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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

(2)

PROJECT PAPER

Proposal and Recommendations
For the Review of the
Bilateral Assistance Subcommittee

CHAD - ROAD MAINTENANCE

AID/BAS-013

UNCLASSIFIED

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

UNCLASSIFIED

AID/BAS-013

July 6, 1978

MEMORANDUM FOR THE BILATERAL ASSISTANCE SUBCOMMITTEE

SUBJECT: Chad - Road Maintenance

Attached for your review are recommendations for authorization of a grant to the Government of Chad in an amount not to exceed Nine Million United States Dollars (\$9,000,000) to contribute to the achievement of food self-sufficiency in Chad and the Sahelian region and to facilitate access to Chad's productive southern and eastern regions.

No meeting has been scheduled for this grant proposal; however, your concurrence or objection is requested by close of business on Friday, July 14, 1978. If you are a voting member, a poll sheet has been enclosed for your response.

Working Group on Bilateral Assistance
Office of Policy Development and Program
Review

Attachments:

Summary and Recommendations

Project Analysis

Annexes A, B, D, E, F, H, J, L,

N, O, P, Q, R

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AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT PAPER FACESHEET		1. TRANSACTION CODE <input type="checkbox"/> A ADD <input checked="" type="checkbox"/> C CHANGE <input type="checkbox"/> D DELETE		PP <hr/> 2. DOCUMENT CODE 3
3. COUNTRY/ENTITY Sahel Development Program		4. DOCUMENT REVISION NUMBER <input type="checkbox"/>		
5. PROJECT NUMBER (7 digits) <input type="checkbox"/> 6770032 <input type="checkbox"/>		6. BUREAU/OFFICE A. SYMBOL AFR B. CODE <input type="checkbox"/> 06 <input type="checkbox"/>		7. PROJECT TITLE (Maximum 40 characters) <input type="checkbox"/> Chad Road Maintenance <input type="checkbox"/>
8. ESTIMATED FY OF PROJECT COMPLETION FY <input type="checkbox"/> 8 <input type="checkbox"/> 3 <input type="checkbox"/>		9. ESTIMATED DATE OF OBLIGATION A. INITIAL FY <input type="checkbox"/> 7 <input type="checkbox"/> 8 B. QUARTER <input type="checkbox"/> 4 C. FINAL FY <input type="checkbox"/> 8 <input type="checkbox"/> 2 (Enter 1, 2, 3, or 4)		

10. ESTIMATED 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						
GRANT	525	2,975	3,500	1,635	7,365	9,000
LOAN						
OTHER U.S.						
HOST COUNTRY	-	1,948	1,948	-	8,281	8,281
OTHER DONOR(S)	4,000	500	4,500	11,400	1,319	12,700
TOTALS	4,525	5,423	9,948	13,035	16,965	29,981

11. PROPOSED BUDGET APPROPRIATED FUNCS (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY <u>78</u>		H. 2ND FY <u>79</u>		K. 3RD FY <u>80</u>	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
(1) SH	100	821		3,500		1,878		740	
(2)									
(3)									
(4)									
		TOTALS							

A. APPROPRIATION	N. 4TH FY <u>81</u>		O. 5TH FY <u>82</u>		LIFE OF PROJECT		12. IN-DEPTH EVALUATION SCHEDULED MM YY <input type="checkbox"/> 1 2 8 2
	P. GRANT	Q. LOAN	R. GRANT	S. LOAN	T. GRANT	J. LOAN	
(1) SH	1,200		1,682		9,000		
(2)							
(3)							
(4)							
		TOTALS					

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

1 1 = NO
 2 2 = YES

14. ORIGINATING OFFICE CLEARANCE				15. DATE DOCUMENT RECEIVED IN AID/W. OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION						
SIGNATURE <i>Edward T. Costello</i>			DATE SIGNED					MM	DD	YY
TITLE Edward T. Costello Acting Assistant Director, USAID/Chad			MM					DD	YY	
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Abbreviations and Acronyms

ADF	- African Development Fund
ASECNA	- Agence pour la Securite de la Navigation Aerienne en Afrique et a Madagascar
ATEC	- Agence Transequatoriale des Communications
CTT	- Cooperative des Transporteurs Tchadiens
DCA	- Directorate of Civil Aviation
DPD	- Directorate of Planning and Development
DPW	- Directorate of Public Works
DT	- Directorate of Transport
EIO	- Equipment Inspection Office
ENTP	- Ecole Nationale des Travaux Publiques
FAC	- Fonds d'Aide et de Cooperation
FED	- Fonds Europeen de Developpement
ICAO	- International Civil Aviation Organization
IDA	- International Development Association
MCWMMG	- Ministry of Civil Works, Mines and Geology
MEPT	- Ministry of Economy, Planning and Transport
PO	- Procurement Office
RMA	- Road Maintenance Authority
RPDO	- Road Planning and Design Office
SHO	- Studies and Hydraulics Office
STC	- Swiss Technical Cooperation
UNSO	- United Nations Sahel Office
USAID	- United States Agency for International Development
voc	- vehicle operating costs
vpd	- vehicles per day

Project Paper
CHAD ROAD MAINTENANCE
677-0032

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* These Annexes are being maintained separately in the files of AFR/DR/SFWAP.

CHAD ROAD MAINTENANCE

Part I. SUMMARY AND RECOMMENDATIONS

A. Introduction

Chad is a vast country in the heart of north-central Africa with a population of about 4 million. It is one of the world's poorest nations with per capita GNP of about \$120. The economy is based on agriculture, which accounts for over 50% of the Gross Domestic Product and employs 90% of the labor force. Cotton is the principal export, providing over four fifths of the export earnings. The remoteness of Chad's urban centers from ocean ports and difficult internal communications give rise to high transport costs which in turn inflates the price of imports and most consumer goods, and has a debilitating effect on the competitiveness of Chad's exports.

The internal transport system is based on roads.^{a/} The navigable waterways have only minor local significance and air transport is limited by the small fleet of aircraft and the deteriorating condition of landing strips. The road network comprises about 7,300 km of classified roads and about 24,000 km of tracks providing connections with agricultural areas. Only about 1,300 km are engineered, all-weather roads; of these only 253 km are paved. Road distribution is uneven; the major portion is located in the agricultural areas in the south of the country. The sparsely-inhabited northern part of the country is served mainly by desert tracks. The condition of the road network is poor; inadequate maintenance, due to shortage of funds, has impaired road serviceability. Without outside aid, road maintenance will practically cease with time as the existing maintenance equipment is run-down and the GOC does not have funds for equipment renewal.

B. What will take place under the project?

The Government's objectives in the road sector are to improve communications between the Sahel zone and the agriculturally productive south in order to promote rational integration and to facilitate the export and import of essential commodities. Accordingly, under the leadership of the World Bank, a multi-donor project has been designed involving the participation of AID, the International Development Association (IDA)^{b/} and the African Development Fund (ADF). The project is aimed at improving efficiency of road maintenance operations, strengthen road maintenance and planning, and improve the operations of the trucking industry. To reach these goals, the proposed project includes the following activities (by donor):

^{a/} See annex M for a full discussion of Chad's transport sector.

^{b/} IDA refers to this project as the Third Highway Maintenance Project.

- (1) A four-year road maintenance program for about 5,300 km of unpaved roads and tracks, including purchase of maintenance and workshop equipment and spare parts, and renovation and construction of workshops and office buildings, (IDA and ADF).
- (2) Technical Assistance to effect organizational changes in the Department of Public Works, (IDA).
- (3) A comprehensive training program for personnel of the Department of Public Works including the equipping and functioning of a production/training brigade for regravelling, (AID).
- (4) Technical assistance for strengthening of the Directorate of Transport of the Ministry of Economy, Planning and Transport; (AID).
- (5) Technical assistance to the trucking industry; (AID).
- (6) Construction of four ferryboats; (IDA).
- (7) Completion of the five-year road maintenance program in cotton areas, (IDA).
- (8) A study to prepare a rural roads project, (IDA).
- (9) Fellowships to support activities (2), (3), (4), and (5), (AID).

C. How much will it cost?

The total cost of the multidonor project is \$30 million. Major project components and financing by each donor is presented in the Table on page 19.

D. Who will implement the project?

The Ministry of Civil Works, (MCW), will execute through its Department of Public Works (DPW) the road maintenance program, DPW reorganization and ferryboat replacement. The Ministry of Economy, Planning and Transport (MEPT) will carry out the reorganization of its Directorate of Transport. DPW and MEPT will be assisted by consultants for technical assistance, training and studies. The GOC and AID plan to employ a consultant (American ORT Federation) for the training program, since they are carrying out the training program under the present IDA financed Second Highway Project, (see Annex J). The supervisor of all elements of the project will be carried out by IDA,³ and a memorandum of understanding

*There will also be a USAID/Chad project manager who will monitor the project and maintain liaison with the IDA and ADF.

agreed to by the three donors will assure orderly project implementation (see Annex N).² Procurement procedures of co-financing agencies would be followed for all goods and services required to implement the project.

The proposed project provides for about 531 man-months of consulting services to help implement the project: 230 man-months for the AID financed training program, 205 man-months to assist in strengthening DPW and improving regional workshop efficiency, 16 man-months to assist in ferryboat construction, 30 man-months to provide planning support to the Directorate of Transport, 15 man-months to improve CTT's trucking operations, and 35 man-months for the rural roads study.

E. What are the benefits?

The best estimate of the economic rate of return for routine maintenance is about 76%, corresponding to a benefit/cost ratio of 3.20 at a 12% discount rate. Regravelling of about 400 km of roads by the training production brigade would yield an economic rate of return of about 18% equivalent to a benefit/cost ratio of 1.28 discounted at 12%. The overall economic return for road maintenance operations, accounting for costs of routine maintenance, regravelling, and training, is estimated at 58%. Replacement of the four ferries would produce an overall rate of return of 44%, ranging from 27% to 58% for individual ferries. The overall rate of return for the project, including the maintenance program and the replacement of ferryboats, is about 56%. Improved quality of roads through maintenance would tend to retard the escalation in transport costs and the corresponding multiplier effects, resulting in increased prices of consumer goods and reduced net export revenues. Generalized benefits can be expected to accrue to the rural sector population. There are many development projects in the area of influence whose success in improving the quality of life of the rural poor will, in large measure, depend upon reliable transport. Further, the road maintenance program includes about 1300 km. of tracks in the drought-prone Sahel Zone. These tracks would provide improved accessibility to the Sahel Zone for better husbandry of its livestock and agricultural resources. This would also ensure that lines of communication remain open for transport of food and relief supplies during periods of drought. The beneficiaries would be the poorest and most vulnerable segments of the Chadian population.

RECOMMENDATIONS

- a. That grant financing of \$9.0 million be approved.
- b. That the waiver for training in 899 countries in Annex Q be approved.

PART II. PROJECT DESCRIPTION

A. Objectives

The reduced road maintenance during past years has had serious impact on the condition of the road network. Running surfaces of gravel roads, which received only spot regravelling at critical locations, are worn out, and most earth roads and tracks are virtually impassable. Without outside aid, road maintenance is expected to be further reduced and practically cease with time, as the existing equipment is in run-down condition and the Government does not have funds for equipment renewal. In line with the Government's objective of improving road maintenance, the proposed multidonor project would ensure maintenance of about 5,300 km of roads and tracks, including about 1,300 km in the Sahelian zone. To improve internal communications and facilitate cotton export, four river crossings on major arteries or at economically important locations would be improved by providing new locally-built ferryboats. The proposed project would also support the strengthening and creation of institutions aimed at increasing road maintenance efficiency, establishing a systematic basis for transport planning, and improving the efficiency of the trucking industry. The proposed project would provide funds to complete a five-year program for maintenance of feeder roads initiated under the World Bank's Second Highway Project. As the GOC intends to exploit the agricultural potential of other areas, including the Sahelian zone, the proposed project would include a study for a rural roads project.

B. Description

To meet these objectives, the proposed project would finance the following nine activities:

1. A Four-Year Road Maintenance Program (IDA and ADF funding).

The proposed project supports the routine maintenance of approximately 5300 km of unpaved roads and tracks, and periodic maintenance of about 400 km of main gravel roads (Table 1). Routine maintenance operations have been tailored to maintenance standards compatible with the road type and level of traffic (Table 2). Other than mechanical grading, compaction, and tractor-drawn brushing operations, 17 road gangs of 25 laborers each covering road sections of 100-200 km under the direction of a sector chief, would be responsible for the maintenance of about 2,400 km of gravel and earth roads and tracks. Specific routine tasks carried out by the road gangs would include filling potholes, clearing ditches and culverts, maintaining shoulders and road furniture, and spot regravelling. For each sector, the project provides for an office with

stores, hand tools, a small truck (2.5 tons) for transport of labor and materials, and a motorbike for the sector chief to supervise the maintenance works. Only mechanical grading (in most cases once a year), would be carried out on the remaining 2,900 km of tracks, the objective being to keep the tracks passable; of these, about 1300 km would be subject to change from one year to another in accordance with the Government's economic priorities. Periodic maintenance (regravelling) of about 400 km of relatively more trafficked roads (over 45 vpd), would be carried out by the AID financed training/production brigade (see activity 3). Economic design standards for regravelling comprise a 6 m wide running surface, 0.5 m wide shoulders, and a 10 cm thickness.

The proposed project would provide maintenance equipment including an initial stock of spare parts, workshop equipment, and spare parts for repairing existing equipment (Table 3) ^{a/} About 40% of the equipment procured under the World Bank's First Highway Maintenance Project, deadlined due to lack of spare parts, would be repaired and used in the execution of the proposed maintenance program. The maintenance program also includes the construction of a garage for maintenance equipment; buildings for the equipment inspection office, the procurement office, and a spare parts store; and improvements to the central workshop, all in N'Djamena. In addition, a garage would be constructed and improvements made to office buildings and workshops in each of the four road maintenance sub-divisions, and 14 small buildings would be built to serve as administrative centers for the road maintenance sectors. Agreement was reached with the Government at negotiations on: (i) the maintenance standards to be applied (Table 4); (ii) the core network of about 4000 km to be maintained annually (Table 1); and (iii) sending to IDA before October 31 of each project year, the following information on the subsequent fiscal year: (a) the list of minor tracks (about 1300 km), other than the core network, and (b) the proposed regravelling program, including actual or estimated traffic on the proposed roads.

The proposed project includes appropriate labor-based maintenance methods, as a substitute for routine road maintenance solely dependent on equipment. For regravelling operations, a comparative analysis by a Bank Group consultant, investigating labor-based construction methods, showed by using data obtained from the Sategui-Deressia Irrigation Project (Credit 489-CD) that equipment intensive methods were more economical than methods employing a higher labor content due to the nature of regravelling operations (e.g. need of compaction), the long haul distances for construction materials, and the necessity to transport personnel to work sites.

^{a/} These commodities will be provided by the ADF and represents their contribution to the project.

2. Department of Public Works (DPW) Reorganization (IDA funding).

Technical assistance (205 man-months) would be provided to set up an Equipment Inspection Office (EIO), centralize procurement functions in a Procurement Office (PO), and establish a Road Planning and Design Office (RPDO). See organization chart on Page 41.

EIO would implement a cost accounting system, supervise PO, and inspect equipment maintenance carried out by the sub-divisions. PO would be entrusted with procurement of spare parts and other materials required to maintain DPW equipment, and would also establish and maintain a central spare parts store with proper inventory and book-keeping procedures. The technical assistance for EIO and PO (180 man-months), comprising one mechanical engineer for EIO, one chief mechanic for PO, and four mechanics for the sub-division workshops, is expected to be in the field for about three years, and will assist in training Chadian staff. To further improve the professional capacity of in-service personnel (particularly the chiefs of workshops and mechanized units), about six fellowships for practical training abroad would be financed from project funds. Appointment of key qualified Chadian staff (one mechanical engineer, one deputy mechanical engineer, and three equipment inspectors for EIO; and one procurement officer, and one forwarding officer for PO) to be trained by technical assistance specialists, would be a condition of disbursement for construction of buildings and improvement of workshops. RPDG would receive about 25 man-months of technical assistance (one engineer-economist) to help establish this office and train local staff to carry out basic road planning and engineering studies, evaluate projects, and supervise construction. The Government agreed at negotiations on the outline terms of reference for the proposed technical assistance.

3. Training Program (AID funding)

The training program envisaged under the project would provide trained personnel for Chad's road maintenance and improvement works in order to improve the productivity of road maintenance operations. Although only about 72 additional personnel at various levels within DPW are needed to implement the proposed road maintenance program, and other maintenance and improvement projects under FED and UNSO assistance, a total of about 250 mechanics, technicians, and equipment operators need to be trained to ensure efficient DPW operations (Table 5). This estimate allows for a drop-out and turnover rate of 30%. The training program would combine classroom instruction with field training, with greater emphasis placed on the latter aspect. A mechanized brigade would be used for field training, which in addition to its training functions, is expected to regravell about 100 km of main roads per year. This training/production brigade, (inclusive of technical assistance costs), would carry out regravelling at a cost 18% lower than the estimated cost under contract. Given the importance attached to routine-maintenance to be carried out by road sectors, (See Activity 1) appropriate training in road maintenance practice for the sector chiefs is also included.

The training center and the training/production brigade are currently operational under the World Bank's Second Highway Maintenance Project. AID will finance a continuation and expansion of these activities under the proposed project because the GOC wishes to minimize the amount of technical assistance funded under World Bank reimbursable credits. The center and brigade will be operated by ORT International, the same consultant selected by the World Bank under their second Highway Project. To insure uninterrupted training activities, Annex J provides for a waiver for propriety procurement of ORT services. Annex J also presents an evaluation of past ORT performance and concludes that continuation of ORT services is the most cost effective method of achieving the outputs of the training activity. The discussion in Annex P of the existing training possibilities in Chad concludes that the ORT operated facility by recycling the graduates of existing institutions will provide for the personnel needs of DPW to carry out the proposed multi-donor road maintenance program.

Specific project inputs for the training program include additional workshop equipment and teaching materials for the existing training center (established under the Second Highway Project); equipment for the training/production brigade (Table 6); technical assistance (230 man-months) to implement the four-year training program, including the operations of the training/production brigade; and recurrent operating expenses for the training program. Provisions for a daily allowance during the training period (additional to the normal salary paid to DPW personnel) and cash prizes for outstanding trainees have been made in recurrent cost estimates, to serve as incentives to recruit new trainees and attract in-service DPW personnel from the distant subdivisions, to participate in the program. The proposed training package under the supervision of expatriate technical assistance is the most cost-effective means of providing trained personnel in the Chadian context, since a major drawback of past training programs was the lack of adequate emphasis on field training. The Government agreed to negotiations to: (i) prepare, and submit to the IDA for approval, a detailed training curriculum by December 31, 1978 and (ii) assess, by December 31, 1979, future training requirements in consultation with the Association. By agreement with IDA, this information will be shared with AID.

