural commodities. This will increase the demand for imported petroleum products. Likewise, however, in periods of severe drought, such as is currently being experienced in Chad, relief efforts require distribution of emergency food stocks to outlying areas which also contributes to demand for ground use petroleum products.

2. Recurrent Costs

OFNAR's annual operating costs will increase greatly during the time frame of the Project. New personnel will be hired and trained while currently disabled equipment is rehabilitated. Increasing numbers of trained technicians and equipment will be added to the operational force each year. Costs of operations will increase accordingly. OFNAR resources to finance its' operational costs will rise as reconstruction and economic recovery progresses, and petroleum imports increase. However the rate of growth of OFNAR operations and operating costs during the initial five years of the Project is expected to exceed the rate of increase in OFNAR revenues by a substantial margin. OFNAR will require support assistance during this period, and at a declining rate, during a second phase period. The amount and duration of this support will depend on the rate and magnitude of economic

recovery and of tax revenues. Without support to finance its operating costs, OFNAR will be unable to make full use of the training and the equipment which the Project provides, and the purpose of the project will not be fully achieved.

Support to OFNAR operations will be limited to specific categories of recurrent costs which relate most directly to expanded road maintenance operations, i.e per diem requirements for road maintenance brigades and work crews; fuel and parts for road maintenance equipment; road maintenance materials (aggregate, culverts, etc); and hand tools and small equipment for work crews.

Agreement has been reached on a formula for increasing OFNAR's absorption of its operating costs, starting with 10% and increasing by 10% per year. By achieving these target amounts, financial assistance will be phased out progressively over ten years. In the event of a poor revenue year which precludes OFNAR meeting its target, contingency funding through the Project will carry them through that particular year. OFNAR will review its revenue situation semi-annually with USAID to evaluate how the formula is working, and to make appropriate adjustments in GOC and USAID contributions.

At the time of regular Project evaluations (during years three and five), OFNAR's progress in financing its' operating costs will be reviewed in depth, as well as the formula for annual increases in OFNAR's contributions. The evaluators will make recommendations for revision of the formula, to maximize OFNAR's contributions. It has been made clear to the GOC that OFNAR's success in meeting its financing obligations will affect the approval of a Phase II Project.

Since the establishment of the current Chadian government in 1982, most Chadian civil servants have been receiving 50 percent of their official salaries. This is due to severe budgetary constraints experienced by the GOC.

Approximately 70 percent of OFNAR's employees are civil servants receiving 50 percent of their official salaries from the Central Treasury of the GOC. In 1985, OFNAR began paying these employees a supplement of 25 percent of their official salaries bringing their total salaries to 75 percent of official amounts.

In order to assure that civil servants are sufficiently motivated and to limit the possibility of dissention between civil servant OFNAR employees and OFNAR contractual employees during the Project, OFNAR will pay an additional 25 percent of official salaries to civil servants. This will bring their salary levels to 100 percent of official levels and roughly in line with OFNAR contractual employees.

3. Financial Controls

a. OFNAR General

OFNAR has only existed since early 1984, and financial management systems are not yet fully established. Project technical

assistance will assist to develop and improve systems of financial controls for OFNAR during the life of the project. In addition, USAID's project portfolio includes the Sahel Regional Financial Management Project which will assure adequate accounting of USAID Project funds by the host country.

b. GOC General Procedures

The Government of Chad is at present maintaining a highly centralized system of contracting, procurement, and disbursing/treasury activities. Due to the GOC's continuing concern with security, decentralization, is neither practical nor possible at this time. Primary rebuilding activities of the central government's administrative capabilities are focused on efforts to improve tax administration and collection. USAID/Chad has begun discussions with top ministry officials on improvement of general and financial management. The interest on the part of the Chadians has been good, and USAID expects to see improvement in this area through assistance and training given by the Sahel Regional Financial Management Project.

In preparing the review of the host country's financial procedures, the following positive activities were noted:

(i) Ministry budgets are currently prepared by each ministry and approved by an interministerial committee.

(ii) Budgetary account control and voucher examination is performed by the Ministry of Finance. Procedures used for voucher review are judged to be adequate in all areas except receiving and inventory. The GOC does not keep centralized records of its total assets by ministry. Some ministries are able to produce equipment lists while others are not yet organized or adequately staffed to produce documentation of this type. All USAID projects receiving 121 (d) certification will have trained staff available to insure proper inventory control.

(iii) All commitment documents are received and pre-validated by the Ministry of Finance for fund availability. Commitment documents are ratified by each implementing agencies' authorized officer.

(iv) Commodity procurement is advertised over the radio or through the local newspaper. Bids are received and reviewed by the implementing agency. Very little procurement of this type has taken place since the beginning of the Chadian civil war in 1980.

c. OFNAR Contributions to Recurrent Costs

OFNAR's contribution to recurrent costs related to the Project will amount to \$1.3 million during the life of the Project. Project assistance for these costs will be \$2.3 million during this period. OFNAR will absorb recurrent costs at an increasing percentage over ten years by which time OFNAR will be totally financing these costs (See section II-C-2).

Contributions to a recurrent cost fund will be made on a quarterly basis with quarterly reports of bank reconciliations being supplied to the USAID Controller. The controller will use these reports combined with bank statements to assure receipts of contributions. Contributions will be made into the account within 6 days of the end of the quarter. Contributions will be deposited in a segregated account for which the OFNAR Director and OFNAR controller will have signatory authority.

Payments from the account will follow a quarterly budget approved by the USAID controller. The controller will assure, by approving the budget and reviewing quarterly expenditure reports, that the funds were applied to project-related recurrent costs.

d. Project Support of Project-Related Recurrent Costs

The defined contributions that OFNAR will make toward support of recurrent costs are not expected to cover all project-related recurrent costs until ten years after project startup or 1995. In the interim period project funds have been budgeted to cover the expected shortfalls. Use of these funds will require financial controls that satisfy 121 (d) certification requirements.