4. Strengthening of the Directorate of Transport, (AID funding).

The proposed project provides for the services of a transport economist for 30 man-months to organize DT and help with: (a) collection of transport data and publication of an annual report on transport statistics, and preparation of technical reports; (b) inter-departmental coordination for transport planning and road traffic regulation and enforcement; and (c) regulation of road transport industry. The Government agreed at negotiations on outline terms of reference for the technical assistance to DT (Annex O). The expatriate transport economist would assist DT's local staff in their operational duties and train them to run DT with minimal external assistance upon completion of his services. Funds for technical assistance are included in the proposed project. The project also includes a fellowship for training in transport planning and operations. At negotiations, the Government agreed to appoint a suitably qualified Chadian to serve as a counterpart to the expatriate transport-economist, and other local staff needed to permit the implementation of items outlined in the terms of reference.

5. Assistance to the Road Transport Industry (AID funding)

The analysis of the road transport industry in Annex I pinpoints the obstacles to a more efficient transport industry. A number of factors have impeded the efficient development of the trucking industry. The lack of coordination among shippers, carriers, and transport intermediaries and an imbalance between exports and imports has resulted in low truck fleet utilization (around 50% load factors) and high unit costs. The regulated road transport tariffs, established in 1974, have not kept pace with the escalating cost of transport. Except for a few routes, transport tariffs are lower than transport costs, under assumption of modern business practice. Liberal import policies, compiled with drought relief programs, have resulted in excessive vehicle imports in recent years, while sufficient attention is not paid to the maintenance of the truck fleet.

The proposed project aims at improving the efficiency of the trucking industry by providing technical assistance to existing institutions. On the regulatory side, the institutional support to DT (activity 4) would prepare it to undertake normal regulatory functions of the road transport industry and carry out basic planning studies aimed to improve the overall efficiency of the transport sector. On the operational side, the proposed technical assistance to the transport industry would help to improve its transport operations especially in the areas of centralization of freight transport demand, freight allocations, and coordination among shippers, truckers, and transport intermediaries.

The proposed project provides for the services of a trucking industry expert (15 man-months) to assist the Cooperative des Transporteurs Tchadiens (CTT) in improving its operations. Outline terms of reference for the proposed technical assistance were discussed and agreed upon at negotiations (Annex O). The project includes a fellowship in transport industry operations and practical training abroad for CTT's assistant director responsible for transport operations.

6. Construction of Ferryboats (IDA funding)

The project includes the local construction of four ferryboats to replace the existing ferries at Bongor, Lai, Bousso, and Hellibongo. The proposed 50-ton capacity ferryboats would be able to carry the heaviest truck-trailer units plying the national roads (38 tons, with full payload). The shallow draft (50-55 cm) ferryboats would be identical in design, leading to standardization in construction (barges, ramps, decks) and future maintenance requirements (spare parts). The new ferryboats are characterized by simplicity in operation with maintenance requirements kept to a minimum. The proposed project includes funds for the purchase of materials, workshop equipment, labor, preparation of detailed design and specifications, and technical assistance (about 16 man-months) for construction executions. The ferryboats would be constructed under force account, at the DPW barge-yard, which has some experience in barge building. Additional skilled labor, however, will be needed to build the ferryboats within the project time schedule. Should all the necessary skilled labor not be available, construction of some ferryboats, in whole or in part, would be contracted to local mechanical workshops. The construction cost of locally built ferryboats, including the cost of workshop equipment and technical assistance, is estimated at 60% of the cost of imported ferryboats.

7. Completion of the Feeder Road Maintenance Program (IDA funding)

The training program under the World Bank's Second Highway Project has been extended to permit continuity between ongoing training activities and those envisaged under the proposed project to be financed by AID. This resulted in a cost overrun of about US\$400,000 (net of taxes). Without additional financing, the ongoing program for the improvement and maintenance of cotton feeder roads under the same project would have had to be reduced. The proposed project would finance the cost overrun to complete this program through the provision of capital costs and operating expenditures for the improvement and maintenance of about 760 km of feeder roads.

8. Rural Roads Study, (IDA funding)

The Government wishes to improve rural roads in the cotton zone as well as in other areas of the country, including the Sahel. Accordingly, the proposed project includes a three-phase study of rural road needs in relation to rural development in selected areas. The first phase will (a) identify development areas in terms of economic potential and investment requirements, concentrating on transport and rural infrastructure needs, and (b) examine and report on basic and alternative institutional and manpower resources required to execute and maintain

a possible rural transport/infrastructure project. The second and third phases will address detailed project description, economic analysis and engineering design under guidelines resulting from discussions between the Government and IDA following the first phase. This study, requiring about 35 man-months over an eight-month period, will also identify a long-term strategy for rural transport development and outline a program for the construction, improvement and maintenance of transport facilities. Outline terms of reference for the proposed consulting services were agreed upon with the Government.

9. Fellowships (AID funding)

The technical assistance provided under this project is complemented by fellowships for training in Africa and abroad so that a cadre of trained Chadian personnel is in place when the proposed technical assistance lapses. Personnel required for the program would generally be available from schools in Chad. Undergraduate engineers are available (about 12 each year) from the Ecole Nationale des Travaux Publics and skilled workers can be obtained from the AID financed DPW training center.

At negotiations the Government agreed that each candidate for fellowship would be: (a) required to sign a commitment to serve for at least five years after his return in the DPW Department or Service for which the fellowship is granted; (b) considered in full service while on fellowship; (c) approved by the Association, following submission by the Government to IDA of his name, background and other information needed for fellowship award.

Under the DPW reorganization component (Activity 3), six participants (Chiefs of workshops, mechanized units, etc.) will receive non-degree training. This will be provided by the Regional Road Maintenance Training Center in Togo. Under the AID financed training component (Activity 3) two types of participant training will take place: (1) practical training for at least 4 individuals in a course for operators and mechanics foreman (also in Togo) and, (2) training at the ORT facility in Geneva for at least five instructors to be assigned to the training center in N'Djamena. Under Activity 4 (Strengthening the Directorate of Transport), one participant will be selected for academic training in Transport Planning and Operations. Finally, under the trucking industry component (Activity 5), one long-term participant will receive academic training in transport industry operations, and 6 months of practical training will be provided for the director of operations of CTT. Technical training for the foremen and section chiefs can be provided in Africa, other training and the training for the CTT director of operations will take place in Europe. A waiver for this purpose is included in Annex Q.

PART III. PROJECT ANALYSIS

A. Economic Analysis ^{a/}

Development of a reliable and inexpensive transport network within Chad and assurance of dependable external links to ocean ports are of prime importance to Chad's economic development. As roads provide for over 90 percent of Chad's transport needs, the maintenance and improvement of the network is necessary to achieve this objective. With no equipment renewal since 1972, and recurrent maintenance expenditures averaging about CFAF 220 million p.a., road maintenance has been limited to about 1,800 km. This has had serious repercussions on the serviceability of the road network, which is in poor condition. The primary objective of the project is to preserve the network at a level so that earth roads and tracks remain trafficable during the dry season, and selected roads are regravelled to provide all-weather service. The project will also provide for the replacement of four ferryboats, which will avoid severing important links, and will also permit the use of larger road vehicles. The proposed project also supports the improvement of institutions that will strengthen road maintenance, assist in establishing transport planning on a systematic basis, and help improve the operational efficiency of the trucking industry.

The economic return on investments in road maintenance and renewal of ferries is quantified on the basis of vehicle operating cost savings. Additional benefits accruing from reliable and improved accessibility to administrative and commercial centers, all-weather service on gravel roads, protection of past road investments, and time savings have not been included. Institutional benefits resulting from the training program, improvements in transport planning and trucking industry operations, and strengthening of DFW, have not been quantified except to the extent that they are required to execute other project components.

As recent traffic data are not available, traffic projections for the road network were made using 1969/70 traffic counts, adjusted to 1978 levels on the basis of the estimated growth of the vehicle fleet and fuel consumption (1-3 percent per year), and the diversion of import-export traffic from the Transequatorial to Cameroonian route. Vehicle operating costs were derived by applying road user cost relationships developed under IBRD/TRRL research program in Kenya to current costs in Chad (see Annex G).

^{a/} For details of the economic analysis, see Annex G.

Costs and benefits are calculated in CFAF, net of taxes, in December 1977 prices. As part of the sensitivity analysis, shadow prices were used for valuing foreign exchange and labor. The shadow price for foreign exchange is estimated at 14.5 percent above the official exchange rate of CFAF. Unskilled labor has been valued at 30 percent of the official minimum wage rate, while the shadow price of the skilled labor has been set at 15 percent above the ongoing market rate. The opportunity cost of capital in Chad is estimated between 10-12 percent p.a.

a) Road Maintenance Program

The evaluation of the maintenance program followed a sequential procedure involving selection and classification of roads to be included in the maintenance program, determination of the optimal maintenance strategy for each class of road, and the overall economic assessment of the maintenance program. As the road network has not been functionally classified, it was categorized broadly according to engineering characteristics and traffic level. Road links were then selected for inclusion in the maintenance program on the basis of the following general criteria. These criteria were refined on the basis of Club/CILSS guidelines discussed in Annex F.

- (i) Support of economic activity, e.g., maintenance of vital routes in important food growing region.
- (ii) Maintenance of accessible road connections between regional, administrative, and commercial centers, and the national capital.
- (iii) Improved accessibility to the drought-prone Sahel zone.

An optimal regravelling and grading strategy was then estimated for each link by calculating the incremental vehicle operating cost savings associated with more frequent operations, using the Bank's Highway Design and Maintenance Standards Model (HDM), modified where necessary to reflect operational conditions in the field. The analysis indicated that regravelling was generally justified only on links with traffic of 45-50 vpd. The combined economic return was calculated by relating the incremental cost of equipment and other project inputs to the corresponding benefits from improved road maintenance brought about during the economic life of the equipment (estimated to average about eight years). Appropriate salvage value was assigned to cost inputs whose economic life was longer than 8 years or where equipment was used for less than its estimated economic life.

Project costs for the routine maintenance operation include capital expenditures on equipment, spare parts, workshop improvements, and related technical assistance as well as recurrent maintenance costs, while project benefits consist of vehicle operating cost savings resulting from improved routine maintenance. The incidence and magnitude of vehicle operating costs and related benefits, as a function of accumulated number of vehicle passes and level of road maintenance with and without the project are shown in Annex G for a gravel road and a track, respectively. Routine maintenance operations under the maintenance program are expected to yield an estimated economic rate of return of 76 percent, corresponding to a benefit/cost ratio of 3.20 at a 12 percent discount rate. The benefits from regravelling consist of reductions in vehicle operating costs, additional to the reductions effected under routine maintenance. The incremental rate of return for regravelling operations is estimated at 18 percent, corresponding to a benefit/cost ratio of 1.23, discount at 12 percent. The overall economic return for the maintenance program, accounting for costs of routine maintenance, regravelling, and training, is estimated at 58 percent, equivalent to a benefit/cost ratio of 2.69 at a 12 percent discount rate. With respect to Club/CILSS guidelines, the analysis of Annex F concludes that the proposed project earns a score of .85 (1.0 maximum). This is a very favorable ranking and indicates that the project will address the Club/CILSS concerns.

b) Replacement of Ferries

The four ferries to be replaced under the project are generally characterized by damaged hulls, extensive rusting, and frequent breakdowns, and are not expected to last more than five years. The only salvagable items are the motors provided for the ferries under the World Bank's Second Highway Project. The age and operating conditions of the ferries cause protracted transportation delays, and their replacement is necessary to avoid severing the link to Cameroon via Bongor and closing the cotton ginneries at Kyabe, Am Timan and Bousso. The Hellibongo ferry is critically important in maintaining administrative links between Sarh and the prefectures of Guera, Salamat, and Ouaddai. This ferry is frequently used to transport petroleum and mineral exploration equipment to the north of Chad. Similarly, future development of irrigated areas (16 are envisaged) around Bousso would be contingent upon reliable access to the main N'Djamena-Sarh road via the ferry.

The project would provide for larger ferries, capable of accommodating 38-ton truck-trailer units, resulting in significant vehicle operating costs savings through diversion of traffic (mainly cotton) to shorter routes and the replacement

of small six ton trucks with semi-trailer and truck-trailer units. Other benefits include savings in handling costs, and the development of local capacity for constructing barges, and savings in maintenance and operating costs of the ferries. The economic analysis assumes a five-year remaining life of existing ferries except for the Hellibongo ferry, which is assumed to continue providing service after additional renovation. The new ferries are expected to have an economic life of 25 years with a 10 percent salvage value. Project costs include ferry-boat construction costs, and expenditures for design and technical assistance. Project benefits comprise savings in maintenance and operating cost savings resulting from traffic diversion avoided travel, and use of larger capacity trucks. Based on these assumptions, the economic return for the replacement of ferries at Bousso, Lai, Bongor and Hellibongo is estimated at 26 percent, 43 percent, 58 percent, and 30 percent, while first year benefits are estimated at 10 percent, 42 percent, 47 percent, and 23 percent respectively (Annex G). The overall economic return for this project component, including all four ferries, is 43 percent.

c) Assistance to the Road Transport Industry

It is expected that truck utilization will improve under the project, and that with improved coordination of goods transported, the average annual kilometrage traveled by truck could increase from 40,000 to 60,000 km, and the average vehicle load factor from 55 percent to 65 percent (see Annex I). The average cost of transport is expected as a result to drop from CFAF 20 per ton/km to CFAF 16 per ton/km. This corresponds to about CFAF 820 million (US\$3.4 million) in transport cost savings per year on international traffic alone (based on an estimated 210 million ton/km.p.a.), of which the Chadian share would be about 63 percent.

d) Distribution of Benefits

Three groups can be expected to benefit from the proposed project:

1. The immediate beneficiaries from the AID financed training component will be the 247 employees of the Department of Public Works whose skills level will be upgraded by on the job training. Benefits will take the form of increased income derived from employment at higher job levels. Similar benefits can be expected for the eighteen participants trained abroad.

2. When considering the highway maintenance aspects of the project, a second group of beneficiaries can be identified--i.e., those closely associated with the transport industry. Cotton and related inputs, fuel, sugar, beverages, constitute the primary products transported by road. The lack of intercity bus service results in the use of trucks for passenger transport. As the tariffs for international transport of cotton are negotiated annually between COTONTCHAD and CTT, it is expected that they, together with Cameroonian transporters who claim a fixed quota of Chadian transport demand, would be the most immediate beneficiaries of improved road maintenance. For the farm-to-ginnery transport of seed cotton, however, COTONTCHAD would be the initial beneficiary, with benefits then accruing to the Caisse de Stabilization de Prix de Coton. These benefits would in turn be shared between the government and cotton producers according to the Government's agricultural pricing and subsidy policy, which is reviewed annually. As part of the benefits are expected to be passed on to the producers, further expansion of agricultural output and generated traffic could materialize.

In case of other freight transport (about 55% of the total freight transport demand), most of the road user savings are likely to pass to the truckers since the regulated transport tariffs are not sensitive to changes in road user costs. User cost savings passed down to automobile owners would be relatively inconsequential, as personal transport constitutes a small portion of the traffic activity (5% or less). Relative to passenger fares, improved road quality is likely to result in lower passenger fares and more comfortable travel since trucks double as passenger vehicles, and there are no fixed passenger transport tariffs. The road maintenance program includes about 1300 km. of tracks in the drought-prone Sahel Zone. These tracks would provide improved accessibility to the Sahel Zone for better husbandry of its livestock and agricultural resources. This would also ensure that lines of communication remain open for transport of food and relief supplies during periods of drought. The beneficiaries would be the poorest and most vulnerable segments of the Chadian population.

3. When the multidonor project is viewed as a whole, generalized benefits can be expected to accrue to the rural sector population. There are many development projects in the area of influence--some of the implementation stage, other at the planning stage--whose success in improving the quality of life of the rural poor will, in large measure, depend on reliable transportation. The most important on-going projects include the Sategui-Deressia and Casxier A rice growing projects in the Bongor-Lai corridor. Timely implementation of the World Bank's second live-stock project will also be assured by improved roads. Along the N'Djamena-Abeche corridor, for example, about 16 livestock facilities will be located (handling yards, veterinary posts, sector bases, etc.). In the N'Djamena-Sarh corridor, improved roads will assure that spraying teams will be able to establish a Tsetse fly barrier, and that the vaccine program will reach the herders. Important AID projects being implemented near project roads include the Livestock Training Center at Massakory, the SAWS Irrigated Perimeter project near Linia, the Acacia-Albida and Care School Projects on the Guelendeng-Bongor road, and the Crop Research Center near Moundou. There are also many smaller scale activities of other donors in the area of influence, including health posts and schools, whose radii of action will be expanded by improved roads. Finally, the GOC's 1978-1981 Development Plan gives priority to the development of the productive southern zone by stressing food production in order to reduce the dependence of the region on cotton. Specific projects of interest include improvement of the extension service (01-005)^{a/} including the creation of two extension centers (01-111] and a \$4.8 million activity to increase grain production (01-004). Two recently approved AID projects (Agricultural Institutional Development and Crop Production, Research and Marketing) will support these and other agricultural development activities.

Improved transport facilities will also permit the movement of food grains from the usually food surplus southern zone to the food deficit Sahelian zone. While actual grain movements are not known, Annex F estimates that millet/sorghum production in the area of influence of the roads is about 370,000 tons annually. A recent CILSS sponsored grain marketing study estimates that about 10-15% of production is marketed; the remainder being used for home consumption. On this basis an estimated 46,000 tons of grain could be expected to move on the roads to be maintained. While this is a relatively small proportion of Chad's total grain production (estimated at 600,000 tons) it represents about 60% of Chad's annual marketing of sorghum/millet (75,000 tons).

^{a/} Numbers refer to those used in the draft 1978-1981 development plan recently released by the GOC.

In summary, while the immediate beneficiaries of the project will be trainees and those closely associated with the road transport industry, there are sufficient on-going and planned development activities in the area of influence to conclude that improved transport facilities will insure that their benefits will reach the poorest segments of the rural population. Further, by facilitating grain movements better roads will tend to reduce the effects of localized drought.

e) Project Risks and Sensitivity Analysis

Since approximately 1,000 km of the proposed road maintenance program are located in areas subject to political unrest, there is some chance that the envisaged road maintenance might not be implementable in these areas. Similarly, aggravation of the general economic situation could constrain the availability of road maintenance funds. More specific risk elements concern increases in project costs and shortfalls in the projected output of technical personnel under the training program, with attendant repercussions on efficient equipment utilization, and maintenance productivity. Even if routine maintenance activities are confined

to the most secure regions of the country with maintenance output reduced to 3,500 km per year, this project component would have an economic return of 66%. If the training program fails to produce sufficient personnel to expand maintenance operations or if a shortage of funds limits road maintenance to present levels (1800 km), routine maintenance is estimated to yield an economic return of 28%. The economic return was found to be relatively insensitive to reduced equipment life as well as shadow pricing of foreign exchange and labor. With respect to the regravelling operation, a 20% reduction in the annual regravelling output would lower the economic return from 18 to 14%. Even if regravelling output drops below 80 km/year, the operation of the training/production brigade remains justified in terms of its institutional and training benefits.

Relative to ferries, the major project risk concerns delays in the construction of ferryboats, which could result in a fewer number of ferries being built. If only two ferries were constructed rather than the four envisaged under the project, this project component would still yield a return of 32%. A 20% increase in the cost of this component would reduce the economic return to 38%, while a 5% increase in benefits would increase it to 46% (See Annex G).

B. Social Analysis

The social analysis presented in Annex K was prepared by an AID contractor who spent a month in the project area in May 1977. A summary of her report follows:

a) Characteristics of Project Area

The project area includes the five prefectures of southern Chad, which represents 10 percent of the land area, but which account for 47 percent of the population and produces virtually the entire cotton crop. ^{a/} In normal years, it is also a food surplus area which provides a considerable volume of food grains to the food deficit areas to the north. The area of influence is the richest and most populated region of Chad and consequently the one with the greatest concentration of road traffic--80 percent as compared to 9 percent in the central and eastern prefectures and 11 percent in the N'Djamena region.

The ethnic composition of the area is extremely diverse. Of the major linguistic groups in Chad, seven are represented in the area of influence. Most of the people in the region are

^{a/} While the project area includes the lower two-thirds of Chad, the sociological survey was limited to these prefectures.

farmers, fishermen and herders with a strong patrilineal social organization. In many cases, there are no clear-cut distinctions in professions since farmers have begun raising cattle, and, especially since the recent droughts, nomads have begun to grow crops. - Fishing is practiced by all villagers living along the rivers. The people in the region appear to be highly motivated and respond to perceived economic opportunities. However, these opportunities are limited due in large measures to the poor transportation net in the region, which imparts a high degree of risk and uncertainty to most business and commercial ventures.

b) Socio-Economic Impact of the Project Roads

The problem of national unity in the multiethnic Chad is intensified by the physical isolation imposed by a road system which is virtually unuseable during half of the year. This has resulted in a degree of alienation among different groups and hindered the efforts of the GOC to engender a sense of national unity. A more dependable transportation net will help break down the barriers to national unity by permitting a greater degree of social and economic interaction. Without a basic transportation net, no group of peoples can be welded into a nation.

The lack of adequate transportation in the project region seriously restricts the provision of basic health, education and government services to the majority of Chad's population. With roads impassable, health services are only available to those within walking distance of medical facilities and epidemic control becomes virtually impossible. Further, because supplies cannot be moved, these facilities are typically ill-equipped during much of the year. With respect to education, lack of transport reduces the attendance rate and reduces teacher morale. Further, since GOC agricultural extension agents and other service personnel cannot travel, the population in the region is effectively cut off from any government services.

Economic stagnation is imposed on otherwise productive towns and villages because of virtual isolation during the rainy season. Since marketing horizons are so limited, producers, both farmers and artisans, restrict production to assure cash crops or only produce enough to meet the limited needs of immediate marketing area. The result is that production and incomes remain low, unemployment remains high and able-bodied workers are encouraged to migrate into neighboring countries. The combined result is economic stagnation during much of the year, with production reduced to subsistence levels.

In summary, by improving road transport in the project area, one can anticipate a breakdown in the isolation of the rural areas which will facilitate GOC efforts to move toward greater health, education and government service to the bulk of Chad's population. Finally, by opening up new marketing areas and reducing risk and uncertainty, a more dependable transportation net will encourage greater economic activity and a breaking of the vicious circle of poverty which had led to economic stagnation of the region.

In conclusion, in the context of the country's potential, improved roads are not only a basic necessity in Chad, but will permit the realization of enormous benefits to the people. No economic development, no social, education and health planning can possibly take shape without a minimal assurance of road mobility and communication. This is a sine qua non to economic development, sociocultural interactions and national identity.

C. Financial Analysis

a. Financial Plan: The costs, net of taxes, of the project would be cofinanced on a parallel basis by IDA (\$7.6 million), USAID (\$9.0 million), and ADF (\$5.1 million), under separate agreements for each agency. The Government is expected to provide U.S. \$8.3 million equivalent; about U.S. \$0.6 million equivalent represents taxes on fuel, and the balance of U.S. \$7.7 million equivalent represents recurrent costs. The financing plan, including contributions by IDA, USAID, ADF, and the Government, follows:

Project Financing Plan (in US \$ thousands)

<u>Activity</u>	<u>IDA</u>	<u>USAID</u>	<u>ADF</u>	<u>GOC</u>	<u>Total</u>
1. Maintenance Program	2,716	-	5,086	8,084	15,886
2. TA for DPW	2,607				2,607
3. Training Program		7,976		158a/	8,134
4. TA for DT		457			457
5. TA for Transport Industry		185			185
6. Ferryboat Construction	1,527				1,527
7. Feeder Road Program	401			39a/	440
8. Rural Roads Study	345				345
9. Fellowships		345			345
Total	7,596	8,963	5,086	8,281	29,926
Rounded	<u>7,600</u>	<u>9,000</u>	<u>5,100</u>	<u>8,300</u>	<u>30,000</u>

a/ Unwaived taxes on fuel. The GOC elected to reimburse donors for fuel taxes rather than waive them.

On the basis of the above financing plan, the IDA Credit would be disbursed to cover:

- (a) 100% of total cost of building and workshop construction and improvements;
- (b) 100% of total cost of technical assistance for DPW including office furniture, equipment, and supplies;
- (c) 100% of total cost of design, construction, and technical assistance for four ferryboats; and

- (d) 100% of total cost of construction materials for the completion of cotton feeder road improvement and maintenance program; and
- (e) 90% of the total operating cost for the completion of cotton feeder road improvement and maintenance program.

Details of the AID Financed Components
are as Follows: (Thousands of Dollars)

<u>Activity 3 - Training Program</u>	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
--Equipment & Spares for Training Unit	122	1,622	1,744
Quantity variation	6	81	87
Price variation	11	147	158
--Technical Assistance for Training Unit, (230 man months)	275	1,559	1,834
Quantity variation	41	234	275
Price variation	58	328	386
--Workshop equipment for Training Center	6	82	88
Price variation	-	45	7
--Operating Expenses for Training Unit ^{a/}	590	1,223	1,813
Quantity variation	59	122	181
Price variation	86	289	375
--Operating Expenses for Training Center	234	651	885
Quantity variation	23	65	88
Price variation	<u>56</u>	<u>157</u>	<u>213</u>
Sub-Total, Activity 3	1,567	6,605	8,134
 <u>Activity 4 - TA for Dir. of Transport.</u>			
--Technical Assistance, (30 man months)	27	243	270
Quantity variation	2	18	20
Price variation	6	55	61
--Office Equipment and supplies	10	70	80
Quantity variation	2	10	12
Price variation	<u>3</u>	<u>11</u>	<u>14</u>
Sub-Total, Activity 4	50	407	457

^{a/} Includes \$158 for taxes on fuel to be paid by GOC.

Activity 5 - TA for Transport Industry

--Technical Assistance, 15 man months	13	122	135
Quantity variation	2	28	20
Price variation	<u>3</u>	<u>27</u>	<u>30</u>
Sub-Total, Activity 5	18	167	185

Activity 9 - Fellowships

--Fellowships	-	300	300
Quantity variation	<u>-</u>	<u>45</u>	<u>45</u>
Sub-Total, Activity 9		345	345

TOTAL ALL ACTIVITIES 9,121

Summary: Technical Assistance	3,031
Commodities	2,190
Participants	345
Other Costs	<u>3,555</u>

TOTAL a/ 9,121

The Government is expected to bear the cost of: (a) taxes on fuel; (b) recurrent expenditures for road maintenance and for maintenance and operation of ferryboats; and (c) taxes on operating costs of cotton feeder road improvement and maintenance program (Table 7 & 8) On the average, about CFAF577 million (U.S. \$2.36 million) in Government funds, excluding equipment depreciation, would be needed annually to implement DPW's overall road maintenance (including FED and UNSO projects) and ferryboat operations, equivalent to about 3-4% of the Government's total annual current expenditure during 1974-76. On the basis of available information on present fuel tax revenues and conservative estimates of future increase, the expected revenues for the Road Fund would average about CFAF510 million (U.S. \$2.1 million) annually, at the present level of fuel taxes. Permanent labor wages financed from MCWMG's budget would add about CFAF60 million (U.S. \$0.25 million) per year to the maintenance budget. Therefore, the total amount available would be about CFAF570 million (U.S. \$2.3 million) per year, permitting the Government to bear all recurrent expenditures for road maintenance, except equipment depreciation (estimated at about CFAF100 million, or U.S. \$0.4 million per annum). This assumes that all taxes, other than fuel taxes, would be waived (Table 7).

a/ Deducting \$158 for fuel taxes to be paid by GOC leaves total of \$8,963 shown on page 19 .

To ensure the availability of local funds for the project, the Government agreed at negotiations that it would: (a) open a separate account for the Road Fund outside the Government Treasury; (b) establish and maintain adequate accounting procedures to record revenues to, and expenditures from the Road Fund; (c) earmark to the Road Fund and deposit in the separate Road Fund account the amounts collected from fuel taxes and ferry boat tolls; (d) establish in DPW's accounting office a sub-account to allocate about 87% of Road Fund revenues (estimated share of the Road Fund for ferryboat and unpaved road maintenance) to the project; (e) maintain records adequate to record single and cumulative expenditures for the project components it would finance; and (f) send to the IDA, every semester, beginning January 31, 1979, a summary statement, as of June 30 and December 31, of (i) total revenues to the Road Fund; and (ii) expenditures incurred or committed for the project by category of disbursement.

As future requirements for local funds to finance recurrent costs of the project might change owing to higher than expected increase in prices of fuel, spare parts, and labor, and as financing the depreciation of road maintenance equipment must remain a long-term objective, the Government agreed at negotiations to review in consultation with the IDA not later than December 31, 1979: (a) the amount of local funds required for project recurrent costs over the remaining project period; and (b) the feasibility of increasing Road Fund revenues to fully cover recurrent maintenance expenditures including equipment depreciation.

b. Cost Estimates

The cost of equipment and spare parts is based on consultant BCEOM's estimates, updated by the appraisal mission following a survey of local dealers. The construction cost of buildings and workshops is based on the current cost per unit of similar works. The cost of technical assistance and consulting services is based on the cost of similar services rendered in Chad. The average cost per man-month of consulting services is estimated at about U.S. \$5,800, including social security, bonuses, annual leave, expatriation allowance, overhead and the firm's fees. Reimbursable expenses, including air trips, airfreight, subsistence and local allowances, field supervision, and vehicle purchase and operation, total about U.S. \$2,800/man-month. The foreign component amounts to U.S. \$7,350/man-month, or about 85% of the total costs.

Detailed cost estimates, including physical and price contingencies, are given in Table 9. During negotiations, the Government confirmed that (a) all contracts for goods or services to be provided under the project would be free of commercial taxes (taxe d'enregistrement, taxe sur le chiffre d'affaires, and similia); (b) the special quarry tax would be waived with respect to construction works; and (c) materials, equipment and spare parts for road maintenance equipment, including that of the training unit, and construction materials would be imported duty-free. The Government would waive all customs duties and other taxes on project-related goods and services, except taxes on fuel, which amount to about U.S. \$0.6 million. An insignificant amount of taxes on consumable items, procured from existing dealer's supplies, have not been identified separately. Cost estimates reflect prices at end-1977.

A detailed breakdown of cost contingencies is as follows:

	Quantity Variation	Price Variation			
		1976	1977	1978/79	1980/82
Equipment	5%	8%	7.5%	7.5%	7%
Construction	10%	10%	9%	9%	8%
Technical Assistance	10-15%	8%	7.5%	7.5%	7%
Fuel	5%	-	5%	5%	5%
Labor	5%	-	5%	3%	3%

A review of the project has been undertaken by REDSO in Abidjan (see Abidjan 5687 of June 15, 1978) and AID/W engineers. Their conclusion is that project planning has been adequate and that the costs on page 20 represent a reasonably firm estimate of the cost to the U.S. for the assistance. Thus, the 611(a) requirement (see Annex D) has been met.

D. Administrative Feasibility

As discussed in greater detail in Annex M, the basic elements of a hierarchical transport planning process and implementation system are present in the existing GOC organization. The responsibility for transport planning and coordination rests with the Ministry of Economy, Plan and Transport. Within this ministry the Directorate of Planning and Development determines transport investment priorities and coordinates external assistance; the Directorate of Economic Affairs establishes transport tariffs; and the Directorate of Transport (DT) is responsible for transport policy and regulation. The Ministry of Finance establishes road user taxes, approves budget requests, and proposals for tariff modification. With respect to transport infrastructure, the Directorate of Public Works, (within the Ministry of Civil Works, Mines and Geology) is responsible for the construction and maintenance of public works (See Exhibit I on page 41). The training center, whose activities will be continued under the proposed project, is under the direction of the Directorate of Public Works.

While the institutional components of the transport sector are in place, their effectiveness is limited by shortages of qualified personnel. Thus, technical assistance experts, mostly French (FAC) fill many positions. Most management positions are held by Chadians, but there remains a significant shortage of qualified technical staff in most agencies. To address these problems, the proposed project calls for long term training for 15 Chadians in the transport sector (See Activity 9), and 531 man/months of consulting services.

In view of the above considerations, the project is judged to be administratively feasible. The project will be implemented within existing GOC agencies by strengthening their capacity to carry out their presently assigned functions and by increasing the scope and effectiveness of road maintenance activities. No new institutions will be created.

E. Environmental Concerns:

An Initial Environmental Examination was submitted with the PID recommending a Negative Determination (See Annex C).

IV. Implementation Plan

- A. Plan and Schedule: The Ministry of Civil Works, Mines and Geology (MCWMG) thru its Directorate of Public Works (DP) will implement the road maintenance program (activity 1), the training program (activity 3) the completion of the feeder road program (activity 7) and the construction of ferryboats (activity 6). MCWMG will also supervise the technical assistance and fellowships provided for strengthening the DPW (activity 2 and 9). The Ministry of Economy, Plan and Transport (MEPT) will have the responsibility for the administration of technical assistance and fellowships for the Directorate of Transport (activity 4), the trucking industry (activity 5), and the implementation of the rural roads study (activity 8).

The project will start in the second half of 1978 and continue thru 1982. A summary of the implementation schedule for all components of the project is shown on the chart on the following page. A detailed implementation schedule for each of the AID financed components follows:

Activity 3 - Training Program:

June, 1978	Project Paper approved by AID/W
August, 1978	Project Agreement negotiated with DPW
August, 1978	Contract signed for Technical Assistance with ORT. All staff in N'Djamena by October 31, 1978
August, 1978	Begin procurement of equipment and materials for Training Center and Training Unit. One year delivery schedule anticipated.
December 1979	Mid-stream evaluation

Activity 4 - Strengthening Directorate of Transport

September, 1978	Project Agreement negotiated with D.T.
October, 1978	Begin consultant selection process
November, 1978	Begin procurement of office equipment and supplies
June, 1979	Consultant arrives in N'djamena and begins 30 month contract

Activity 5 - Technical Assistance for Transport Industry:

September, 1978	Project agreement negotiated with D.T.
October, 1978	Begin consultant selection process
June, 1979	Consultant arrives in N'Djamena to begin 15 month contract.

Activity 9 - Fellowships

Candidates for training under the various activities will be selected as soon as possible. All training will be completed before the end of the project.

- B. Disbursement Procedures: USAID/Chad has an established procedure for making disbursements under AID financed projects. The procedure involves payment via the BDT (Chadian Development Bank) on vouchers which have been certified by the AID project officer and appropriate GOC ministry. The contractor will also submit quarterly progress reports. Disbursements for commodities will be handled under the standard PIO/C process.
- C. Procurement Plan:
- i - Equipment and commodities: To be credited for attribution against AID funding, all equipment and commodities procured under this grant, except for vehicles, must have their source and origin in Code 941 countries or the host country. Vehicles, as defined in AID's eligibility listing, must be of U.S. manufacture only and can have only their source (place of purchase) in other Code 941 countries. Further, AID will credit for attribution under this grant only those commodities or equipment which are included in AID's commodity eligibility listing in effect at the time of the procurement. AID also may, at its discretion, refuse to credit for AID funding those procurements which, in AID's judgment, do not reflect procurement in accordance with good commercial practice.
- To be eligible for payment, therefore, the contractor will be required to present to AID, together with its request for payment, the following documentation:
- (a) Evidence showing that procurement to be credited took place in eligible source countries and that the commodities or equipment procured originate in eligible source countries. (AID's componentry rules must be observed.)
- (b) Adequate description of the commodity or equipment procured to enable AID to determine whether or not these items are included in AID's listing of eligible commodities.

- (c) Documentation, such as suppliers' invoices, showing the prices paid for items procured, to enable AID to determine whether or not the prices paid were reasonable and acceptable.
 - (d) Evidence, such as suppliers' invoices, showing that the items purchased were new and unused at the time of acquisition.
- ii - Technical Services: The services of ORT International for activity 3 will be procured on the basis of a proprietary procurement waiver (see Annex J). Technical services for activities 4 and 5 will be procured on the basis of competitive bids by eligible U.S. firms.

- V. Evaluation Plan: Since this project involves training and maintenance activities it will not be difficult to verify achievement of the project outputs. The World Bank, which will supervise all components of the project, will involve AID personnel in its supervision missions. With respect to the AID financed components of the project an indepth evaluation is planned for December 1979.

The evaluation team will be made up of the USAID project manager supplemented by an AID/W direct hire and representations from the IDA. With respect to the training program (Activity 3) the evaluation mission will determine the adequacy of the training program in meeting the manpower requirements for road maintenance activities. It will also verify progress in realizing the outputs listed in the Logical Framework of Annex B. An important component of this evaluation will be to provide an early indication of the requirements for a possible follow on project. As presently designed the proposed project makes no provisions for covering the operating costs of the training components (Activity 3) when AID funding terminates. However, all parties agree that a viable solution to Chad's road maintenance problems will require a long-term effort by donors. The World Bank is planning for a follow on project in the road sector, but at this time no details are available. It is reasonable to assume that there will be an appropriate role for AID assistance for road maintenance activities, and it is this role which the evaluation team will examine. However, it should be emphasized that the present project does not depend upon a follow on project in order to realize the outputs and project purpose listed in the Logical Framework. On the other hand, realization of the project goal would not be feasible in the absence of a long term road maintenance effort.

With respect to activities 4 and 5 the evaluation team will concentrate on the progress of the technicians in meeting the requirement set forth in the scopes of work in Annex O. Of special concern will be ability of the technicians to realize their goals in the time period indicated (30 months for activity 4 and 15 months for Activity 5). While the activity has been carefully designed, working in Chad typically involves delays and in anticipation of the likelihood of problems, a contingency of 30% has been included for activity 4 and a 37% contingency for assistance to the trucking industry (Activity 5).

VI. Conditions, Covenants and Negotiating Status

Planning for the project is already at a very advanced stage. Discussions and negotiations between the GOC and the three donors were completed in late May, 1978 and each donor is in the process of finalizing their respective project approval documents. There is agreement and understanding between all of the donors with respect to the other's participation, and this will be formalized in the Letter of Understanding, a draft of which is included in Annex N. This will insure that all components of the project will be carried out in an orderly and rational manner. To assure smooth implementation of the project AID will not sign a project agreement with the GOC until a Letter of Understanding (see Annex N) is signed by the three donors. Further, a condition precedent to the disbursement of AID funds will be that the other two donors have signed their respective agreements with the GOC.

During negotiations with the GOC agreement was reached on the scopes of work for AID financed technical assistance contained in Annex O. In the respective project agreements provisions will be made to insure that counterparts will be provided for these technicians.