For these expenditures, retrospective payment mechanisms will be applied. Expenditures made using the recurrent costs fund of OFNAR will be reimbursed by Project funds budgeted for these recurrent costs. The Director of Programming and Foreign Aid at the Ministry of Plan, who is responsible for directing use of such funds, will approve justifying documentation and cosign checks for reimbursement with project funds. The other signatory on the checks will be the Director of OFNAR. Reporting processes for use of these funds will follow those already established at the Ministry of Plan.

Expenditures of Project funds for project-related recurrent costs will be accounted for in three journals. A journal of receipts and disbursements will record all transactions approved for disbursements. A budgetary control ledger will assure control over budget allocations, and a donor receivable account will maintain control of advances against committed funds. Accounts for the funds will include maintenance of audit trails to justify documentation for each transaction registered. Project-related recurrent costs to which the Project recurrent cost fund will be applied include per diem for road maintenance, brigades and work crews, road maintenance materials, and operation of equipment. Budgets for disbursements of the Project recurrent cost fund will constitute the balance of recurrent costs remaining after OFNAR's contribution to project-related recurrent costs.

C. Project Cost

The project costs are best presented graphically, and appear in Tables 1 - 3, which follow.

TABLE 2

SUMMARY COST ESTIMATE AND FINANCIAL PLAN
(US \$ 000)

	<u>FX</u>	<u>AID</u>	<u>LC</u>	<u>GOC</u> <u>LC</u>
Technical Assistance/Training	6704	175		
Commodities	2750	2205		
Road and Facilities Rehabilitation		5960		
Project-related OFNAR Recur. Costs (PRCC)		2300		1254
Other Costs GOC				2239
Other Costs- Project		1745		
Contingencies @ 10%	1540	1736		811
Inflation @ 5% compounded	1121	1264		840
Total	<u>12,115</u>	<u>15,385</u>		<u>5144</u>

FX : Foreign Exchange (\$US)

LC : Local Currency (CFA) \$US equivalent at 450 CFA = \$1.

TABLE 3

PROJECTION OF EXPENDITURES BY FISCAL YEAR

(US \$000)

<u>Fiscal Year</u>	<u>AID</u>	<u>GOC</u>
1985	4000	528
1986	7000	634
1987	7700	927
1988	5900	1402
1989	2900	1653
Total	<u>27500</u>	<u>5144</u>

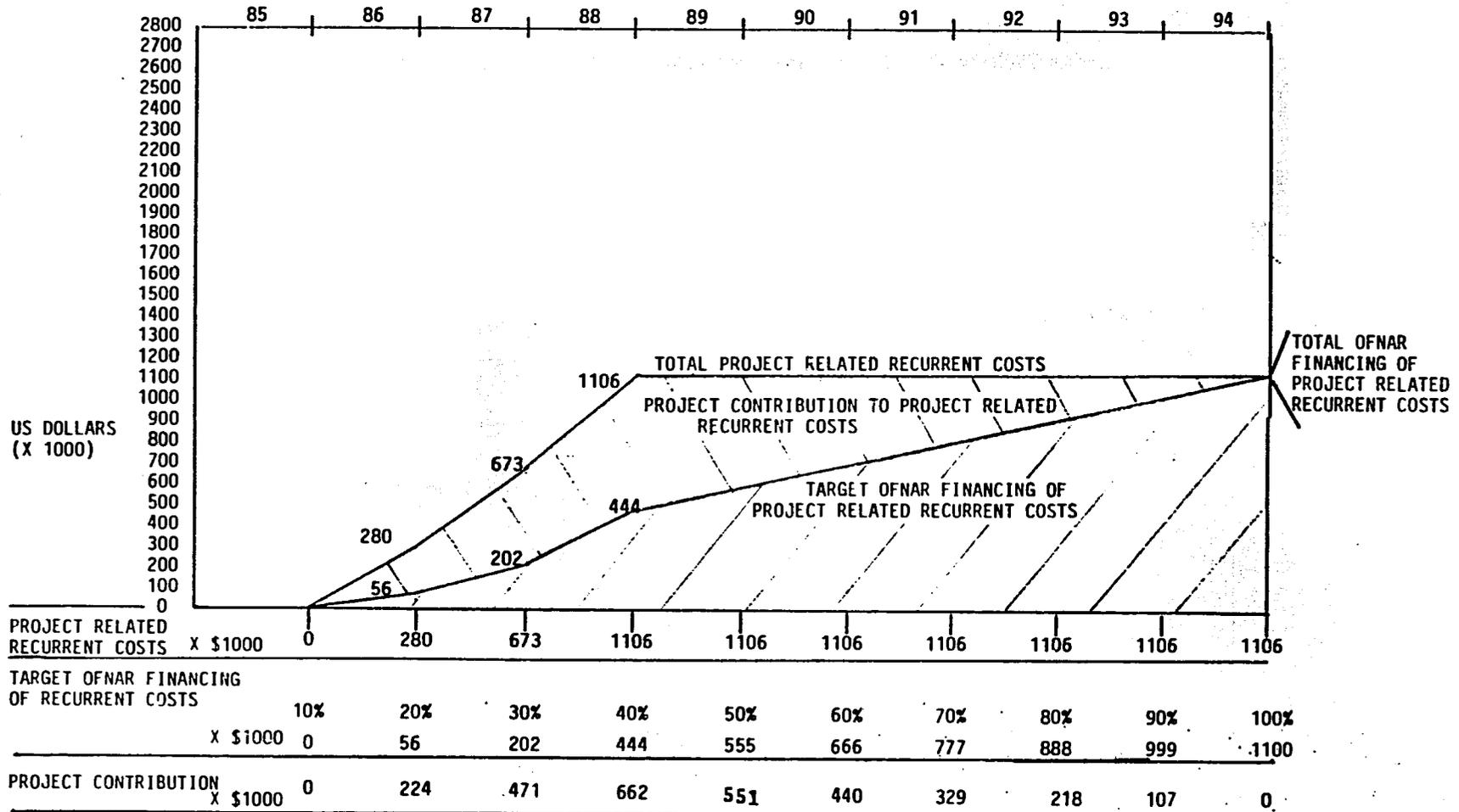
TABLE 4

ESTIMATED ANNUAL DISBURSEMENT OF AID FUNDS BY ACTIVITY (\$ 000)