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Table 1

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TRID HIGHWAY PROJECT

List of Roads to be Maintained

Subdivision and Roads	Road Type - Traffic Volume/km												Total
	Engineered				Partially Engineered				Tracks				
	Laterite		Sand/Clay		Laterite		Sand/Clay		A		C		
	A	B	A	B	A	B	C	A	B	C			
A. N'Djamena Town													
Massequet-Massary			58									58	
Massequet-Carne				53								53	
Carne-N'Gours									72			72	
N'Gours-Sikine										264*		264	
Chagou-Linia			30									30	
Linia-Massena											127	127	
Djermaya-Djirzilo											92	92	
			<u>98</u>	<u>53</u>					<u>72</u>	<u>453</u>		<u>676</u>	
B. N'Djamena Touch													
Juslending-ougor							33					33	
ougor-Maqou									99			99	
Guelending-Mgo										149		149	
							<u>33</u>		<u>99</u>	<u>149</u>		<u>331</u>	
C. Abecne													
Abecne-Sikine											92	92	
Abecne-Asre									167			167	
Acti-Jum Isajer											165*	165	
Jum Isajer-Abecne											146*	146	
Acti-Mongo											154*	154	
Sikine-Mongo											59*	59	
Mongo-Mangaine											118*	118	
Yeffi-Sikine											118*	118	
Jum Isajer-Mangaine											110*	110	
Mangaine-Abou Jela											123*	123	
								<u>259</u>			<u>993</u>	<u>1,232</u>	
D. Sarh													
Maindou-La Sido			36									36	
Juere-Josa	164											164	
Niallin-Guere		30										30	
Juere-Sarh			27									27	
Sarh-Maindou			36									36	
Mogo-Nilicou-Niallin							150					150	
Yeffi-Oth										149		149	
Guidari-Kouara										116		116	
Kouara-Moissala										74		74	
Sarh-Kyane											98	98	
Kyane-Am Timan											259	259	
Am Timan-Abou Jela											135*	135	
Moissala-Candere											123*	123	
	<u>164</u>	<u>166</u>	<u>53</u>				<u>150</u>			<u>190</u>	<u>617</u>	<u>1,499</u>	
E. Moundou													
Pala-Kalo	107											107	
Kalo-Moundou	104											104	
Moundou-Saivere	23											23	
Saivere-Jora-CAF Border		110										110	
Pala-Lere-Cameroon border												122	
Saivere-Josa						79						79	
Magou-Lai												49	
Lai-Sere							49					49	
Sere-Kalo										20		20	
Koutou-Sere										40		40	
Lai-Doha										91		91	
Lai-Guidari										108		108	
Moundou-Saivere										66		66	
CAF Border										152		152	
Kalo-Gounou Jara										52		52	
Gounou Jara-Tizea											58	58	
Josa-Jora											95	95	
Pala-Flange-Cameroon border											83	83	
Quibangala-Pendzangue											15	15	
Pala-Gagal-Beinamer											121	121	
Beinamer-Koutou											90	90	
	<u>131</u>	<u>110</u>	<u>122</u>		<u>79</u>	<u>49</u>				<u>507</u>	<u>462</u>	<u>1,560</u>	
Total	195	276	161	175	79	132	150	259	99	918	2,474	5,318	

Traffic Volume (vehicles per day)

- A 10-40
- B 10-10
- C Less than 10

* Tracks subject to change in annual program.

Source: Mission estimates.

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CHAD

THIRD HIGHWAY PROJECT

Unpaved Road Maintenance Strategies

<u>Road Type</u> Traffic Volume	<u>-----Engineered-----</u>					<u>Partially Engineered</u>				<u>Tracks</u>		
	<u>Laterite</u>		<u>Sand/Clay</u>			<u>Laterite</u>	<u>Sand/Clay</u>			<u>A</u>	<u>B</u>	<u>C</u>
	A	B	A	B	C	A	A	B	C	A	B	C
Dry Grading (frequency/year)	2	2	1	1	1	2	1	1	1	2	1	1
Grading-Compacting (frequency/year)			1	1			1					
Emergency Repairs (m ³ /km)			50	50	50	50	50	50	50	25	25	
Light Maintenance (cantonnage) (km/year x unit)	150	200	100	150		150	100	150		150	200	
Brushing (frequency/year)	30	20				30						
Traffic Volume (vehicles per day)												
A	30 - 60											
B	10 - 30											
C	less than 10											

Source: Mission estimates.

August 1977

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Table 3

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THIRD HIGHWAY PROJECT

Road Maintenance Equipment and Spare Parts for Existing Equipment

Cost Estimates

(US\$'000, End-1977 prices)

	<u>Quantity</u>	<u>Unit Cost</u>	<u>TOTAL COST</u>			<u>Foreign as % of Total</u>
			<u>Local</u>	<u>Foreign</u>	<u>Total</u>	
A. <u>Road Maintenance Equipment</u>						
1. Bulldozer, 180/200 hp	3	145.4	30.5	405.7	436.2	
2. Wheel Loader, 90/100 hp	4	63.5	17.8	236.2	254.0	
3. Motorgrader, 120/130 hp	8	78.9	44.2	587.0	631.2	
4. Towed Tank, Fuel, 5,000 l	7	14.4	7.1	93.7	100.3	
5. Towed Tank, Water, 2000 l	8	5.8	3.2	43.2	46.4	
6. Motor Pump, 30 m ³ /h	3	3.2	0.7	8.9	9.6	
7. Liaison Vehicle, Pick-up	14	6.6	6.5	85.9	92.4	
8. Liaison Vehicle, 4-wheel Drive	9	9.9	6.2	82.9	89.1	
9. Light Liaison Vehicle	6	4.9	2.1	27.3	29.4	
10. Agricultural Tractor 70/80	5	17.9	6.3	83.2	89.5	
11. Motorbike, 250 cc	20	2.8	3.9	52.1	56.0	
12. Dump Truck, 2.5 ton	20	14.3	20.0	266.0	286.0	
13. Truck, 2.5 ton flatbed	2	13.2	1.8	24.6	26.4	
14. Labor Tools (sets)	16	2.7	3.0	40.2	43.2	
15. Trailer with Mechanical tools	5	15.9	5.6	73.9	79.5	
16. Supply/Maintenance Truck	8	41.7	23.4	310.2	333.6	
17. Workshop Truck	2	78.3	11.0	145.6	156.6	
18. Management vehicle	1	9.2	0.6	8.6	9.2	
19. Workshop mobile cranes	2	20.6	2.9	38.3	41.2	
20. Electric transformer, 300 KVA	2	8.0	1.1	14.9	16.0	
			197.9	2,628.4	2,826.3	93%
21. Spare parts stock (10%)			19.8	262.8	282.6	
			217.7	2,391.2	3,108.9	
22. Quantity contingency (5%)			10.9	144.5	155.4	
			228.6	3,035.7	3,264.3	
23. Price variation (about 15%)			33.7	448.1	481.4	
Total			262.3	3,483.8	3,746.1	
B. <u>Spare Parts for Existing Equipment</u>						
			50.1	565.9	716.0	
1. Quantity Contingency (15%)			7.5	99.9	107.4	
			57.6	765.8	823.4	
2. Price Contingency			4.3	57.4	61.7	
Total			61.9	823.2	885.1	93%

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THIRD HIGHWAY PROJECT

Network to be Maintained and Maintenance Operations

Road Type Traffic Volume	Engineered				Partially Engineered				Tracks			Total	
	Lacerte		Sand/Clay		Lacerte		Sand/Clay		A	B	C		
	A	B	A	B	A	A	B	C	A	B	C		
Dry Grading (km)	a) 1. N'Djamena North		98	53								676	
	2. N'Djamena South					83			99	72	453	331	
	b) Abeche							259		149		993	
	c) Sarh	164	166	63				150			190	766	1,449
	d) Moundou	231	110		122	79	49				507	462	1,560
	395	276	161	175	79	132	150	259	99	918	2,764	5,318	
Grading Compacting (km)	a) 1. N'Djamena North		98	53								151	
	2. N'Djamena South					83						83	
	b) Abeche											63	
	c) Sarh			63									63
	d) Moundou						49						49
			161	53		132						346	
Emergency Repairs (m ³)	a) 1. N'Djamena North		4,900	2,650						1,800		9,350	
	2. N'Djamena South					4,150			2,475	3,725	12,000 ^{1/}	22,350	
	b) Abeche							12,950				12,950 ^{2/}	
	c) Sarh		3,150				7,500			4,750	6,000 ^{2/}	21,400	
	d) Moundou			6,100		3,950	2,450			12,675	5,000 ^{2/}	30,175	
		18,050	8,750		3,950	6,600	7,500	12,950	2,475	22,950	23,000	96,225	
Light Maintenance (cannonage) (km)	a) 1. N'Djamena North		98	53								223	
	2. N'Djamena South					83			99	72	453	331	
	b) Abeche									149		993	
	c) Sarh	164	166	63				150			190	733	
	d) Moundou	231	110		122	79	49				507	1,098	
	395	276	161	175	79	132	150		99	918		2,385	
Brushing (km)	a) 1. N'Djamena North											330	
	2. N'Djamena South											420	
	b) Abeche											750	
	c) Sarh	164	166									330	
d) Moundou	231	110			79						420		
	395	276			79							750	

1/ Songor and Bousoo ferryboat access roads.

2/ Hellibongo ferryboat access road.

3/ Lai ferryboat access road.

Traffic Volume (vehicles per day)

A	30-60
B	10-30
C	Less than 10

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Source: Mission estimates

CMAA
 Total Available Funds:
 New Personnel Training Requirements

Position	Requirements										Personnel Available		Training Needs		Trained or Available for Training by																
	Brigades	Subdivisions	Training Unit	Reserve	Total	Equipment Acquisition	Programmatic Officer	Central Workshop	Total	W/Programs	Absecon	Avon	Providence	Total	Total Bond Maintenance	FED Brigades	USSO Brigades	Total Other Projects	Grand Total	BYE	Temporary	Total Available Personnel	Acquired Personnel	No Training Acquired	Trained as of 3/31/75 by CEC	To be Trained by CEC	To be Trained by Others	Credit Deficiencies	12/31/75 2/	12/31/75 3/	
1. Mechanical Engineer						1		1						1					1												
2. Deputy Mechanical Engineer						1		1						1					1												
3. Equipment Inspector						3		3						3					3												
4. Subdivision Fleet Chief									1	1	1	1	1	4					4												
5. Mechanical Support						2	1	3						3					3												
6. Sector Chief									3					3					3												
7. Brigade Chief	4				5									5					5												
8. Mech Site Chief	10		1		12									12					12												
9. Chief Mechanic	7	2	1		10									10					10												
10. Diesel Mechanic	10	2	2		14									14					14												
11. Mechanic						6		6						6					6												
12. Mechanic Foreman (Contractors)						3		3						3					3												
13. Workshop Chief									1	1	1	1	1	4					4												
14. Mechanic Helper/Grasser	24	4	4		34				3	1	3	3	10	44					44												
15. Bulldozer Operator	4				9									9					9												
16. Loader Operator	5				11									11					11												
17. Grader Operator	16				27									27					27												
18. Compactor Operator	8				17									17					17												
19. Paving Operator																															
20. Tool Specialist								4						4					4												
21. Lathe Operator									1	1	1	1	1	4					4												
22. Drill Operator									1	1	1	1	1	4					4												
23. Welder/Blacksmith/Bodymaker	1				2				2	1	2	2	7	9					9												
24. Vehicle Electrician	1				2				2	1	2	2	7	9					9												
25. Carpenter									1	1	1	1	1	4					4												
26. Painter									1	1	1	1	1	4					4												
27. Skilled Laborer								8						8					8												
28. Skilled Laborer - Helper									2	2	2	2	2	8					8												
29. Driver	53	4	17		74				3	1	1	1	4	80					80												
30. Administrative Officer									1					1					1												
31. Secretary/Typist/ stenographer									1					1					1												
32. Accountant									2					2					2												
33. Typist									2					2					2												
34. Stenographer	6		1		7									7					7												
35. Steward and Helper	3		1		4									4					4												
36. Procurement Officer																															
37. Forwarding Agent																															
Subtotal					230				65					88					303												
Expected Personnel Turnover																															
Subtotal																															
TOTAL TRAINING NEEDS																															

1/ Before disbursements for construction of buildings and workshop.
 2/ Estimated dates for personnel availability.

3/ Only positive figures added. Eleven positions already budgeted.

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THIRD HIGHWAY PROJECT

Equipment for Training Program

Cost Estimates
(End-1977 Prices)

<u>Item</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>(US\$ '000)</u>			<u>Foreign as % of Total</u>
			<u>Total Cost</u>			
			<u>Local</u>	<u>Foreign</u>	<u>Total</u>	
<u>A. Training Center</u>						
1. Lache - Vernier 170 x 300 type with accessories	1	15.7	1.1	14.6	15.7	
2. Universal drill - Vernier FV 250E type with accessories	1	31.4	2.2	29.2	31.4	
3. Service vehicles	4	4.9	1.4	18.2	19.6	
4. Tools and improvement	-	20.9	<u>1.5</u>	<u>19.4</u>	<u>20.9</u>	
Subtotal			<u>6.2</u>	<u>31.4</u>	<u>37.6</u>	
5. Price Contingency			<u>0.5</u>	<u>6.1</u>	<u>6.6</u>	
Subtotal A			6.7	87.5	94.2	
Rounded			<u>7</u>	<u>87</u>	<u>94</u>	92%
<u>B. Training Unit</u>						
1. Bulldozer 180/200 hp	1	145.4	10.2	135.2	145.4	
2. Wheel loader 80/100 hp	2	63.5	8.9	118.1	127.0	
3. Motorgrader 120/130 hp	2	78.9	11.0	146.8	157.8	
4. Rubber wheel compactor 15/20 tons	3	54.5	11.4	152.1	163.5	
5. Pulvimer	1	89.3	6.3	83.5	89.3	
6. Dump truck 6 m ³	12	37.0	31.1	412.9	444.0	
7. Tank truck, water, 10,000 l with pump	3	52.7	11.1	147.0	158.1	
8. Tank truck, fuel, 10,000 l	1	53.2	3.7	49.5	53.2	
9. Towed tank, fuel, 14,000 l	1	32.8	2.3	30.5	32.8	
10. Towed tank, water, 2,000 l	1	5.8	0.4	5.4	5.3	
11. Workshop truck	1	78.3	5.5	72.8	78.3	
12. Supply/maintenance truck	1	41.7	2.9	38.8	41.7	
13. Vibrating roller 0.7 ton	1	8.3	0.6	7.7	8.3	
14. Liaison vehicle, pick-up	1	6.6	0.5	6.1	6.6	
15. Liaison vehicle, 4-wheel drive	2	9.9	1.4	18.4	19.3	
16. Towed camper	2	26.9	<u>3.8</u>	<u>50.0</u>	<u>53.8</u>	
Subtotal			<u>111.1</u>	<u>1,474.8</u>	<u>1,585.9</u>	
17. Spare parts stock (10%)			<u>11.1</u>	<u>147.5</u>	<u>158.6</u>	
Subtotal			<u>122.2</u>	<u>1,622.3</u>	<u>1,744.5</u>	
18. Quantity contingency (5%)			<u>6.1</u>	<u>81.1</u>	<u>87.2</u>	
			<u>128.3</u>	<u>1,703.4</u>	<u>1,831.7</u>	
19. Price contingency			<u>9.6</u>	<u>127.8</u>	<u>137.4</u>	
Total B			137.9	1,831.2	1,969.1	
Rounded			<u>138</u>	<u>1,831</u>	<u>1,969</u>	92%

Source: CRT, USAID, mission estimates.

CHAD.

THIRD HIGHWAY PROJECT

Road Maintenance Recurrent Expenditures

Cash Flow

<u>Item</u>	<u>CFAF Million</u>				<u>US\$ '000</u>			
	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
<u>A. Expenditures</u>								
1. <u>Outside Project</u>								
a. CILSS/UNSO Brigade	10.0	10.0	10.0	10.0	40.8	40.8	40.8	40.8
b. FED Brigade	26.9	13.4	-	-	109.4	54.7	-	-
c. Paved road maintenance	24.2	36.4	48.4	48.4	98.3	148.6	197.6	197.6
Subtotal	61.0	59.8	58.4	58.4	249.0	244.1	238.4	238.4
d. Quantity variation 5%	3.0	3.0	2.9	2.9	12.2	12.2	11.8	11.8
e. Price variation	5.7	9.7	15.0	18.7	23.3	39.6	61.2	76.3
Subtotal 1	69.7	72.5	76.3	80.0	284.5	295.9	311.4	326.5
2. <u>Project Components</u>								
a. Unpaved Road Maintenance /1	343.2	343.2	343.2	343.2	1,400.8	1,400.8	1,400.8	1,400.8
b. Ferryboat maintenance and operation	48.8	42.9	37.0	37.0	199.2	175.1	151.0	151.0
c. Fuel taxes for training unit	7.4	7.4	7.4	7.4	30.2	30.2	30.2	30.2
d. Cotton feeder roads	4.7	4.7	-	-	19.2	19.2	-	-
Subtotal	404.1	398.2	387.6	387.6	1,649.4	1,625.3	1,582.0	1,582.0
e. Quantity variation (about 5%)	20.2	19.9	19.4	19.4	82.5	81.3	79.1	79.1
f. Price variation	54.8	76.8	98.6	122.4	223.7	313.5	402.4	499.6
Subtotal 2	479.1	494.9	505.8	529.4	1,955.6	2,020.1	2,063.5	2,160.7
Total A	548.8	567.4	581.9	609.4	2,240.1	2,316.0	2,374.9	2,487.2
<u>B. Revenues</u>								
1. Road Fund /2	477.4	498.9	521.3	544.3	1,948.6	2,036.3	2,127.3	2,223.7
2. Ministry Salaries /3	56.9	58.6	60.4	62.2	232.2	239.2	246.5	253.9
Total B	534.3	557.5	581.7	607.0	2,190.8	2,275.5	2,374.3	2,477.6
C. <u>Balance (B-A)</u>	-14.5	-9.9	-0.2	-2.4	-59.3	-40.5	-0.6	-9.6
D. <u>Cumulated balance</u>	-14.5	-24.4	-24.6	-27.0	-59.3	-99.8	-100.4	-110.0

/1 Excluding equipment depreciation and taxes other than tax on fuel.
/2 Based on CFAF 450 million estimated revenues in 1977, and the following annual growth: 2.5% in 1978, 3.5% in 1979, and 4.5% thereafter.
/3 Permanent labor. Based on CFAF 53.64 million in 1977 and 3% annual increase thereafter.