Inputs	1st Year	2nd Year	3rd Year	4th Year	5th Year		Total
<u>Technical Assistance</u>							
DOT PASA	142	212	221	212	133	FX	920
TA Contract	674	1544	1689	1178	201	FX	5286
Short Term	50	50	50	50	25	FX	225
<u>Commodities</u>							
Heavy Equipment	1550	250	50	-	-	FX	1850
Light Vehicles	175	-	-	30	-	LC	205
Machine & Hand Tools	300	200	-	-	-	FX	500
Recovery Spare Parts	150	150	-	-	-	FX	300
Road Maint. Materials	-	200	600	500	600	LC	2000
Furnishings & Equip	100	-	-	-	-	FX	100
<u>Contractor Services</u>							
Buildings Rehab.	150	-	-	-	-	LC	150
Road Rehabilitation	-	2000	2000	1510	-	LC	5510
Equipment Recovery	150	150	-	-	-	LC	300
<u>Other Costs</u>							
Admin. Support Services	8	33	33	33	16	FX	123
Rent and Utilities	9	36	36	36	18	LC	135
Training	10	10	10	10	-	LC	40
Vehicle O&M	5	60	60	60	60	LC	245
Trng Brigade Equip O&M	-	650	650	-	-	LC	1300
Hvy Equipment Transport	-	100	100	-	-	LC	200
Other Equip Operations	-	100	500	700	1000	LC	2300
Evaluations and Audits	-	-	75	-	75	FX	150
Subtotals	3473	5745	6074	4419	2128		21839
Contingencies (15%)	521	862	911	663	319		3276
Inflation (5% compounded 0,.0500,.1025,.1576,.2155)	-	330	716	801	538		2385
GRAND TOTAL	3994	6937	7701	5883	2985		27500

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FIGURE 1
 OFNAR FINANCING OF PROJECT RELATED RECURRENT COSTS



III. IMPLEMENTATION PLAN

A. Summary of Implementation Actions

The TA inputs to the project are the most critical of the initial 1985 implementation actions, to ensure expeditious arrival of the expatriates, while at the same time dictating the necessity of making certain that the physical plant (housing, office space, and equipment) is as ready as possible when they arrive.

REDSO will take the lead in the procurement of the private sector consulting services. The advertisement for U.S. firms interested in the consulting service contract will be issued even as the Project Authorization is being sought, with the terms of reference simultaneously being finalized for the request for proposals (RFP), to be issued to short listed firms in the latter part of May. A mandatory pre-proposal conference will be held for the firms in N'djamena after they have had at least 2 weeks to review the RFP. The evaluation of the proposals will be simultaneously done by USAID and REDSO, using identical evaluation criteria, and the contract negotiated and signed by REDSO, probably in August.

In the meantime, while the above terms of reference are being prepared by REDSO staff, the scope of services required of the DOT personnel will be finalized to support the PIO/T for the PASA, to be executed by AID/W staff. This work should be completed in time to allow early mobilization of DOT personnel, in October, at about the same time the Chief of Party of the U.S. consulting firm first goes to Chad.

These TA inputs will be supported by certain USAID actions that take place concurrently with the service procurement actions described above. Considerable effort on the part of the USAID Executive Office will be made, to negotiate and execute the small contracts needed to rehabilitate certain OFNAR shop and office buildings; secure housing for all eleven expatriates; and procure project vehicles per specifications of Annex X-8, so that delivery can take place in December. The execution of the rehabilitation work on the offices and housing will be supervised and monitored by USAID staff presently assigned. The Project Manager, scheduled to arrive at Post in September, will take over from the Project Development Officer, who will act for him on most of these matters.

OFNAR is presently receiving interim technical assistance via a separate AID-funded project (677-0041.3) in the form of two technical persons working with OFNAR on AID-financed PSC contracts for shop operations and supply management services. With these resources, augmented by REDSO inputs, the USAID will initiate procurement of shop tools and equipment, and vehicles and equipment for the training brigade (Annex X-6-I). An additional DOT engineer is scheduled to arrive in Chad in April for a six-month period to advise OFNAR's Director until the long-term DOT team can be mobilized.

REDSO will assist the USAID in implementing the disabled equipment recovery program. This will be a two-phase host country contracted effort, using the Caterpillar dealer capability in Douala, and N'djamena. Phase one will be a survey of all Caterpillar equipment, to determine for each piece a course of action to take to either scrap it, or restore it to service. When this is complete, the N'djamena dealer, supported by the regional Caterpillar

dealer in Douala, will carry out the repairs recommended in phase one, as approved by AID and OFNAR. The repairs will take place in the dealer shop facilities, supported by equipment, parts and other materials mobilized there by Douala Caterpillar dealership. Thus phase two will clean up the present deadlined Caterpillar equipment inventory, and at the same time result in rejuvenation of the Chad Caterpillar dealer facility.

1986 will be the year that personnel mobilization is completed, and project equipment assets arrive, or are restored to use. Thus, the Training Brigade and shop training operations will occupy the attention of the Project personnel, both expatriate and Chadian.

The first Road Brigade training cycle will begin in 1986, and be followed by the second cycle in 1987 (see discussion in V-5a and Annex X-6-I). Central workshop personnel on-the-job training (OJT) will commence immediately upon the arrival of expatriate supervisory personnel. To the extent it can be, training of OFNAR shop personnel will be integrated with the equipment recovery program contracted to Caterpillar. The OJT program in the shop will be continued for about two years, with shop tools and equipment arriving in early 1986.

Concurrent with the training efforts described above, the engineering design of the Djermaya-Dandi road will be reviewed once again, this time by OFNAR and expatriate staff, and turned over to Public Works contracting authority for procurement of private sector construction services. This host country construction contract will allow qualified non-U.S. firms, including Chadian firms, to participate in the bidding. The Public Works will be assisted by the USAID Project Manager, backed up by REDSO engineering and legal advisors, to advertise, prequalify bidders, call for tenders, evaluate and award a contract acceptable to AID and OFNAR.

The OFNAR expatriate Field Engineer will be the central figure in the supervision of the private sector construction contractor. He and his staff will monitor and supervise the construction, taking the measurements needed to process the contractors bills and administratively certify for payment.

Implementation inputs from social scientists under consulting service AID direct contracts will be made during three different times: early 1986, and 1987, as well as in the final, fifth year of the project (see discussion in V-C and Annex X-6-C). This will require a PIO/T from USAID, and backup support from AFR/PD/SWAP.

Project evaluations will be carried out in July 1987, and July 1989, the results of which should prove helpful in any consideration of follow-on project inputs from AID (see VII).

See Annex X-7 for a complete detail of implementation actions, presented in Gant chart format.

B. Implementation Responsibilities The following describes the assigned agency responsibilities for each major activity of the project implementation phase:

1. AID Responsibilities

- a. Normal project management and monitoring.
- b. Contracting actions (service procurement and administration):
 - o TA contract (nine expatriates) - REDSO.
 - o PASA with DOT (two expatriates) - AID/W.
 - o OFNAR shop and office buildings restoration - USAID.
 - o Housing leases and utilities for DOT expats - USAID.
 - o Contracts for short term consulting services - USAID.
 - o Contracts for evaluation services - USAID.
- c. Procurement:
 - o 12 Project Vehicles - USAID.
 - o Training Brigade Equipment and Vehicles - USAID and REDSO.
 - o Shop tools and equipment - USAID and REDSO.
 - o Surveying and soil testing equipment - USAID with interim TA team.
- d. Organization of project evaluations and audits - USAID.

2. Technical Assistance Contractor Responsibilities

- a. Furnish nine expatriates.
- b. Project financial management:
 - o Direct control of specific expenditure (US inputs).
 - o Joint control (with OFNAR Controller) of US funds.
 - o Advise OFNAR on procedures used to account for local currency expenditures.
- c. Technical support to GOC in contracting for rehabilitation of Djermaya-Dandi road, particularly on preparation of bid documents and construction specifications, contractor prequalification, bid analysis and award, and construction inspection and supervision of contractor execution of the works.

3. Department of Transportation responsibilities

- a. Provide two highly qualified USG personnel to serve in Chad as advisors to OFNAR in the field of national road system maintenance planning and operations.
- b. As requested by GOC, provide advice to the Ministry of Public Works on such transportation matters as may arise.

4. Government of Chad Responsibilities

- a. Financial management and control of GOC and Project funding of Project local cost elements (salaries of OFNAR personnel

receiving training, etc.).

- b. Employment and/or assignment of OFNAR personnel to Road Maintenance Training Brigade; to OFNAR Central Workshops; and to the road rehabilitation contract.
- c. Selection and reassignment of OFNAR personnel, after training, to OFNAR operational functions, as appropriate.
- d. Negotiation, execution and administration of a contract acceptable to AID with the local Caterpillar dealer for the Caterpillar equipment recovery program.
- e. Preparation, execution and management of the contract for rehabilitation of the Djermaya-Dandi Road.
- f. Participation in Project evaluations.

IV MONITORING PLAN

Primary responsibility for the USAID role in project implementation will be vested in the USAID direct hire engineer, who will be the Project Manager. A candidate for this position has been nominated and accepted by USAID. The Project Manager is currently in French language training, and is expected at post in September. Until his arrival, the Project Development Officer will serve as temporary Project Manager. The Project Manager will report to the AID Representative and will be assisted by a contract engineer who is already on board, and who participated in this project design.

The Project Manager will: a) coordinate with the senior DOT advisor and the TA contract Chief of Party to keep abreast of the project status, to identify impending problems, and to coordinate corrective action to minimize delays in project implementation and maximize project benefits; b) establish suitable reporting systems to identify progress and problems in implementation; c) keep the AID Representative and other members of the USAID staff apprised of the status of project implementation; d) facilitate the resolution of problems by offering advice and assistance to the senior DOT advisor and the Chief of Party, seeking special assistance from other USAID officials or REDSO specialists when circumstances warrant; e) evaluate contract and PASA performance on a regular basis, and; f) certify as to the adequacy of performance in recommending periodic reimbursements to organizations for services rendered by them.

The Program Officer, Project Development Officer and Controller will assist the Project Manager in monitoring implementation, financial management, project evaluations and audits. The Executive Officer will provide administrative support services.

Project implementation actions to be taken in advance of the arrival of DOT and TA contract personnel will be initiated and coordinated by the interim Project Manager and the monitoring team. These early actions are important in

substance and timing (see section III - Implementation Plan and Annex X-7). The monitoring team also will be concerned with interim activities of USAID with OFNAR.

V. PROJECT ANALYSES

A. Technical Analysis

There are four broad areas of activity in the Project requiring various types of assistance inputs in order to meet Project objectives:

- o Provision of approximately 28 person-years of technical and managerial assistance to OFNAR for its organization, mobilization and conduct of highway department type operations throughout the life of project;
- o Recommissioning and improvement of the existing central workshop complex;
- o Organization, staffing and operation of a field-based maintenance training brigade;
- o Rehabilitation of the Djermaya-Dandi road in the N'djamena District.

A summary discussion of each of these follows. The reader is referred to Annex X-6-I for a more detailed treatment of the subject.

1. Technical and Managerial Assistance

Individual job descriptions for the various members of the technical assistance team appear in Annex X-6-I. They include both advisors and supervisory personnel at various upper and mid-level positions within OFNAR.

The advisors include a senior engineer advisor to the Director of OFNAR, a financial advisor to the Chief Accountant of OFNAR, a planning engineer advisor to the Planning Division of OFNAR, and a field engineer giving technical advice to the Chief of the N'Djamena Subdivision.

Expatriates occupy several critical positions in a supervisory capacity, where they bear full responsibility for OFNAR operations. The field engineer advisor to the N'djamena Subdivision has supervisory responsibility for the overall operation of the OFNAR Maintenance Training Brigade. Here he will be assisted by two supervisory operations and maintenance technicians one of whom will be the brigade foreman, the other a heavy equipment maintenance foreman. These two persons will direct all field activities of the Maintenance Training Brigade, receiving general direction from the field engineer.

Because of his field orientation, the field engineer will be responsible for overall supervision of contracted construction services, e.g. the rehabilitation work on the Djermaya-Dandi road.