Table 8

GOC CONTRIBUTION

	US \$000		
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
Unpaved Road Maintenance	2,822	2,781	5,603
Quantity variation	141	139	280
Price variation	<u>681</u>	<u>671</u>	<u>1,352</u>
Sub-Total	3,644	3,591	7,235
Ferryboat Maintenance and Operation	285	391	676
Quantity variation	14	20	34
Price variation	<u>46</u>	<u>93</u>	<u>139</u>
Sub-Total	345	504	849
Unwaived taxes on Fuel:			
For Activity 3			158
For Activity 4			<u>39</u>
 TOTAL			 <u>8,281</u>

CHAD THIRD HIGHWAY PROJECT MAIN ROAD CONNECTIONS

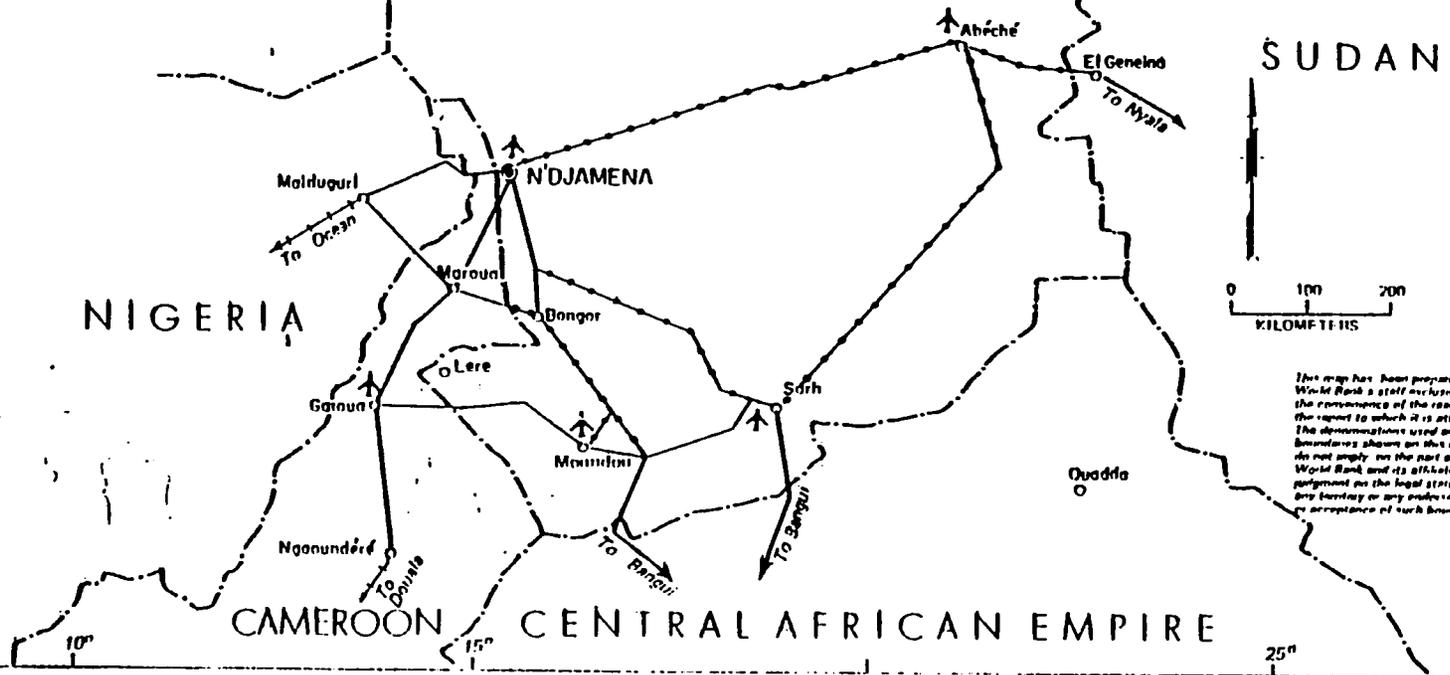
- MAIN ROADS (ALL WEATHER)
- +— MAIN ROADS (SEASONAL)
- +—+ RAILROADS
- ↑ AIRPORTS
- .-.- INTERNATIONAL BOUNDARIES

MAP 1

CHAD

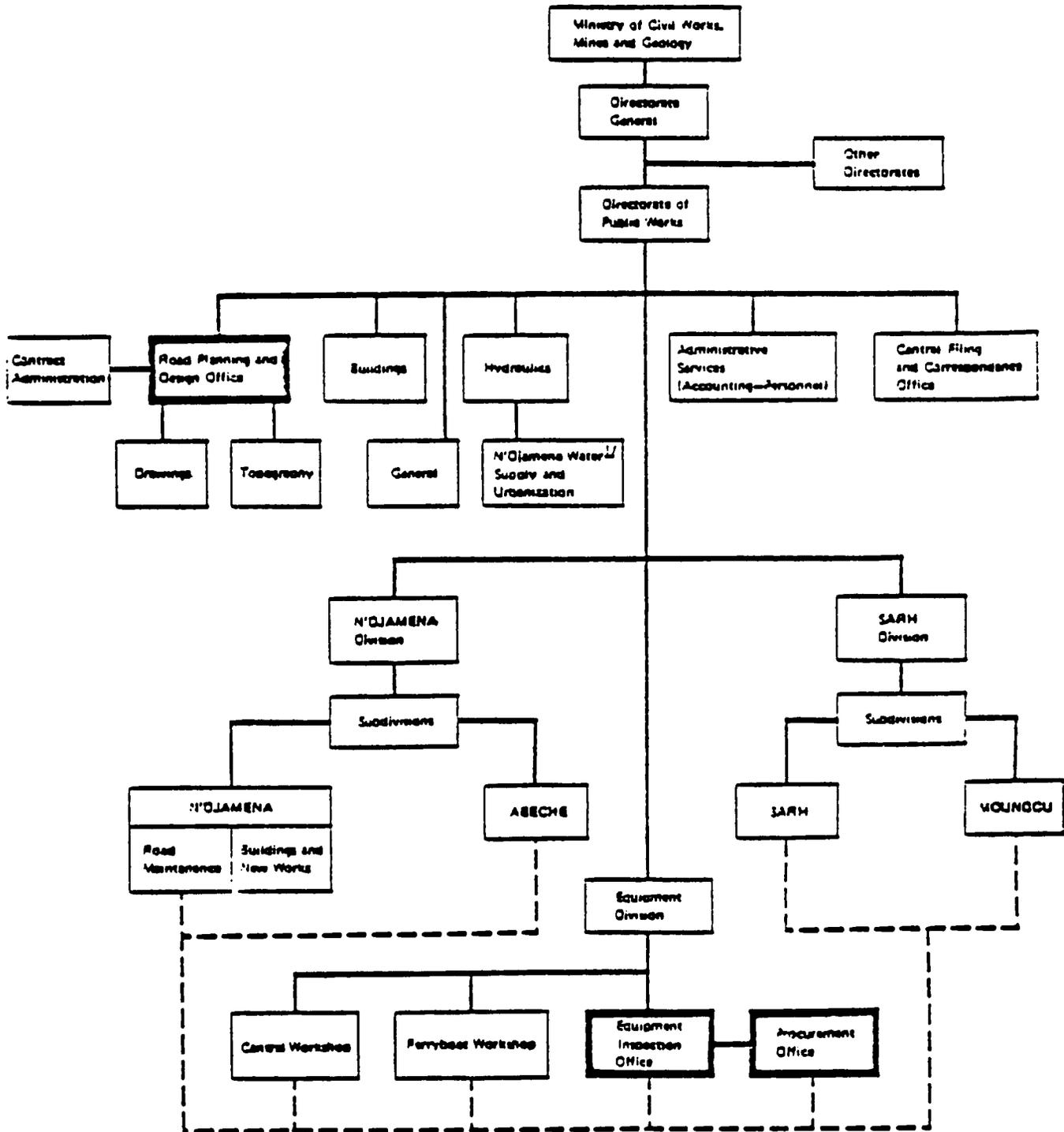
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-39-



This map has been prepared by the World Bank's staff exclusively for the convenience of the readers of the report to which it is attached. The abbreviations used and the boundaries shown on this map do not imply on the part of the World Bank and its affiliates any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.

CHAD
THIRD HIGHWAY PROJECT
DPW Organigramme



Key
 ————— Hierarchic Liaison
 - - - - - Functional Liaison
 [] Office to be reorganized

U Temporary

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ORIGIN: AID-55

6056

STATE 270255

ANNEX A

INFO OCT-01 AF-10 /870 R

DRAFTED BY AFR/DR/SFWAP:ECOSTELLO;AFR/SFWA:TDANNER:GH
APPROVED BY AA/AFR:GTBUTCHER
AFR/DR/SFWAP:RRIFENBURG
AFR/DR/SFWAP:CHUSICK
AFR/DR/SFWAP:JKELLY
AFR/DR/SDP:BBOYD
AFR/SFWS/SDP:MFELDSTEIN
AFR/DR:JWITHERS
AFR/SFWA:GHACARTHUR
AFR/SFWA:HFARNHAM
AFR/SFWA:DSHEAR
AFR/DP:WTATE
PPC/DPRE:PMATHESON
GC/AFR:STISA
SER/EIHR:PSTEARNES
DAA/AFR:VHORTH
SAAA/AFR:DWACHMOLZ
DESIRED DISTRIBUTION
16 ACTION AFR 15 CHRON 1 2 , 6 8 INFO PHA 2 PVC 2 RS 11A PPC 5 GC GCA
F
YCFL1 FM 2 C CALI 2 CT 2 CTR 2 ENGR 3 FFP 3 OFP TA/H DT 5 59P
-----093489 1205212 /21

R 111537Z NOV 77
FM SECSTATE WASHDC
TO AMEMBASSY NOJAMENA
INFO AMEMBASSY ABIDJAN

UNCLAS STATE 270255

AIDAC

E.O. 11652: N/A

TAGS:

SUBJECT: PID REVIEW, CHAD ROAD MAINTENANCE (677-XXXX)

1. COMMITTEE REVIEW OF CHAD ROAD MAINTENANCE FY 1978 PID, HELD OCTOBER 21. RECOMMENDED THAT PID BE APPROVED. PROJECT HAS BEEN DESIGNED WITHIN PARAMETERS OF CILSS/CLUB CRITERIA FOR REGIONAL RURAL ROADS. PROJECT WOULD BE FUNDED UNDER SAHEL DEVELOPMENT PROGRAM AS BILATERAL ACTIVITY CONSISTENT WITH REGIONAL RURAL ROADS STRATEGY.

2. THE FOLLOWING POINTS WERE RAISED AT THE MEETING AND SHOULD BE ADDRESSED BY THE PP DESIGN TEAM:

A. DETAILED CRITERIA FOR SELECTING ROADS TO BE MAINTAINED MUST BE CLEARLY DEFINED. COMMITTEE WAS CONCERNED THAT CRITERIA IN PID DID NOT GIVE PREFERENTIAL WEIGHTING TO ROADS SERVICING FOOD CROP PRODUCTION AREAS. THE ROADS TO BE MAINTAINED MUST SERVICE IMPORTANT FOOD PRODUCTION AREAS, AND PP SHOULD SHOW THAT ROAD MAINTENANCE PRIORITIES ARE GIVEN TO THOSE AREAS PRIMARILY DEVOTED TO FOOD CROP PRODUCTION. FURTHER GUIDANCE FORTHCOMING IN SEPTEL. ALSO, PP SHOULD DESCRIBE CROPS BEING GROWN IN PROJECT AREA, RELATIVE IMPORTANCE OF FOOD AND NON-FOOD CROPS AND STATUS OF PLANNING TO INCREASE FOOD CROP PRODUCTION.

B. PROJECT AS PRESENTED SEEMED AMBITIOUS GIVEN SHORT TIME FRAME. COMMITTEE REQUESTED THE PP ESTABLISH PRIORITIES FOR MAINTENANCE ACTIVITIES, INCLUDE ANNUAL WORK PLAN, AND PROVIDE INFORMATION ON THE TIMING AND PHASING OF PROJECT IMPLEMENTATION BY ACTIVITY.

C. IN VIEW OF AGENCY CONCERN FOR ENCOURAGING LABOR INTEN-

SIVE ACTIVITIES, PP SHOULD SHOW HOW PROJECT WILL UTILIZE LABOR INTENSIVE METHODS TO THE GREATEST EXTENT FEASIBLE.

D. PP SHOULD INCLUDE LIST OF OBJECTIVELY VERIFIABLE INDICATORS WHICH CAN BE MEASURED IN ORDER TO EVALUATE EFFECTIVENESS OF PROPOSED PROJECT. INDICATORS MIGHT INCLUDE INCOMES, MOVEMENT OF FOOD CROPS OVER MAINTAINED ROADS, UTILIZATION OF HEALTH AND EDUCATION FACILITIES IN IMPACT AREA, MOVEMENT OF AGRICULTURAL INPUTS, ETC. PP SHOULD PROVIDE SUFFICIENT FUNDS FOR MIDSTREAM AND FINAL EVALUATION.

E. COMMITTEE FEELS PID DID NOT ADEQUATELY ADDRESS COORDINATION OF PROJECT'S IMPLEMENTATION. THIS WILL BE MULTI-DONOR PROJECT INVOLVING TWO CHADIAN MINISTRIES AND A VARIETY OF SUB-ACTIVITIES. PP MUST SHOW HOW MULTI-DONOR INPUTS ARE TO BE ORCHESTRATED, HOW PROJECT IMPLEMENTATION IS TO BE CARRIED OUT, AND HOW LINES OF COMMUNICATION BETWEEN PARTICIPATING DONORS ARE TO BE ESTABLISHED. FURTHER, PP SHOULD DESCRIBE IMPORTANCE, TO AID COMPONENT, OF OTHER DONORS INPUTS TO OTHER COMPONENTS OF ROAD MAINTENANCE PROJECT AND LEGAL ARRANGEMENTS CONTEMPLATED TO ENSURE THAT ALL DONOR FUNDING REQUIRED FOR THE PROJECT IS IN PLACE AT THE SAME TIME AS AID FUNDING IF OTHER DONOR ELEMENTS ARE NEEDED FOR SUCCESS OF AID FINANCED COMPONENTS.

F. SINCE THIS IS TO BE THE FIRST PHASE OF A TWO-PHASE MAINTENANCE PROJECT, THE PP MUST INCLUDE A DISCUSSION OF THE PROBABLE ACTIVITIES TO BE UNDERTAKEN DURING PHASE TWO AND THEIR RELATIONSHIP TO PHASE ONE. BY WAY OF GUIDANCE, THE ASSISTANT ADMINISTRATOR INDICATED THAT THE SECOND PHASE OF THE PROJECT SHOULD BE DESIGNED IN SUCH A WAY AS TO MINIMIZE AID'S PARTICIPATION IN FUNDING RECURRING COSTS. THUS, PP MUST SHOW RELIABLE SOURCE OF GOC FINANCIAL SUPPORT TO DPW DURING SECOND PHASE TO INSURE CONTINUATION OF MAINTENANCE ACTIVITIES BEGUN DURING PHASE 1.

G. COMMITTEE EXPRESSED CONCERN WITH ABILITY OF GOC TO PROVIDE THE HUMAN AND FINANCIAL RESOURCES INDICATED IN THE PID. IN VIEW OF THE INABILITY OF THE GOC TO PROVIDE FINANCIAL SUPPORT TO MANY OTHER DEVELOPMENT PROJECTS, COMMITTEE QUESTIONED WHETHER OR NOT GOC COULD COME UP WITH DOLS 6.3 MILLION OVER LIFE OF PROJECT. FURTHER, CAN GOC PROVIDE PERSONNEL FOR THIS PROJECT WITHOUT JEOPARDIZING THE SUCCESS OF OTHER DEVELOPMENT PROJECTS? WITH RESPECT TO THE PROPOSED AID FINANCIAL TRAINING ACTIVITIES, PP SHOULD INDICATE THE NEED FOR THE LEVEL OF TRAINING PROPOSED, AVAILABILITY OF PERSONNEL TO BE TRAINED, AND DESCRIBE THE STRUCTURE AND RESPONSIBILITIES OF THE MOBILE MAINTENANCE BRIGADES.

H. THERE WAS SOME QUESTION AS TO THE NATURE OF TECHNICAL ASSISTANCE TO THE ROAD TRANSPORT INDUSTRY. PP MUST PROVIDE CLARIFICATION AS WELL AS DETAILED INFORMATION ON HOW THIS WILL BE ACCOMPLISHED.

I. PROCUREMENT FOR EQUIPMENT AND SERVICES SHALL BE OF U.S. ORIGIN EXCEPT IN THOSE CASES WHERE A DEMONSTRATED NEED FOR WAIVER IS ESTABLISHED.

J. AFR/DR/SDP CONCURRED WITH IEE PREPARED BY CDO, WHICH RECOMMENDS NEGATIVE DETERMINATION AND COMMITTEE RECOMMENDED APPROVAL BY AA/AFR.

K. PID MENTIONED THAT CONCEPT OF A TRAINING BRIGADE HAS BEEN PROPOSED BY ORT. IS THIS TO BE FUNDED BY GRANT TO ORT OR BY A CONTRACT? DISTINCTION IS THAT A GRANT FINANCES A PVO PROPOSAL AND HAS LESS AID CONTROL OVER THE ACTIVITY AND A CONTRACT BUYS SERVICES REQUIRED FOR AN

UNCLASSIFIED
Department of State

OUTGOING
TELEGRAM

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AID FINANCED PROJECT). IF GRANT FUNDING AS PVO/OPG CON-
TEMPLATED, IT IS IMPORTANT TO COORDINATE APPROVAL OF THIS
PROJECT AND APPROVAL OF THE ORT PROPOSAL. IF A CONTRACT
IS CONTEMPLATED, WHETHER DIRECTLY WITH A.I.D. OR WITH THE
GOC, COMPETITION IS REQUIRED UNLESS A WAIVER BASED ON
ESTABLISHED
COUNDS IS REQUESTED AND JUSTIFIED IN THE PP.

L. PAGE 4 OF PID LISTS IMPORTANT ASSUMPTIONS. PP SHOULD
DISCUSS THE VALIDITY OF THE ASSUMPTIONS, THE DEGREE OF
CERTAINTY INVOLVED WITH THEM AND THE STATUS OF ACTIONS
NECESSARY TO ACHIEVE ASSUMPTIONS.

3. CDO SHOULD SUPPLY AID/W FOLLOWING INFORMATION:

A. NAME OF OFFICER AND PROJECT COMMITTEE MEMBERS RESPON-
SIBLE FOR PROJECT DESIGN AND MANAGEMENT.

B. SCHEDULE OF DESIGN ACTIVITIES.

C. ESTIMATED SUBMISSION DATE FOR PP. VANCE

UNCLASSIFIED

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

INSTRUCTION: THIS IS AN OPTIONAL FORM WHICH CAN BE USED AS AN AID TO ORGANIZE DATA FOR THE PAR REPORT. IT NEED NOT BE RETAINED OR SUBMITTED.

Life of Project
From FY 78 to FY 83
Total U.S. Funding \$9.0
Date Prepared: 6-1-78

Project Title & Number: Chad Road Maintenance 677-0032

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes: (A-1)</p> <p>To contribute to the achievement of food self-sufficiency in Chad and the Sahelian region.</p>	<p>Measures of Goal Achievement: (A-2)</p> <ul style="list-style-type: none"> - Output of food and animal products in Chad. - Caloric intake and protein consumption of the population. - Imports and exports of food products. 	<p>(A-3)</p> <p>Production estimates for farm products are gathered and published by Chad's Ministry of Agriculture. The UNDP prepared caloric and protein consumption estimates. Movement of food products can be verified by import and export statistics.</p>	<p>Assumptions for achieving goal targets: (A-4)</p> <ul style="list-style-type: none"> - That internal security problems do not significantly impede economic and social development efforts. - That the GOC and other donors continue to emphasize projects in the rural sector directed toward increasing agricultural output. - That road maintenance activities will continue after the present project terminates.

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: _____
From FY 78 _____ to FY 83 _____
Total U.S. Funding \$9.0 _____
Date Prepared: 6-1-78

Project Title & Number: Chad Road Maintenance 677-0032

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Project Purpose: (B-1)</p> <p>To facilitate access to Chad's productive southern and eastern regions.</p>	<p>Conditions that will indicate purpose has been achieved: End-of-Project status. (B-2)</p> <p>By the end of the project, the Department of Public Works will be able to provide regular periodic maintenance of 5,300 km of rural roads in Chad.</p>	<p>(B-3)</p> <p>Supervision Reports.</p>	<p>Assumptions for achieving purposes: (B-4)</p> <p>The GOC continues to give road maintenance high priority and direct appropriate resources for this purpose.</p>

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PROJECT DESIGN SUMMARY LOGICAL FRAMEWORK

Life of Project
From FY 78 to FY 83
Total U.S. Funding \$9.0
Date Prepared: 6-1-78

AID 1000-10 11-700
SUPPLEMENT 1

Project Title & Number: Chad Road Maintenance 677-0032

PAGE 3

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Project Outputs: (C-1) Output of AID financed activities are as follows:</p> <p>1. Training Program:</p> <ul style="list-style-type: none"> - Trained personnel - Maintenance Brigade 	<p>Quantity of Outputs: (C-2)</p> <p>247 mechanics, technicians and equipment operators trained.</p> <p>A training/maintenance brigade will regravell 100 km of roads annually.</p>	<p>(C-3)</p> <p>supervision reports</p>	<p>Assumptions for achieving outputs: (C-4)</p> <p>That adequate numbers of trainees be located.</p>
<p>2. Technical Assistance to Direct Directorate of Transport</p> <ul style="list-style-type: none"> - Publication of transport statistics - Transport planning and traffic regulations. 	<p>An annual report will be prepared.</p> <p>Planning documents and transport regulations will be prepared.</p>	<p>Supervision reports</p>	<p>That a qualified technician can be found and that the GOC cooperation will be forthcoming.</p>
<p>3. Technical Assistance to the transport industry</p> <p>Improved truck utilization</p>	<p>Annual kilometrage traveled will increase from 40,000 to 60,000.</p> <p>The average vehicle load factor will increase from 55 to 65%.</p>	<p>Supervision reports</p>	<p>That a qualified technician can be located.</p>
<p>4. Participant Training</p> <ul style="list-style-type: none"> - Trained Personnel 	<p>15 Chadians will be trained in Africa and abroad (see text.)</p>	<p>Supervision reports</p>	<p>That qualified trainees can be located.</p>

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project
From FY 78 to FY 83
Total U.S. Funding \$9.0
Date Prepared: 0-1-78

Project Title & Number: Chad Road Maintenance 677-0032

PAGE 4

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Project Inputs: (D-1)</p> <p>The AID financed inputs total \$9.0, which includes 275 man months of technical assistance. See p 20. The inputs of the IDA will total \$7.6 million while those of the ADB will be \$5.1 million. The GOC has agreed to contribute \$8.3 million.</p>	<p>Implementation Target (Type and Quantity) (D-2)</p> <p>See Financial Analysis in Part III for a discussion of the project activities to be financed by each donor.</p>	<p>(D-3)</p> <p>Supervision reports and interim evaluations.</p>	<p>Assumptions for providing inputs (D-4)</p> <p>That the project is approved by each donor and that resources are made available on a timely basis.</p>

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1978 Country Checklist for Chad
was submitted with the Rural Sanitary
Water Project 677-0022

Chad Road Maintenance 677-0032
Annex D

6C(2) - PROJECT CHECKLIST

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

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

GENERAL CRITERIA FOR PROJECT.

1. App. Unnumbered; FAA Sec. 653(b)

(a) Describe how Committees on Appropriations of Senate and House have been or will be notified concerning the project;
(b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that figure plus 10%)?

(a) Through annual Congressional Presentation
(b) Yes

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

(a) Yes, see p.23
(b) Yes, see p. 23

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

N.A.

4. FAA Sec. 611(b); App. Sec. 101. If for water or water-related land resource construction, has project met the standards and criteria as per Memorandum of the President dated Sept. 5, 1973 (replaces Memorandum of May 15, 1962; see Fed. Register, Vol 38, No. 174, Part III, Sept. 10, 1973)?

N.A.

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

Yes, see Annex L.

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A.

5. FAA Sec. 209, 519. Is project susceptible of execution as part of regional or multi-lateral project? If so why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. If assistance is for newly independent country, is it furnished through multi-lateral organizations or plans to the maximum extent appropriate?

This is a multidonor project which is in response to the recommendations of the Club/CILSS transport working group.

FAA Sec. 501(a); (and Sec. 201(f) for development loans). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.

Improving transport will have a favorable impact on items (a) thru (e). In Chad, labor unions are illegal.

8. FAA Sec. 501(b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

While the project will finance about \$7.4 million in U.S. goods and services, it is not expected to have an immediate effect on U.S. trade and investment in the host country. However, as development proceeds, modest opportunities can be expected to emerge.

9. FAA Sec. 512(b); Sec. 536(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.

The GOC will contribute 30% of the total costs of the project.

10. FAA Sec. 512(d). Does the U.S. own excess foreign currency and, if so, what arrangements have been made for its release?

The U.S. has no excess local currency.

8. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(c); Sec. 111; Sec. 291a. Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production, spreading investment out from cities to small towns and rural areas; and (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions?

By improving transportation in the rural areas, the project will lower the cost and increase the availability of agricultural inputs while increasing the marketing frontier. These will all have a favorable impact on improving the quality of life of the rural population.

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

- (1) [103] for agriculture, rural development or nutrition; if so, extent to which activity is specifically designed to increase productivity and income of rural poor; [103A] if for agricultural research, is full account taken of needs of small farmers; N.A.
- (2) [104] for population planning or health; if so, extent to which activity extends low-cost, integrated delivery systems to provide health and family planning services, especially to rural areas and poor; N.A.
- (3) [105] for education, public administration, or human resources development; if so, extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, or strengthens management capability of institutions enabling the poor to participate in development; N.A.
- (4) [106] for technical assistance, energy, research, reconstruction, and selected development problems; if so, extent activity is: (a) N.A.
- (a) technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;
- (b) to help alleviate energy problem; b) N.A.
- (c) research into, and evaluation of, economic development processes and techniques; (c) N.A.
- (d) reconstruction after natural or manmade disaster; (d) N.A.
- (e) for special development problem, and to enable proper utilization of earlier U.S. infrastructure, etc., assistance; (e) N.A.
- (f) for programs of urban development, especially small labor-intensive enterprises, marketing systems, and financial or other institutions to help urban poor participate in economic and social development. (f) N.A.

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

N.A.

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

While Sec. 110(a) is inapplicable to projects funded under Sec. 126, Chad will nonetheless be making a contribution of 30% in the form of revenues from taxes on petroleum products and vehicle import duties.

d. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing?

N.A.

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

(1) annex K demonstrates how improved transport will encourage greater national unity. (2) Meeting the country's food needs will be facilitated by the project roads since they will carry an estimated 60% of Chad's marketing of sorghum/millet. (3) About 247 individuals will be trained. (4) N.A. (5) Transport and communications will be the primary focus of the proposed project. (6) N.A.

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

Infrastructure in the form of all weather roads is a basic requirement for Chad's development, and is among the highest GOC priorities, regardless of sector.

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

Very definitely, see project paper especially Annex K for a further discussion of these effects.

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

No negative effect on U.S. economy anticipated as a result of this project.

2. Development Assistance Project Criteria (Loans only)

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

N.A.

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

N.A.

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

N.A.

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

N.A.

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

N.A.

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

N.A.

3. Project Criteria Solely for Security Supporting Assistance

N.A.

FAA Sec. 531. How will this assistance support promote economic or political stability?

4. Additional Criteria for Alliance for Progress

N.A.

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

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

N.A.

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

N.A.

5. Project Criteria Soley for Sahel Development Program

FAA/Sec. 121. How will this assistance contribute to the long-term development of the Sahel in accordance with the long-term multi-donor development plan for that purpose.

This project has been identified by the Transport and Infrastructure Working Group of the Club/CILSS as a model for other Sahel countries. Thus, it is an integral part of the long term development plan for the Sahel.

6C(3) - STANDARD ITEM CHECKLIST

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

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

A. Procurement

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. <u>FAA Sec. 502.</u> Are there arrangements to permit U.S. small business to participate equitably in the furnishing of goods and services financed?</p> | <p>1. Procurement will be done in accordance with AID regulations. Waiver for proprietary procurement of technical services is included in Annex J.</p> |
| <p>2. <u>FAA Sec. 504(a).</u> Will all commodity procurement financed be from the U.S. except as otherwise determined by the President or under delegation from him?</p> | <p>2. Yes.</p> |
| <p>3. <u>FAA Sec. 604(d).</u> If the cooperating country discriminates against U.S. marine insurance companies, will agreement require that marine insurance be placed in the U.S. on commodities financed?</p> | <p>3. Yes.</p> |
| <p>4. <u>FAA Sec. 604(e).</u> If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity?</p> | <p>4. There will be no such procurement.</p> |
| <p>5. <u>FAA Sec. 608(z).</u> Will U.S. Government excess personal property be utilized wherever practicable in lieu of the procurement of new items?</p> | <p>5. Yes</p> |
| <p>6. <u>AMA Sec. 901(b).</u> (a) Compliance with requirement that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S.-flag commercial vessels to the extent that such vessels are available at fair and reasonable rates.</p> | <p>6. Yes</p> |
| <p>7. <u>FAA Sec. 621.</u> If technical assistance is financed, will such assistance be furnished to the fullest extent practicable as goods and professional and other services from private enterprise on a contract basis? If the facilities of other Federal agencies will be utilized,</p> | <p>7. Yes</p> |

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

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

Yes.

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

B. Construction

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

YES

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

YES

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

N.A.

C. Other Restrictions

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

N.A.

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

N.A.

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

Yes

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

Yes

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5. Will arrangements preclude use of financing:
- a. FAA Sec. 114. to pay for performance of abortions or to motivate or coerce persons to practice abortions? Yes.
 - b. FAA Sec. 620(g). to compensate owners for expropriated nationalized property? Yes
 - c. FAA Sec. 660. to finance police training or other law enforcement assistance, except for narcotics programs? Yes
 - d. FAA Sec. 662. for CIA activities? Yes
 - e. App. Sec. 103. to pay pensions, etc., for military personnel? Yes
 - f. App. Sec. 106. to pay U.N. assessments? Yes
 - g. App. Sec. 107. to carry out provisions of FAA Sections 209(d) and 251(h)? (transfer to multilateral organization for lending). Yes
 - h. App. Sec. 501. to be used for publicity or propaganda purposes within U.S. not authorized by Congress? Yes

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Annex E

REPUBLIQUE DU TCHAD

Unité - Travail - Progrès

MINISTRE DE L'ECONOMIE
DU PLAN ET DES TRANSPORTS
DIRECTION GENERALE
DIRECTION DU PLAN
ET DU DEVELOPPEMENT

N'Djaména, le 10/01/77

N°.../MPET/DPO

Le Ministre de l'Economie, du Plan
et des Transports

Objet : Brigade locale d'entretien
roucier

Honorable le Directeur du Bureau
de l'US - AID

MARSA A

Monsieur le Directeur,

En décembre 1976, l'US-AID accueillait à son siège, responsable de la coopération, le "Union des Villes Océ" à Genève, une mission d'étude relative au site, projets susmentionnés. Une convention par l'AID au profit du développement de l'économie. Le Général qui occupait votre siège avait fait appel, spécialiste en logistique de hauts, avait orienté ses prestations dans ce sens, dans toute la conformité avec une stratégie plus globale de vos décideurs et ont je loue la pertinence.

Dans le secteur des transports, il avait été spécialement dérangé le besoin d'un entretien roucier efficace et j'avais pu, personnellement à l'époque, sentir mon souci du besoin d'une amélioration de la compétence des personnels et ainsi de la productivité des investissements très élevés tant en matériel pour l'entretien que l'aide internationale nous assure diverses contributions, tant en coûts d'opération et de maintenance pour laquelle notre "fonds roucier" s'avère régulièrement insuffisant.

Le principe en était retenu et un document assez détaillé pouvait être élaboré par le Chef de Mission ORT actuellement au Tchad pour une première action financée par la BID-IDA et soumis à Mr MASALISSE en juin 1976. Après les observations du Bureau de l'AID d'Abidjan que vous nous avez autorisé de ne pas partager en totalité, (et une certaine façon de voir particulière et inadéquate nos problèmes), un certain nombre de points pouvait être émis en faveur de nos idées. Je ne voudrais pas en dire plus et je vous remercie de votre accueil et de votre intérêt au principe de la prise en charge équivalente de nos problèmes. Une conclusion très constructive de nos réunions a été faite et je suis sûr que votre Siège accepte de nous aider à résoudre nos problèmes.

Vous avez vu que la Banque mondiale a financé au titre de son "Plan de développement" en cours, la mise en place d'un centre de recyclage / formation du personnel des Travaux Publics pour tenter

.../...

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l'améliorer la situation prévalant notamment dans l'utilisation du matériel dont elle nous avait doté en 1970/71. Mais le déroulement de cette opération, achevable d'ailleurs en juillet prochain, s'est heurté à l'indisponibilité d'équipement suffisamment fiable pour permettre les "travaux pratiques" devant prolonger la courte séquence de formation théorique audio-visuelle, et surtout une concentration suffisante sur un chantier assez important pour des apprentissages en vraie grandeur. On a conçu dès lors l'idée de faire participer au moins une partie d'intéressés tout au long de la durée des programmations d'entretien routier de la Direction des Travaux Publics. Il lui serait spécialement confié une question de grand ordre et des routes en terre aménagées au cours des années 1960 et n'ayant reçu depuis leur promotion aucun renouvellement de leur chaussée ; les routes ont subi de profondes déformations tant par le roulage que par les repro-fils et anneaux. Les coûts de tels travaux sont immenses et les trois modestes vols issus de notre "Fonds routier" et les activités de la "brigade école" s'inscrivent d'ailleurs dans un programme plus vaste qui va piloter la TMS-ISA en conformité avec sa contribution importante et tenant compte à ce substituer à nos moyens très limités, (et nous avons par ailleurs sollicité également l'AID pour un cofinancement significatif).

Le présent programme est le dérivé des joints et peut être résumé comme suit : la formation par le roulement des routes en terre, "accréditée" :

- 1.250.000 U S \$ de matériel et de constitution de cette unité.
- 1.150.000 U S \$ de charges de personnel (dont 740.000 pour le Consultant).
- 2.415.000 U S \$ de coûts de fonctionnement (dont la maintenance) ; soit en tout 5.155.000 U S \$ pour une période de cinq années.

Il est raisonnable de prévoir que quelques 300 km de routes seraient rechauffés "accessoirement" à une formation efficace du personnel.

Les modalités de l'évaluation annuelle en cours de programme et les dispositions de formation des homologues aux instructeurs du Consultant constituent par ailleurs des termes de référence particulièrement précis sur la valeur de formation de cette opération. L'"Union Mondiale CRT" s'étant acquise une large réputation de compétence dans ce domaine, se verra très vraisemblablement bénéficier de cette expérience dans des régions très diverses où elle jouit auprès de l'AID, ce serait là un autre succès.

Le Gouvernement de votre pays serait très sensible à une aide positive à cette formation, pour laquelle j'ai l'honneur de vous prier de nous assurer votre meilleure recommandation à votre Siège. Dans l'attente d'une réaction favorable, je me salue de cœur, Monsieur le Directeur, et l'assure de ma parfaite et cordiale attention.

M. le Ministre de l'Économie, du Plan
et des Transports
le Ministre des Finances, des Travaux
et Matériels.

MARSH GUR BIRNBAUM

Criteria for the Selection of Roads to be Maintained

1. Introduction: Paragraph 2.A of the PID approval cable requested that detailed criteria be provided for selecting of roads to be maintained under this project. Separate guidance was later provided to USAID N'Djamena by AFR/DR/SDP entitled "Guidelines for AID Rural Roads Project Selection in the Sahel Region" (Guidelines paper). However and as the title suggests, this guidance applies to the selection of road construction rather than maintenance. Notwithstanding, with some modifications the paper provides some useful guidance for the selection of roads to be maintained.
2. General Guidelines: The first phase of Guidelines Paper lists five steps in selecting potential road projects. These steps are general in nature, but helps narrow down the field of potential projects. Of these the first three steps deal with the identification of roads which are included in national, regional or area development plans. Unfortunately, in Chad the planning process is still in its formative stages. About all that can be determined at this time is that internal transportation and connections to international routes are among the GOC's highest priorities, regardless of sector. The fourth step is of more immediate relevance since it directs attention to roads located in Project Areas which have been identified by the Club working groups. This project is a direct result of the Club Transport Sector working group, which emphasized the selection of transport links between production areas, market towns, and, where appropriate, export corridors. Step 5 is even more appropriate to Chad since it emphasizes selection of roads which serve areas which were relatively inaccessible to relief supplies during the drought.

It is at this point that a major deviation from the Guidelines Paper is necessary. Since this is a maintenance rather than construction project, logic dictates that all roads in the system be first subjected to the acid test of economic feasibility. (In the Guidelines Paper this is shown as one of the last steps to be undertaken). Those roads which pass this test can then be subjected to the seven criteria listed in part two of the Guidelines Paper.

A detailed benefit/cost analysis of the Chadian road network

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A detailed benefit/cost analysis of the Chadian road network

identified 5,318 km of road to be maintained (see map 2 and Table). Roads selected on this basis respond to the general criteria presented in the first section of the guidelines paper. Notice that the proposed network supports economic activity by maintaining vital cotton export routes including connections to cotton ginneries. It also connects important food growing areas with the capital and also with other areas in the drought prone Sahel. According to a recent study, southern Chad is a food surplus area which provides grain to the traditional food deficit areas in the Sahel^{a/}. By maintaining roads in both areas (24% of the roads to be maintained are in the Sahel zone) the effects of localized drought conditions can be minimized by facilitating the movement of food grains. Finally, notice from the map that the proposed network will maintain road connections between regional, administrative and commercial centers and the national capita. As concluded in the social analysis (Annex K), this is an important ingredient in the realization of national unity.

As suggested in part two of the Guidelines paper, the priority of the project can be determined by analyzing it in terms of seven weighted economic, social and equity criteria^{b/}. A project which receives a high score (1.0 maximum) ranks high with respect to established CILSS and AID priorities, and there is a prima facie case for its approval. However, in applying these criteria to the present project, there are certain data gaps which have been filled by USAID estimates. The following analysis indicates that this project receives a score of .85. This score implies that the proposed project is highly responsive to established CILSS priorities. A summary of the selection criteria follows:

a/ Marketing, Price Policy, and Storage of Food Grains in the Sahel, CLUB/CILSS Working Group, August 1977.

b/ Population served, proportion of small farmers, food grain production, integrated food grain production, road network linkages, health and educational services and marketable surplus.