The supervisory personnel in the mechanical area include five foreman-level experts, one of whom will serve as general shop superintendent in OFNAR's Equipment Maintenance Division. The remaining four will each exercise general supervision of specialized mechanical maintenance and repair and part logistical activities in the Central Workshop.

The three advisory personnel will serve for the duration of the project. The supervisory personnel in the Central Shop and the Maintenance Training Brigade will be phased out earlier as their GCC counterparts reach a sufficient level of competency which will allow them to safely assume the responsibilities of the position.

2. Equipment Maintenance Division

There are three existing buildings which, upon rehabilitation, will serve as additional repair facilities, classrooms, spare parts storage facilities, and administrative offices. These buildings, together with the currently operating heavy equipment garage, will house the entire Equipment Maintenance Division and also will provide additional office space for OFNAR administrative functions. The engineer's estimate for rehabilitation of these buildings is \$150,000. The rehabilitation will be done by Chadian private building contractors competitively selected by USAID using AID contract procedures, immediately upon authorization of the project. The work can be completed within a few months thereby allowing occupancy well within the first year of the Project.

The Project is designed to re-establish an appropriate level of equipment repair capability in OFNAR's Equipment Maintenance Division, supplemented by private sector facilities. While private sector repair facilities in Chad are minimal at present, the Project intends to encourage, to the maximum extent possible, the re-establishment of the various equipment dealer's capabilities. This requires careful design of the OFNAR maintenance system, so that it can meet its immediate needs while at the same time not frustrating the private sector opportunity to participate. The tools and equipment to be provided to the OFNAR central workshops will be adequate for the level of maintenance and repair expected to be done. Major engine repairs, some drive train components and complex accessory rebuilding will be done under host country contract with the private sector as soon as that capability exists. These contracts will be developed by OFNAR, using the expatriate staff, with REDSO assistance as required.

The specific listing of tools and equipment to be furnished to OFNAR by the project are being developed by an interim contract expatriate shop foreman and a contract parts specialist who were hired by USAID/Chad under separate project funding. The listing will be complete by April 1985 for AID and OFNAR review. Procurement will be done by AID/W, with REDSO support, prior to arrival of the expatriate team. The project budget includes \$300,000 for this activity.

The management of the Equipment Maintenance Division will be under the direction of an expatriate shop superintendent. He will directly supervise four specialized expatriate foremen and Chadian personnel in shop

activities. These expatriates will be furnished under the TA contract which will be developed and monitored by REDSO (see section III). The expatriates will report for duty when the shop buildings are ready for occupancy and the shop tools and equipment have been purchased and delivered in N'Djamena. The services of the specialized foremen will be phased out as soon as possible, based on periodic evaluation of GOC counterpart staff training progress. For budget planning purposes, none of these expatriates are scheduled to leave prior to the end of the third year of the contract.

While the shop superintendant will receive his instructions from the Director of OFNAR and his deputy, he will be fully capable of managing the shops in a professional manner and will require a minimum of direct supervision.

3. Maintenance Training Brigade Organization and Management

The Project provides for the establishment of a Maintenance Training Brigade within the N'Djamena subdivision of OFNAR. It will be managed by the expatriate field engineer, assisted by the two expatriate brigade foremen for operations and maintenance.

The brigade equipment spread was developed contemplating all of the routine maintenance activities that might reasonably be expected of OFNAR, as well as those activities currently required that fall in the major road repair category. Until the road maintenance situation in Chad is normalized by gradually catching up on long-deferred maintenance, the repair work engaged in will be somewhat beyond the scope of work that constitutes normal road maintenance. Items included in the brigade equipment, such as the bulldozer, wedge-foot roller, backhoe attachment and travel mixer are intended to meet these somewhat heavier work requirements. In addition, to allow it to function as a unit, deployed in the more remote areas of the N'djamena District, the brigade will have equipment transport and field maintenance capability which will not be the case for a normalized road maintenance unit. When these items are no longer heavily needed in the field, they will be pooled at OFNAR central facilities. The Project budget includes \$1,600,000 for equipment for the training brigade and \$650,000 per year for its operation in each of two years.

During the Phase I project life not less than two brigades will be trained. Some trainees will require more or less training time than others. As individual training is completed, each Chadian trainee will be reassigned by OFNAR to an operational maintenance unit within the nationwide scope of OFNAR operations. The number of technicians to be trained has been determined on the basis of road maintenance requirements, equipment availability and the absorptive capacity of OFNAR. Some additional training will be required after the Phase I Project.

The operational road maintenance units of OFNAR, to be deployed at subdivision level throughout the country will be considerably smaller than the training brigade in both equipment volume and personnel assignments. These small units will form the backbone of OFNAR road maintenance capability; each will be responsible for the continuous maintenance of some 200 km of

established road. They will consist of simply a motor grader, two or three dump trucks and a wheel loader, a rubber-tyred compactor and a water truck. This will allow continual light maintenance work consisting of grading, reshaping and compacting the road surface, and shoulder maintenance. The equipment for these units will be mostly rehabilitated equipment and equipment from other donors. The project budget includes \$800,000 for recovery of existing OFNAR equipment.

4. Rehabilitation of the Djermaya-Dandi Road

The PID included a discussion of several candidate roads for reconstruction, one of which has been selected: the Djermaya-Dandi Road. Two studies have been completed for this road. A feasibility study by the Bureau Central d'Etudes pour les Equipements d'Outre Mer (BCEOM) was completed in 1970. Preliminary Engineering studies were completed by Gannett Fleming, Corddry, and Carpenter, Inc (GFCC) in 1980 for the African Development Bank. The GFCC engineering design is sufficient to allow reasonably firm cost estimates, and to be used in the preparation of contract bid documents for host country contracted road construction services.

The road, estimated to cost \$5.5M, is very straightforward and technically uncomplicated. The embankment geometry is simple and uniform, and the construction effort per unit of length is virtually constant which will allow simple contractor payment methods to be employed. Drainage structures will be conventional pipe or box culverts, and in **** one **** instance, will take the form of a submersible roadway, designed to withstand flooding during low frequency storms. The construction will be accomplished by a host country contract with a private sector construction company. The technical specifications of the bid documents will be prepared by OFNAR and incorporated with the bid form and general conditions for the call for tenders done by the Contracts Office of Publics Works. The executed contract agreement will be administered by OFNAR with the expatriate field engineer and his staff responsible for contractor supervision.