3. Specific Criteria:

a) Population Served: The population to be directly served by the project will consist of:

- The entire urban population of Chad except that of the capital. Virtually every urban center outside of the capital lies within the sphere of influence of the project.
- The rural population living 10 km on either side of the roads to be maintained.

Chad's 1977 population is estimated at 4,207,000 of which 14 percent or 590,000 is urban. Deducting the population of the capital (200,000) means that the urban population in the area of influence will be 390,000.

The rural population in the area of influence varies from about 31 people per square kilometer in the southern prefectures to 5 in the Sahel areas. Since most people tend to settle near roads, these same values will be used as indicators of the population density in the area of influence. Further, there are about 1,300 km of roads to be maintained in the Sahel zone and about 4,000 km in the southern zone. Rural population living on 10 km on either side of the road is calculated as follows:

Sahel Zone	1,300 km x 20 = 26,000	x 5	130,000
Southern Zone	4,000 km x 20 = 80,000	x 31	<u>2,480,000</u>
			2,610,000
Adding urban population (from above)			<u>390,000</u>
Total population served:			3,000,000

Since this figure exceeds the upper value given on the rating summary sheet, we will assign a project score of 100 percent to this criterion. This produces a weighted project score of .20 (see summary sheet).

b) Proportion of small farmers: Of the 3 million people directly serviced by the project, 2.6 million or 87 percent are considered rural. In Chad, the entire rural population must be considered as small farmers. Once again, this range exceeds the upper value shown on the summary sheet. Consequently, the maximum weighted project score of .15 is obtained.

c) Food grain production: In Chad, the vast majority of food grain production is accounted for by sorghum and millet. While annual production varies with rainfall, in a "normal" year Chad produces an estimated 600 thousand tons of millet/sorghum. Of this amount about 87% or 525 thousand tons is produced in those prefectures whose principal routes will be maintained under this project. The amount of grain that will be produced by those farmers living in the area of direct influence (those living within 10 km of roads to be maintained) is not precisely known. However, since 2.6 million, or 62% of the nation's population lives in the area of direct influence of roads to be maintained, one could apply this ratio to total production to gain an idea of millet/sorghum production in the area of direct influence. Using this procedure will produce an estimate of 372 thousand tons. Since this is significantly above the maximum range of values shown on the summary sheet a weighted project score of .25 is obtained.

d) Integrated protein production: Data on protein supply in Chad have been estimated by the World Bank (World Tables, Social Indicators, Table 4), and show that in 1970 Chad's per capita protein supply was 73 grams per day. The minimum established by the USDA is 60 grams while that established by the FAO is 75 grams. Surprisingly, Chad's per capita protein supply is the highest of the World's 18 Group I countries (i.e. those countries with per capita incomes of \$100 and below). This is explained by the relatively widespread consumption of beef, small ruminants, and fish. In Chad, protein from animal/pulse represents 45% of total protein supply, while the comparable figure for all Group I countries is 31%. (However, man does not live by protein alone. The same World Bank document estimates that in 1970, the average Chadian only received 86% of his required calorie supply. Given the declines in output since 1970, the present ratio is probably closer to 80%).

In summary, improved transport cannot be justified on the basis of helping the population realize minimum daily protein requirements. Thus, the weighted project score becomes zero.

e) Road network linkages: This criteria is designed to give preference to the construction of those roads which will carry the most tonnage. It is determined by dividing the expected annual tonnage by the construction costs of the road. To determine maintenance priorities this procedure was modified somewhat. The level of maintenance which each road will receive is directly related to average daily traffic. A lightly traveled road may receive

treatment semi-annually, while a more heavily traveled arterial may receive monthly maintenance. Since the level of maintenance for each road is already the economic optimum the weighted project score should approach the maximum, i.e. a score of .10.

f) Health and educational services: The social analysis of Annex K clearly demonstrates Chad's present transport system seriously limits the effectiveness of already seriously inadequate health and education services. However, if facilities and personnel are limited, improved roads can only have a marginal impact on expanding the service area. Hence, if the service area is to be significantly expanded, improved transport must be concurrent with the expansion of health and education facilities/personnel. Since this project will connect all administrative centers, where such services will tend to locate, one can conclude that it will make a necessary (but not sufficient) contribution to expanding health and education services. However, such services are not included as part of the project and one cannot assume that improved transport will cause them to appear. On balance, the project score for this criteria should be somewhat modest, say 50%, producing a weighted project score of .05.

g) Marketable surplus: The most important marketable surplus in the project area is cotton. Cotton accounts for 85% of Chad's exports, 13% of GDP and 10% of GOC budgetary revenues. In the last crop year about 147,000 tons of cotton moved over the project roads. This is far above the range of values shown on the summary sheet, and results in a weighted project score of .10.

4. Summary of Project Rating Exercise: The following summary sheet indicates the "score" for this project is .85, out of a possible 1.0. While wholly acceptable, it should be noted that this procedure tends to give road maintenance activities a high score. For a relatively small cost (when compared to new construction) road maintenance activities can serve large populations which are all small farmers and which produce significant amounts of grain. These three criteria alone account for 60% of the project weights.

Further, it must be recalled that the Guidelines paper suggests a procedure for screening potential projects in the Sahel rather than for justifying specific projects... Thus, the score of .85 is more appropriately used to compare the proposed project to a project in another Sahel country. In any case, the CLUB/CILSS approach pinpoints important considerations in selecting road projects in the Sahel,

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USAID SAHEL RURAL ROADS PROJECT RATING SUMMARY

ject Name: Chad Road Maintenance Country: Chad District: Sahel and Southern

Criteria	COUNTRY			Project Value (D)	Project Score (E) *	Weighted Project Score (F) *
	Range of Values (A)	Rating Scale (B)	Assigned Criteria Weight (C)			
Population Served	.15-2.1 mil	0-100% 2.1 = 100%	0.20	3.0	100%	.20
Proportion of Small Farmers	27-68%	0-100% .68 = 100%	0.15	.87	100%	.15
Food Grain Production	2,000-15,000 tons/yr.	0-100% 15,000=100%	0.25	372,000	100%	.25
Integrated Protein Production	34-100%	0-100% 100%=100%	0.10	N.A.	0%	.00
Road Network Benefit-Cost	01-.027 ton/dollar	0-100% .027=100%	0.10	See Text	100%	.10
Health & Educational Services	300-4,400	0-100% 4,400=100%	0.10	See Text	50%	.05
Marketable Surpluses	0-9,500 tons/yr.	0-100% 9,500=100%	0.10	147,000	100%	.10
TOTAL			1.00			.85

*Notes:

- Column (E) is calculated by dividing Column (D) by the maximum value in the range of Column (A), i.e., $0.4 \div 2.1 = .19$.
- Column (F) is calculated by multiplying Column (E) times Column (C), i.e., $.19 \times .20 = .038$.

Review of World Bank's Assistance to the Transport Sector ^{a/}A. Introduction

To date World Bank assistance to Chad's transport sector has been for highway development and for maintenance and improvement of cotton feeder roads. A (First) Highway Maintenance Project (Credit 125-CD, US\$4.1 million, 1968) provided a five-year maintenance program, preinvestment studies of the Djermaya-Djimtilo road, and a country-wide traffic counting program. The World Bank has prepared a project performance audit report on this project which is summarized below. The maintenance program fell short of achieving its physical targets mainly due to the shortage of local funds. Training for road maintenance personnel, initially included in the project, was dropped because the consultants' proposal was too expensive, detailed engineering of the Djermaya-Djimtilo road was not undertaken, because an economic study found that construction was premature. The resulting surplus Credit funds were used to complement a training program under the Second Highway Project and to purchase much needed spare parts for existing equipment. Although not completely successful, the project promoted a policy emphasizing road maintenance and was substantially completed by December 1973.

B. The First Highway Maintenance Project

Credit 125-CD for US\$4.1 million was to finance the foreign exchange cost of a highway project, estimated to cost US\$5.1 million, to help establish a sound maintenance organization. The project consisted of three parts. One part, the most important (82% of the estimated project cost), was a five-year highway maintenance program. The program included: the purchase of equipment, spare parts and materials; the improvement of workshops; and the provision of a training program. The other two parts were the execution of preinvestment studies for a main road and lakeside facilities as well as the establishment of a traffic data collection system.

The project was revised during implementation by the extension of the length of roads included in the maintenance program as well as by the deletion of detailed engineering of the main road and of the training program. The original maintenance target was to cover 3,700 km of roads by 1971. However, due to delays in the equipment procurement program, a new target of 4,300 km by 1974 was set. Detailed engineering for the main road was dropped because the feasibility study showed that road improvement would be premature. After consultants determined that the cost of training operators and mechanics would exceed the credit allocation and after the Government requested inclusion of a more comprehensive program in a project supported by a subsequent credit (490-CD of June

^{a/} Source: World Bank's Third Highway Appraisal Report (draft) and Project Performance Audit Report, Sec. M 78-92, Feb. 6, 1978.

1974), IDA agreed to the deletion of training under Credit 125-CD. Some training of maintenance personnel was carried out during the project period by USAID and by local agents of equipment suppliers.

a. Project Results

Implementation. By the project completion date (December 1973), only 71% of the maintenance target (in terms of road length covered) set for 1971 was reached. During implementation, important delays occurred in procurement of equipment and materials, improvement and extension of the workshops, and allocation of additional revenue collected from fuel taxes to highway maintenance. The primary causes of the procurement delay were the slow start of tendering, the need for retendering because of devaluation of the French and CFA francs, and the delay in awarding contracts and ordering equipment. Workshop construction was prolonged because the original domestic contractor did not have sufficient experience or financial resources and another domestic contractor had to finish the job, with assistance from the Directorate of Public Works. The Government's unwillingness to allocate additional revenue collected from fuel taxes to highway maintenance operations before delivery of the project equipment delayed the availability of sufficient funds for the maintenance program. Other delays of shorter duration were associated with procedural arrangements and renegotiation of the contract for the feasibility study. It appears that the original schedule for the project was somewhat optimistic. This seems to indicate the importance of taking into account administrative constraints as well as the lack of familiarity of the Government and IDA with each other's procedures and regulations in scheduling activities in first projects.

b. Institutional Impact. The project focussed the Government's attention on the importance of highway maintenance and initiated the process of building a sound maintenance organization. Shortages of personnel, local funds, and equipment hampered the Government's ability to observe, fully and continuously, its commitments to IDA to enforce vehicle weights and dimensions and traffic regulations as well as to collect highway traffic data. This experience suggests the importance of ascertaining, at the time of formulation of credit conditions, the extent of availability of resource essential to compliance.

c. Cost. The net increase in the actual cost of the revised project was 6% over the original estimate at appraisal. The increase in the cost of equipment and spare parts (resulting from procurement delays and price increases) was 19%, but this was partly offset by the savings arising from the deletion of detailed engineering and most of the training program.

d. Economic Rate of Return. Despite the lower than expected maintenance output and cost overrun, the reestimated rate of return for the project is 21% compared with the appraisal estimate of 11%. This is explained primarily by the substantial rise in vehicle operating cost savings due to the increased price of oil. The economic return, however, is very sensitive to changes in benefits.

e. Conditions Required for Proper Highway Maintenance. The experience of this project also points to the need for provision of increased local funds for maintenance, improvement of equipment utilization, expansion of training for maintenance personnel, and development of the Government's highway planning capability.

C. The Second Highway Maintenance Project

A Second Highway Project started in 1975 (Credit 490-CD, \$3.5 million, 1974), comprising a five year program of improvement and maintenance of cotton feeder roads, a three year interim maintenance program for ferryboats, a training program for Directorate of Public Works (DPW) personnel, a two year traffic counting program, preinvestment studies of about 120 km of cotton feeder roads, a feasibility study for replacement of ferryboats, and technical assistance to the road transport industry. While an evaluation of the project has not been conducted, the World Bank notes that detailed engineering of the two cotton export roads was not undertaken because the proposed investment in one road was not economically justified and the other was contingent upon construction of a soap factory, a project which was cancelled by the GOC. In view of the increased training requirements of the proposed Third Highway Project, the training program has been extended to provide continuity with its follow-up under the proposed Third Highway project.^{a/} This has caused a cost overrun of about US\$300,000 which was "financed" by the scope of the cotton feeder road program. The completion of the cotton feeder road program is, therefore, included in the proposed Third Highway project. The improvement and maintenance of cotton feeder roads is proceeding satisfactorily.

D. Other Activities

In addition to the two road maintenance projects, the Rural Projects Fund (Credit 664-CD), US\$12 million, December 1976) includes minor drainage works and selective maintenance and improvement on about 1,200 km of feeder roads, mainly in the cotton zone. An initial step to improve the air transport sector will be taken under the Sahelian Zone Project (Credit 739-CD, US\$1,9 million, October 1977) which will include minor rehabilitation works on six airstrips serving regional prefectures.

^{a/} For a more complete evaluation of the DPW training program see Annex J.

Request for Proprietary Procurement of ORT Services

A. Background: In May 1966 a World Bank project identification mission was sent to Chad. Based on its findings the mission recommended, inter alia, the provision of a long-term road maintenance program including the financing of highway maintenance equipment. In February 1967, the GOC submitted a request for IDA assistance in financing a five-year road maintenance program. In 1968 a credit agreement was signed with the IDA (First Highway Maintenance Project) and became effective on February 11, 1969.

One of the components of the project was the training of equipment operators and mechanics. Credit funds amounting to US\$200,000 were earmarked at the time of appraisal for this training, either by expatriate specialists or by sending trainees to the USAID-financed Regional Training Center in Lome, Togo.

In 1969 the Government obtained proposals from four consulting firms for the training program, but the proposals were more expensive, in relation to the services to be provided, than the amount allocated in the Credit.

Meanwhile, at the Government's request, USAID agreed in 1971 to reopen the training center at N'Djamena for five years. This center, run by two American specialists, had trained DPW operators and mechanics between 1965-68. From September 1971 the center trained 12 work supervisors, 36 operators and 31 mechanics under the direction of a USAID expert.

In addition, 20 trainees were sent for training to the USAID Regional Training Center at Lomé. As a condition of purchase of maintenance equipment, familiarization training for operators and maintenance personnel was also carried out in N'Djamena by the local agents of equipment suppliers.

However, in view of the importance that IDA attached to a full training program, the GOC requested the American ORT Federation, a non-profit, voluntary agency, registered with AID, through the World ORT Union, its operational affiliate and overseas office in Geneva, Switzerland, to propose a comprehensive training program for DPW's highway maintenance personnel, along the lines of a similar program carried out by ORT in Zaire.

The consultant, whose services were financed by IDA under the First Highway Credit, sent a two-man mission to Chad in May 1972 for about three weeks to assess the training requirements and the estimated costs. Based on their findings, the consultants recommended a program involving about 90 man-months of training specialists and purchase of workshop equipment and tools and other educational aids. However, the cost of this comprehensive training program, estimated at US\$400,000, exceeded the amount available in the Credit and no other donors could be found to finance the increase. Consequently, the GOC with IDA's concurrence dropped this training program from the First Highway project, and reinstated it under the Second Highway Project. (Credit 490-CD).

B. The ORT Contract:

The Second Highway Project for \$3.5 million (Credit 490-CD) began in mid-1975. On July 31, 1975 the DPW, through the IDA, entered into agreement with ORT for a two-year personnel training contract. ORT was selected

to supply technical assistance in the area of professional training and retraining of persons necessary for the maintenance and operation of public works equipment, as well as the construction, repair, and maintenance of the Chadian road network. (Article 1, Section 1.01, Terms of Reference). The original cost of the ORT contract was \$581,799 and CFA 50,581,630.

A first extension (from August 1, 1977 to March 31, 1978) increased the overall budget to \$745,000 and CFA 77,954,545. A second extension (from April 1, 1978 to October 31, 1978) was necessary which increased the overall budget to \$950,000 and CFA 87,000,000.

A statement of the progress made by the ORT mission since its inception is as follows:

a) Arrival of ORT Personnel

Chief of Party	23 June 1975
Diesel Mechanics Specialist	24 September 1975
Road Construction Specialist	8 October 1975
Equipment Operation Specialist	17 December 1975

b) Training Center Activities

1. From August 1, 1975 to December 13, 1975:

- Construction of Training Center
- Acquisition of project vehicles, office furniture and machines, and reproducing equipment
- Ordering of workshop tools and machinery, and of first lot of spare parts for repair of DPW equipment. ORT drew up the lists of equipment and tools, as well as spare parts, required for the operation of the diesel mechanics workshop. These lists were established by ORT specialists in Chad, with the collaboration of the technical services of ORT/Geneva and ORT/New York. The orders were placed directly by ORT after approval by the Ministry of Public Works.
- Preparation of tests for selection and hiring for the programs.

2. From January 1, 1975 to April 30, 1976:

- Construction of mechanics workshop
- Installation of machinery and store
- Installation of machinery and store
- Hiring of local personnel for operation of Center
- Passing of selection tests by 122 candidates
- Completion of training programs
- Start-up of training section as follows:

Road Supervisors (March 22, 1976)

Equipment Operators (March 22, 1976)

Diesel Mechanics (April 26, 1976)

Assistant Mechanics (April 26, 1976)

3. From May 1, 1976 to October 31, 1978:

The training and/or retraining of personnel stipulated in the contract was extended to other state or para-statal agencies within the limits of places available.

In summary, the personnel trained under the program (with projections to October 31, 1978) are as follows:

1) Road Supervisors	10
2) Diesel Mechanics	44
3) Assistant Mechanics	20
4) Equipment Operators	137
5) Equipment Checkers	4
	<hr/>
	215
6) Counterparts	<hr/>
	5
TOTAL	220

c) Activities of the Brigade School

Under the agreement with ORT, the GOC was to supply a good deal of important supporting assistance, including the heavy equipment and spare parts necessary for the proper functioning of the Mobile Brigade School. However, the Ministry of Public Works was not able to place the equipment at the disposal of the Center until October 25, 1976 -- 15 months after the commencement of the project. This equipment was in poor operating condition required extensive repair and led to frequent work stoppages and delays. Consequently the effective work time for training was reduced.

None-the-less, about 160 km of roads were repaired (either by resurfacing or by reshaping) between the beginning of the program and June 30, 1978. In addition, two ferry access ramps were constructed and the two-kilometer air strip at Bongor was reshaped with partial resurfacing.

C. Problem and Discussion

The current IDA-financed ORT contract was extended eight months to March, 1978 and has been extended a second time through October 1978 on the expectation that AID financing would be in place by that time. (AID financing will replace IDA financing under the proposed project, since GOC policy is not to fund technical assistance from reimbursable credits.) USAID/Chad, IDA and AID/W have agreed that continuity of the function is critical to project success (see STATE 75576 and N'Djamena 0780). Further, USAID/Chad and IDA feel that this continuity can only be assured by continuing to have ORT provide the technical assistance for the training function. This decision is based on the following considerations:

- a) The ORT Training Center is fully operational and now training heavy machine operators and mechanics. All ORT personnel are now on board, are functioning well, fluent in French, and have established excellent rapport with GOC. We estimate it would take at least two years for another contractor to achieve the same level of operating efficiency which ORT now displays. Local operating experience is fortified by years of experience in similar ORT programs in Zaire, Tanzania, Nigeria and other countries. This experience is reinforced by strong home office support, including provision of both specialized training and teaching manuals and instruction aids -- all in French.
- b) ORT has established, through a direct written agreement with GOC, a legal basis for its presence as a foreign assistance organization in Chad. This agreement covers the status of ORT, as well as that of its individual employees. This status would not be altered by virtue of AID assuming IBRD funding responsibility for borrower/grantee contract expenses.