The size of the contract, the remoteness of the worksite, and the Francophone environment is expected to produce an unresponsive bid situation if the procurement were to be carried out under a strict triple-zero source-origin geographic code. In the interest of avoiding that, and insure undertaking the work in a timely manner at reasonable cost, source and origin will be waived to geographic code 935 to allow non-U.S. firms, including Chadian firms, to bid if qualified. Several French and West German firms are mobilized in the area on similar construction projects being funded by other donors. Examination of the recent bids for those works reveals very competitive pricing, and interviews with these contractor's representatives indicated that the firms are highly qualified construction companies.

The road will not be paved. However, a crushed rock surface will be placed upon the road, using rock from the quarry at Dandi, which, as it's name reveals, is in the road project area. The Dandi quarry will be returned to service in 1986, and it is expected that expatriate assistance for its operation will be furnished by another donor, thus giving some assurance of adequate quarry production.

5. Standardization of Equipment

The existing equipment resources of OFNAR present opportunities to realize project benefits in operator and mechanic training, spare parts inventory reduction, equipment maintenance cost savings and shortened procurement lead time. Capitalized on at the outset, these benefits can have continuing beneficial impact throughout the life of the project.

Of the 157 significant equipment items presently in OFNAR inventory, 36 percent (56 items), support the objective of primary standardization: light vehicles (Peugeot), crawler tractors (Caterpillar), and motor graders (Caterpillar).

The population of 64 medium/heavy trucks presents a somewhat different picture. The largest member of single manufacture trucks is Berliet, which constitutes 45 percent of the truck inventory, a significant, but insufficient fraction to support standardization on Berliet. Rather than attempt to use other than competitive procurement, and purchase a particular make and model, we intend to procure trucks from either Mercedes Benz (23 percent of present inventory) or Berliet (45 percent) by limiting competition to the two manufacturers and awarding on the basis of price. The standard question could be reconsidered for any subsequent truck procurement, on the basis of the new distribution of truck manufacturers in the OFNAR fleet after this Project purchase.

Once a standardization position is established for a particular type of equipment, further procurement of that type of equipment will be allowed only from the eligible manufacturer to enhance the benefits accruing to the project.

B. Economic Analysis

1. General

Creation of an institutional capability to maintain the Chadian road system in good repair at reasonable cost is the principal objective of the Project, to be attained through technical assistance and training. The Project represents the least cost solution to the problem. In the short-run, the project will have its greatest impact on the N'Djamena Subdivision, where operations of the Training Brigade and residual heavy maintenance equipment in smaller maintenance units will be localized. By the third year of the project, some 1,600 km of earth roads and tracks will be maintained, at an average cost of \$625 per kilometer per year, equivalent. In the longer term the technical assistance and management direction provided at OFNAR headquarters in N'Djamena will be reflected in improved road conditions throughout the country.

Adequate roads for the movement of commodities and passengers are a catalytic agent essential to the reconstruction of the Chadian economy. Given adequate rainfall, all-weather service at reasonable tariffs will encourage

agricultural production and trade. In the interim, inland transportation of food relief shipments will be facilitated on the Project road, which serves a drought refugee resettlement area, and on other roads, which are better maintained as a consequence of the Project.

In anticipation of increased economic activity as the severity of the drought declines, improvement and maintenance of the principal routes to markets are likely to be the most attractive investments of scarce resources. Additional unquantifiable benefits will derive from better access to administrative centers and health facilities and from the facilitation of government services to outlying prefectures.

2. Technical Assistance and Training

a. Benefits to the National Economy

Short-run benefits of the Project are localized in the N'Djamena Subdivision, chosen to achieve maximum impact and demonstration effect for replication in other geographic areas of the country.

Concurrently, the management advisory services provided to the direction of OFNAR and its planning and accounting offices have immediate national implications in terms of conserving the existing road network.

Retention of present roads and improvement of the network will, in the short run, facilitate the delivery of emergency food aid to displaced populations. Given adequate rainfall, improved road service will in the longer term, stimulate agricultural production for domestic commerce, and movement toward self-sufficiency in food production. Reduced vehicle operating costs will facilitate this development.

b. Alternative Approaches and Relative Costs

The training and technical assistance element of the Project represents the Project's greatest expenditure. Alternative approaches considered were the following:

(i) In-service training in Chad: Selected as the most appropriate and least cost alternative;

(ii) Formal training in Chad: Some formal mechanics' training will be provided by the technical assistance team at the Central Workshops, N'Djamena, complementing in-service training in the shop.

(iii) Formal training in African training schools: Some training outside Chad may be appropriate. More expensive than local training, it is less costly than training in Europe or in the United States. Technical training in the French language is more readily available in Africa than elsewhere.

(iv) Advanced technical training vs. hands-on vocational level training: University level training was found both costly and inappropriate. OFNAR top management already has theoretical training but lacks management experience. Equipment operators and mechanics need practical experience in the utilization and maintenance of heavy equipment, and with close supervision, this can best be provided on the job.

(v) Technical Advisors; number: Because the complete scope of OFNAR functions must be addressed, a sizeable TA team (11 technicians) will be provided. They will be geographically concentrated in N'Djamena Subdivision, in the Central Workshop and in OFNAR headquarters for maximum effectiveness and logistic efficiency. While the costs of such a sizeable team are substantial, anything less would be inappropriate in view of the need for training in all aspects of highway maintenance.

(vi) Technical Advisors; responsibility: Eight of the eleven advisors will have direct management responsibility for OFNAR operations at the Central Workshops and brigade level. Four expatriates will serve in role to staff positions as advisors to the Director of OFNAR, the Planning Office, the N'Djamena Subdivision and the Accounting Department.

(vii) Geographic Concentration: One subdivision, N'Djamena, and OFNAR headquarters in N'Djamena were chosen for the concentration of technical assistance and training. This concentration will maximize its efficiency. It will also permit other donors to finance discrete regional operations of OFNAR other than the N'Djamena Subdivision.

c. Selected Alternative

The combination of training alternatives selected is that which meets all technical assistance and training requirements of OFNAR at least cost. Technical assistance and training varied from an estimated cost of \$4,245,000 to the selected \$1,100,000 alternative. Specifics concerning each alternative program analysed, the pros and cons of each approach and its total estimated cost are contained in Annex X-6-II, Section D.

3. Road Improvement

Included in the Project budget are funds for the rehabilitation of the 63-km Djermaya-Dandi Road, which serves the south shore of Lake Chad and the east bank of the Chari River roughly between N'Djamena and the Lake.

Of available candidate roads this route met USAID preliminary and secondary selection criteria and offered the best prospects for maximizing benefits accruing to the national economy. As a consequence it was selected for rehabilitation.

Its upgrading under private contract provides training to Public Works in contracting procedures and to OFNAR in contractor performance supervision. It will facilitate the resettlement of displaced people,

stimulate irrigation and multicrop foodgrain production and support a quarry operation (the Dandi quarry which is being restored to production under financing provided from PL 480, Title II sales proceeds).

The economic feasibility of improving the Djermaya-Dandi Road to all-weather standards rests upon the formulation by GOC and the donor community of a comprehensive plan for development of the area taking into account these factors. With such a plan, projections can be made of the future need for road improvements in the area and of the expected impact of an improved road on the economy. The nature of an appropriate road investment and its relative economic feasibility can then be determined. (See Annex X-6-II, Sect B.5 for discussion).

4. The Capital-Labor Mix for Road Maintenance

A capital-intensive mix of labor and capital has been prescribed for the Training Brigade, which is the medium for: i) training each heavy equipment operator-trainee in the operation of several types of equipment; ii) teaching operator trainees and future brigade foremen how to function as a coordinated unit; and iii) in the course of training, maintaining 800 km of road annually.

The Training Brigade is not a model for direct replication in the subdivisions, but an appropriate training mechanism. Upon matriculation from the Brigade, personnel will be assigned to small road maintenance units at the subdivision or sector level.

The rationale for forming a capital-intensive Training Brigade in the presence of high unemployment is as follows:

- a) Some road maintenance functions are best performed for capital-intensive means - compaction and reprofiling in particular. It is technically unfeasible to do this work with hand labor.
- b) The management of labor gangs is in a number of ways more complex and demanding than equipment operation. This should best be left for the time that OFNAR is "up and operating" and capable of organizing and supervising such an operation.
- c) The road system was not maintained for over 10 years and consequently is in severely deteriorated condition. An initially capital-intensive approach to maintenance will bring the roads up to standard more quickly than would hand labor.
- d) New equipment was prescribed for the Training Brigade to minimize time-consuming breakdowns which would cripple the Brigade and reduce training effectiveness.
- e) A decision was made to rehabilitate salvable OFNAR heavy equipment - some of which may require only minor repairs - because it constitutes a valuable resource. The availability of this restored equipment tends to foster a capital-intensive mix. Initially, the

Project will create limited employment of unskilled workers. A rotating complement of about 75 hand laborers will be hired from roadside villages at a daily wage of approximately CFA 700 (U.S. \$1.56).

In the second year of the Project, with the TA team in place and OFNAR staffed and operating it will be appropriate to consider a more labor-intensive approach to road maintenance, particularly on the more traveled roads in areas of relatively high population density, where unskilled labor will be readily available. Plans to move in that direction should be formulated and implemented.

C. Socio-Cultural Analysis

The need to reinstate maintenance on the Chadian national road network, after ten years of neglect due to both war and drought, will be addressed by the Project. The capacities of OFNAR in planning, administration, and technical operations will be developed with U. S. technical assistance, urgency of need dictating first strategies. This same urgency precludes complete consideration of socio-economic factors and the analyses which have been done are admittedly limited assessments and recommendations for future action. Unusual circumstances in Chad emphasize the pressing need to establish an efficient road maintenance entity (OFNAR) and to begin work at once on road maintenance. To move quickly in this regard, certain TA team members initially will assume "full operational responsibility" in OFNAR. This places an unusual burden of social management upon Chadian and American counterparts and calls for careful managerial attention to assure that the Project runs smoothly and achieves its intended purposes.

Socio-cultural factors must be considered in prioritizing roads for improved maintenance. Two Chadian sociologists currently assigned to Public Works should become involved in assisting road planners. Funds are provided in the Project for an American social scientist to visit Chad on short-term consultancies, the first of these, early in the implementation, to help organize a system of socio-cultural analysis of road impact areas. The consultant and TP sociologists would work with the OFNAR planning engineer and his advisor, organizing and conducting field surveys with regard to the growth of the local transport sector, possibilities for cantonnage maintenance, etc. The need and timing of subsequent short-term consultancy assistance would be determined during the initial visit of the American social scientist, taking into consideration the degree to which the Chadians can perform field surveys and analyses on their own, the timing of work schedules for rehabilitation of the Djermaya-Dandi road, and the timing of Project evaluations. Project funding is sufficient to cover up to one consultancy per year. The outcome will be an improvement in the "present crisis strategy" as the Project begins, to careful analysis of socio-cultural factors. This will contribute to the institution building within OFNAR, as the consultant helps Chadian counterparts to learn the purposes and methods of applied social science.

Finally, the Project social scientists will assist OFNAR, Public Works, USAID and the GOC to assure that the rehabilitation of chosen roads provides the catalyst for a coordinated development strategy: in the course of identifying socio-cultural factors which affect road prioritization,

information will be gathered and ideas generated which will be of use to planners from other ministries and agencies in health, education, agriculture and other sectors.

In Annex X-6-III, appropriateness of the Project with regard to institution-building within OFNAR and to the choice of the Djermaya-Dandi road is discussed. The latter rehabilitation project exemplifies the benefits of the project more generally: residents of the area of influence of the road include people exploiting ancestral lands, as well as thousands of drought-related displaced persons, the majority of whom will probably settle there permanently. An opportunity exists to initiate coordinated development of a region of important agricultural and animal resources, with the road as a significant developmental element.

D. Institutional Development Through Training

1. Urgency of Need

OFNAR was established about a year ago by governmental decree (See Annex X-6-IV) in response to a critical urgency to quickly and effectively halt deterioration of Chad's national road network. OFNAR has been provided extraordinary control over its major funding source (see Section II C) to help assure an operational funding base. It has been given special organizational status outside the usual bureaucratic constraints of governmental agencies, to facilitate staffing, personnel management and operational activities. OFNAR was established to become a special rapid response mechanism, and its special organizational advantages should facilitate this purpose.

However, in order to become fully capable to perform its functions, OFNAR requires training and upgrading of skills levels of its personnel as well as operational support assistance during its formative period. AID is addressing these needs through this project assistance, and the GOC has endorsed and is depending on this Project assistance to make OFNAR fully and quickly operational.

2. The Measure of the Need

a. As currently structured (see Organizational Chart Figure II) OFNAR has two major functional entities which are the heart of its road maintenance activities: a road maintenance function and a Central Workshops function. Ultimately the plan is to develop effective satellite entities around the country, but currently these are in skeleton form or are not yet established. Initially, the Project will develop OFNAR's Central Workshops and its field maintenance capability to work on roads in the proximity of N'Djamena (N'Djamena Subdivision).

Supporting and administering the road maintenance and workshop activities are central line and staff functional offices, including superintendents and directors, a planning office, an inspection office, a finance office and an administrative services office.

b. The Project addresses skill deficits at all levels of the OFNAR organization. Several officials and technicians already assigned to the organization have in the past received various types and degrees of training and experience, but have been unable to apply their professional and technical skills for a number of years. An effective road maintenance program was curtailed during the lengthy period of hostilities. Therefore, these persons will require some refresher training, skills upgrading and practical experience in order to fully perform their functions. Additionally, since its inception, OFNAR has employed a number of lesser-trained personnel who will need to be upgraded to functional capability.

The Project will provide practical on-the-job training and experience to the following individuals during the five-year first phase:

- 2 Field Engineers
- 2 Road Maintenance Foremen
- 2 Equipment Foremen
- 2 Labor Foremen
- 42 Equipment Operators
- 10 Field Mechanics
- 5 Field Maintenance Clerical personnel
- 1 Central Workshop Superintendent
- 1 Engine Mechanics Foreman
- 10 Engine Mechanics
- 1 Spare Parts Foreman
- 10 Spare Parts Specialists
- 10 Machinist Foreman
- 5 Machinists
- 1 Service Foreman
- 10 Equip-Servicing Technicians

Additionally, the Project will provide technical assistance to the OFNAR Director, the works Planning Engineer, the OFNAR Controller and the Chiefs of operational Subdivisions.

3. Developing Skills and Institutional Capacity

a. Road maintenance personnel will be trained through on-the-job experience and will acquire experience by serving with a road maintenance training brigade. The brigade will be provided with road maintenance equipment, and will perform all necessary functions for improved maintenance on roads, including grading, gravel surfacing, repair of shoulders, repair/replacement of culverts, etc.

The work will be performed under close supervision of Project expatriates who will direct the work and provide on-the-job technical training. This method of training has been identified as the most practical one to achieve an appropriate level of expertise in the shortest period of time. Each of two training cycles will run approximately twelve months (see Annex X-6-I).

b. Workshop personnel will perform their specialized functions on OFNAR's road maintenance equipment, under close supervision of Project expatriates who will conduct on-the-job technical training in the process. The training period for workshop personnel will be about two years. Some technicians may achieve operational capability earlier than others, and be ready for reassignment to OFNAR subdivision workshops while the rest continue training. Mechanics from other operational units of OFNAR will receive training in the Central Workshops on a rotational basis.

c. The functions of advisors to the OFNAR Director, the chiefs of the N'Djamena Subdivision, the Planning Engineer, and the Controller are outlined in Annex X-6-I.

d. By the end of this five-year project, it is planned that OFNAR will have achieved sufficient capability to maintain the roads in the N'Djamena area, and to administer, with further operational assistance, a broadening area of road maintenance activities. Subject to a positive evaluation of the implementation of this project, USAID will propose a follow-on project for the latter purpose.

E. Environmental

An Initial Environmental Examination (IEE) was conducted for the Project by the Regional Environmental Officer (see Annex A of the PID). The IEE recommended a negative determination on the basis that no foreseeable significant adverse environmental impacts are likely to result from implementation of the Project as designed. A negative determination subsequently was approved by the African Bureau Environmental Officer (see State 378526 at Annex X-1).

VI. PROJECT EVALUATION

Two evaluations will take place; the first will be mid-term after the technical assistance team has been in the field for 30 months, and the second and final evaluation will take place during the last six months of the project.

A. Mid-term: In addition to normal evaluation procedures such as counting inputs, assessing outputs and determining if the purpose is being achieved, this evaluation will examine and comment on the following:

- Arrival of technicians and commodities.
- Capability of the road maintenance training brigade to provide on-the-job training.
- Operation of central office and workshop.
- Quantity and quality of trained mechanics, operators, supervisors and managers.
- GOC willingness/ability to provide OFNAR with sufficient staff.
- Relations between OFNAR/DOT/Contractor personnel.
- Quality of living arrangements, problems.

- Recurrent cost implications relating to Project and to OFNAR resources. (see II C-2).
- Overall operational capability of OFNAR.
- Audit of all financial and administrative systems.

The mid-term evaluation will be somewhat early to evaluate the need and feasibility for a follow-on project, but some indications may be available by that time. Important considerations, additional to the progress and continuing needs of OFNAR, will be the political and economic health of the country as it has evolved. The urgency of starting this project has required making critical assumptions in support of decisions to proceed. The mid-term evaluation will be a time to take stock as to socio-economic realities and the validity of initial assumptions. The mid-term evaluation will also include a financial and management audit to be performed by a U.S. CPA firm.

B. The final evaluation will again address the above, commenting on changes and progress regarding each point and on other areas examined in the mid-term evaluation. If it is determined that a follow-on project is appropriate, the evaluation team should be prepared to draft the PID.