As a result the administrative support burden falling on USAID/Embassy would be nil. This is contrary to the situation that would arise with a new firm brought in through AID bidding procedures.

- c) GOC has requested ORT to continue its training activities. CDO has a copy of a letter from the Minister of Public Works to ORT requesting that the GOC/ORT Contract be extended under the Third Highway Project.

- d) Extending the ORT Contract is the most effective way to provide the required technical assistance. ORT is an approved U.S. non-profit voluntary agency whose price would probably be lower than that of a commercial contractor. (See technical assistance information clearing house country report on Chad dated September 1977.) Since ORT is now on board, the expenses for bid preparation, selection of contractor, contractor set-up time, etc. would be eliminated. Further, in view of Chad's isolation, spartan living conditions and lack of educational and cultural facilities, it is not easy to recruit competent French-speaking technicians. In contrast, ORT technicians are already there, are adjusted and will continue, if ORT is selected, to provide technical assistance for the training component of the project.

- e) Project implementation will be simplified and require less CDO manpower if ORT services are continued. Contract selection procedures will undoubtedly be time-consuming and lead to delay in project implementation. The establishing of a new contractor would require the equivalent of the full-time services of one AID technician throughout orientation and acclimatization. This is wasteful of scarce AID field personnel.

D. Recommendation

That American ORT Federation, Inc. be selected under a proprietary procurement waiver based on cost considerations and project implementation efficiency.

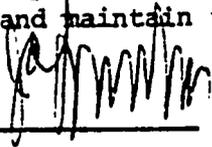
CERTIFICATION PURSUANT TO SECTION 611(E) OF
THE FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

I, John Lundgren, the Principal Officer of the Agency for International Development in Chad, having taken into account, inter alia:

- A. The Government of Chad has charged the Department of Public Works (within the Ministry of Civil Works, Mines and Geology) with the responsibility for maintaining the national road network;
- B. The current efforts (under the World Bank's second Highway Maintenance Project) to train maintenance personnel and to provide them with improved repair facilities and adequate supporting services and supplies;

do hereby certify that in my judgment the Government of Chad will have the financial capability and the human resources capability to maintain and utilize effectively the project. This judgment is based on the following factors:

1. The Government of Chad considers improved road transportation a top development priority.
2. The Government of Chad has established a Road Maintenance Fund which will receive funds from petroleum taxes and duties on transport related imports. The projected financial and budgetary positions are sufficient to pay the recurrent costs of anticipated road maintenance activities.
3. Under the proposed project the training component will provide the human resources necessary to operate and maintain the project.



John Lundgren
Acting Director, USAID/Chad

Preliminary Draft*

June 13, 1978

MEMORANDUM OF UNDERSTANDING

between

INTERNATIONAL DEVELOPMENT ASSOCIATION (IDA)

and

AFRICAN DEVELOPMENT FUND (ADF)

and

AGENCY FOR INTERNATIONAL DEVELOPMENT (AID)

Re: Third Highway Project in the Republic of Chad; Project Administration

WHEREAS (A) IDA has agreed to lend to the Republic of Chad (the Borrower), pursuant to a Development Credit Agreement dated _____ 1978, between the Borrower and IDA (the IDA Credit Agreement), an amount in various currencies equivalent to seven million six hundred thousand United States dollars (U. S. \$7,600,000; the IDA Credit) to assist in financing the project described in Schedule 2 to the IDA Credit Agreement (hereinafter called the Project);

* Final draft to be prepared after review of the ADF Loan Agreement and the AID Grant Agreement.

*Summary draft
Dr. Connelly from
MID on informal basis
initially*

(B) ADF has agreed to lend to the Borrower, pursuant to a Loan Agreement dated _____, between the Borrower and ADF (the ADF Loan Agreement) an amount equivalent to _____ Units of Account of the ADF (ADF U. A. _____; the ADF Loan) to assist in financing the Project;

(C) the United States of America, acting through AID, has agreed to make available to the Borrower, pursuant to a Grant Agreement dated _____, between the Borrower and the United States of America (the AID Grant Agreement) an amount of nine million United States dollars (U. S. \$9,000,000; the AID Grant) to assist in financing the Project; and

WHEREAS IDA, ADF and AID (hereinafter collectively referred to as the Co-financiers), in view of their common interest in the carrying out of the Project, intend to cooperate closely in all matters relating to the utilization of the IDA Credit, the ADF Loan and the AID Grant (hereinafter collectively referred to as the Financings), the execution, including supervision, of the Project and the administration of their respective Credit, Loan and Grant Agreements (hereinafter collectively referred to as the Financing Agreements);

NOW THEREFORE the Co-financiers, without assuming any liability therefor, hereby confirm their understanding regarding the financing plan of the Project and the coordination of their efforts pertaining to the administration thereof as set forth hereinafter:

A. Financing and Procurement Coordination

1. The Co-financiers confirm their understanding that the proceeds of their respective Financings shall be applied, in accordance with the provisions of their respective Financing Agreements, to assist in financing the goods, works and services required for the Project as follows:

Parts A (i) through (iv) (equipment, spare parts and tools)	:	ADF Loan
Parts A (iv), (v) and (vi) (civil works)	:	IDA Credit
Part A (vii) (spare parts [and tools])	:	ADF Loan
Part B (equipment, technical assistance and operating costs)	:	AID Grant
Part C (equipment, materials, construction costs and technical assistance)	:	IDA Credit
Part D (i) (civil works, furni- ture, equipment, supplies and technical assistance)	:	IDA Credit
Parts D (ii), (iii) and (iv) (technical assistance and fellowships)	:	AID Grant
Part E (technical assistance)	:	IDA Credit
Part F (construction materials and operating costs)	:	IDA Credit

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2. The list of equipment required for Parts A (i) through (iv) and (vii) of the Project and price estimates of such equipment as well as of spare parts and tools required for this purpose are set forth in Annex A hereto. The detailed lists of spare parts and tools required for said Parts of the Project shall be proposed by the Borrower to ADF in accordance with the provisions of the ADF Loan Agreement and, before accepting such proposed lists, ADF shall ensure that IDA is furnished with them and concurs thereto. Any material changes in any of the lists referred to above which may be necessary in the course of Project execution shall be made by agreement between the Borrower, ADF and IDA.

3. The list of roads and tracks to be maintained under Parts A (i) and (ii) of the Project is set forth in Annex B hereto. [Any material changes in such roads and tracks other than annual changes in tracks included in Part A (ii) (b) of the Project pursuant to Section 3.07 (b) (i) of the IDA Credit Agreement shall be made by agreement between the Borrower and the Co-financiers.]

4. Before accepting any proposed selections of technical assistance personnel for Parts [B and] D (ii) and (iii) of the Project or of fellowship recipients under Part D (iv) of the Project, AID shall ensure that IDA is informed of the proposed terms of reference of such personnel and its qualifications and experience as well as proposed fellowship recipients and their training programs, and concurs to such selections, terms of reference, or training programs, as the case may be. [Any material changes in such terms of reference or training programs shall be made by agreement between the Borrower, AID and IDA.]

5. The Co-financiers shall coordinate their efforts in following up the various phases of the procedures relating to the placing of contracts and orders for goods, works and services to be financed out of the proceeds of their respective Financings for purposes of the Project in accordance with the provisions of their respective Financing Agreements to the extent necessary to ensure timely procurement of such goods, works and services as required to carry out the Project as a whole within the time scheduled and the limits of the funds available for this purpose.

B. Exchange of Information and Consultation

6. The Co-financiers shall keep each other currently informed of the progress of the Project, including the findings of any inspection by their representatives, and shall exchange views from time to time with respect thereto. In particular, IDA shall inform the other Co-financiers of any annual changes in the tracks included in Part A (ii) (b) of the Project and of the annual selections of roads included in Part A (iii) of the Project pursuant to Section 3.07 (b) of the IDA Credit Agreement.

[7. The Co-financiers shall keep each other informed of the progress made toward fulfillment of the conditions precedent to the effectiveness of, or initial disbursements under, their respective Financing Agreements and shall notify each other when all such conditions, except those relating to the effectiveness of, or initial disbursements under, the Financing Agreement of any other Co-financier, shall have been met.]

8. The Co-financiers shall inform each other beforehand of any scheduled supervision mission and afford each other the opportunity to participate therein.

9. The Co-financiers shall inform each other of any event which comes to their attention and which threatens to increase the estimated cost of the Project or may materially affect the progress of the Project or threaten to impede it, and shall consult each other concerning the action which each proposes to take in respect thereof.

10. The Co-financiers shall promptly inform each other whenever one of them proposes:

- (i) materially to amend its Financing Agreement;
- (ii) to suspend or terminate, in whole or in part, the right of the Borrower to withdraw the proceeds of its Financing;
- (iii) in the case of the IDA Credit and the ADF Loan, to declare the indebtedness of the Borrower under its Financing Agreement to be due and payable in advance of the agreed maturity thereof; or
- (iv) to agree to any important changes in the specifications, cost, scope or nature of the works included in the Project, the equipment and materials required therefor or the work schedules related thereto, or in the technical assistance or training arrangements to be made for its execution.

In each such case the Co-financier concerned shall offer the other Co-financiers a reasonable opportunity, in advance of taking the proposed action, to exchange views with respect thereto. Subject to the provisions of paragraph[s] 2 [,3 and 4] above, each Co-financier shall retain, however, its respective independent right of decision and action under its Financing

Agreement, including the right to permit continued disbursements under such Agreement in case of suspension or cancellation of the Financing of any other Lender.

11. IDA and ADF shall promptly inform each other of any cancellation or repayment in advance of maturity by the Borrower of any amount of their respective Financings.

12. The Co-financiers shall keep each other informed of disbursements under their respective Financing Agreements; the Co-financiers shall also promptly inform each other of any event which might prevent making such disbursements.

C. Miscellaneous

13. Any notice or request required or permitted to be given or made under the provisions of this Memorandum shall be in writing. Such notice or request shall be deemed to have been duly given or made when it shall be delivered by hand or by mail, telegram or cable to the party to which it is required or permitted to be given or made at such party's address specified below, or at such other address as such party shall have designated in writing to the party giving such notice or making such request:

For IDA:

International Development Association
1818 H Street, N. W.
Washington, D. C. 20433
United States of America

Cable address:

Telex:

INDEVAS
Washington, D. C.

440098 (ITT)
248423 (RCA) or
64145 (WUI)

For ADF:

African Development Fund
P. O. Box 1387
Abidjan, Ivory Coast

Cable address:

Telex:

AFDEV
Abidjan

717
498

For AID:

Agency for International Development
Department of State
Washington, D. C. 20523
United States of America

Cable address:

Telex:

CEC STATE
Washington, D. C.

14. The arrangements set forth in this Memorandum will become effective upon confirmation by all the Co-financiers of their agreement thereto through signature by their authorized representatives and shall remain in force and effect, for each Co-financier, until [its respective Financing Agreement shall have terminated] [the proceeds of its respective Financing have been fully disbursed].

INTERNATIONAL DEVELOPMENT ASSOCIATION

By _____
Xavier de la Renaudière
Director
Country Programs Department II
Western Africa Region
Date: _____

AFRICAN DEVELOPMENT FUND

By _____

[name] _____

[title] _____

Date: _____

AGENCY FOR INTERNATIONAL DEVELOPMENT

By _____

[name] _____

[title] _____

Date: _____

EMRothenbühler

To be cleared with and cc: Messrs. Gisle
Staffini/Faiz
Moussu-Rizan

CHAD

THIRD HIGHWAY PROJECT

Road Maintenance Equipment, Spare Parts and Tools for
Parts A (i) through (iv) and (vii) of the Project

Cost Estimates
(US\$'000, End-1977 prices)

	<u>Quantity</u>	<u>Unit Cost</u>	<u>TOTAL COST</u>		
			<u>Local</u>	<u>Foreign</u>	<u>Total</u>
A. <u>Road Maintenance Equipment</u>					
1. Bulldozer, 180/200 hp	3	145.4	30.5	405.7	436.2
2. Wheel Loader, 80/100 hp	4	63.5	17.8	236.2	254.0
3. Motorgrader, 120/130 hp	8	78.9	44.2	587.0	631.2
4. Towed Tank, Fuel, 5,000 l	7	14.4	7.1	93.7	100.8
5. Towed Tank, Water, 2000 l	8	5.8	3.2	43.2	46.4
6. Motor Pump, 80 m ³ /h	3	3.2	0.7	8.9	9.6
7. Liaison Vehicle, Pick-up	14	6.6	6.5	85.9	92.4
8. Liaison Vehicle, 4-Wheel Drive	9	9.9	6.2	82.9	89.1
9. Light Liaison Vehicle	6	4.9	2.1	27.3	29.4
10. Agricultural Tractor 70/80	5	17.9	6.3	83.2	89.5
11. Motorbike, 250 cc	20	2.8	3.9	52.1	56.0
12. Dump Truck, 2.5 ton	20	14.3	20.0	266.0	286.0
13. Truck, 2.5 ton flatbed	2	13.2	1.8	24.6	26.4
14. Labor Tools (secs)	16	2.7	3.0	40.2	43.2
15. Trailer with Mechanical tools	5	15.9	5.6	73.9	79.5
16. Supply/Maintenance Truck	8	41.7	23.4	310.2	333.6
17. Workshop Truck	2	78.3	11.0	145.6	156.6
18. Management vehicle	1	9.2	0.6	8.6	9.2
19. Workshop mobile cranes	2	20.6	2.9	38.3	41.2
20. Electric transformer, 300 KVA	2	8.0	1.1	14.9	16.0
			197.9	2,628.4	2,826.3
21. Spare parts stock (10%)			19.8	262.8	282.6
			217.7	2,891.2	3,108.9
22. Quantity contingency (5%)			10.9	144.5	155.4
			228.6	3,035.7	3,264.3
23. Price variation (about 15%)			33.7	448.1	481.4
Total			262.3	3,483.8	3,746.1
B. <u>Spare Parts for Existing Equipment</u>					
			50.1	665.9	716.0
1. Quantity Contingency (15%)			7.5	99.9	107.4
			57.6	765.8	823.4
2. Price Contingency			4.3	57.4	61.7
Total			61.9	823.2	885.1
C. <u>Workshop Tools</u>					
1. Quantity Contingency (___%)					
2. Price Contingency					

List of Roads to be Maintained

Subdivision and Roads	Road Type - Traffic Volume/km									Total	
	Engineered				Partially Engineered			Tracks			C
	Laterite		Sand/Clay		Laterite	Sand/Clay		A	B		
A	B	A	B	A	A	B					
A. N'Djamena North											68
Massangnet-Massakouy			68								53
Massangnet-Karame				53				72			72
Karame-N'Goura											30
Chapoua-Linia			30								127
Linia-Mussanya											82
Djermaya-Djintilo								72		453	676
			98	53							
B. N'Djamena South											83
Guclendeng-Bongor						83			99		99
Bongor-Maenu										149	149
Guclendeng-Mopu						83		99	149		331
C. Abeche											92
Abeche-Biltine										92	167
Abeche-Adre											165
Ati-Oum Hadjer											146
Oum Hadjer-Abeche										259	311
D. Moundou											244*
N'Goura-Bickine											154*
Ati-Moundou											59*
Bickine-Moundou											118*
Moundou-Mangalme											118*
Melfi-Bickine											110*
Oum Hadjer-Mangalme											123*
Mangalme-Abou Deia											926
E. Sarh											86
Haindou-La Sido				86							164
Guere-Doba	164										80
Niellim-Guere				80							27
Guere-Sarh			27								36
Sarh-Haindou			36								150
Moundou-Hiltou-Niellim						150			149		149
Melfi-Dik									116		116
Guidari-Kouma									74		74
Kouma-Moissala										98	98
Sarh-Kyabe										250	250
Kyabe-Am Timan										135*	135
Am Timan-Abou Deia										175	175
Moissala-Kendere										150	1,490
	164	166	63			150			190	617	
F. Moundou											107
Pala-Kelo				107							104
Kelo-Moundou				104							20
Moundou-Daikoro				20							110
Baikoro-Cote d'Ivoire Border				110							122
Pala-Lere-Cameroon Border					122					79	79
Baikoro-Doba										49	49
Moundou-Lai										20	20
Lai-Bere										40	40
Bere-Kelo										91	91
Koutou-Bere										108	106
Lai-Doba										44	44
Lai-Guidari											
Moundou-Baibekoua										152	152
Cote d'Ivoire Border										52	52
Kelo-Gounou Gaya											58
Gounou Gaya-Tikon											95
Doba-Cote											83
Pala-Fianga-Cameroon Border											15
Oulihaneala-Poulzaugue											121
Pala-Casal-Koinouar											90
Reinamar-Koutou											507
	231	110		122	79	49			507	767	1,500
Total	395	276	161	175	79	137	150	250	99	918	2,674
											5,311*

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Traffic Volume (vehicles per day)

- A 30-100
- B 10-30
- C Less than 10

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ANNEX O

CHAD

Technical Assistance for a Training Program Outline Terms of Reference

Objectives

1. The objectives of the technical assistance program are the following:
 - (a) continuation and strengthening of training of mechanics and other specialized staff in the brigades and regional workshops;
 - (b) implementation and execution of training and seminars for personnel needed to manage light maintenance teams (Sector Chiefs) and to form road maintenance brigades;
 - (c) management, administration and supervision of:
 - (i) a regravelling training brigade; and
 - (ii) the training center; and
 - (d) assistance to DFW in recruiting specialized staff needed to execute the road maintenance program.

Team Composition

2. A new team of six technical assistance experts will be assigned to DFW. The composition of the team and the length of each expert's assignment could be summarized as follows:

<u>Expert</u>	<u>Man-months</u>
(a) mechanical or highway engineer (chief of mission)	50
(b) road maintenance and construction expert	40
(c) heavy equipment mechanic for gasoline and diesel-powered machinery	45
(d) expert in equipment operator training	40
(e) brigade chief	40
(f) expert in technical/administrative training	<u>15</u>
TOTAL	230

The team's exact composition and detailed schedule of activities will be defined in agreement with DPW so that the training program under the Second Highway Project will not be delayed or interrupted.

Qualifications and Duties

3. The qualifications and functions of the different team members are defined below. In addition, each expert should have

- (a) knowledge of French;
- (b) training experience in his field in order to facilitate professional and technical instruction;
- (c) work experience in a developing country; and
- (d) education commensurate with the position to be occupied.

(1) Chief of Mission

4. The Chief of Mission should be a mechanical engineer (or senior technician) specialized in road equipment, or a civil engineer (or senior technician) specialized in road construction and maintenance. He should have at least (a) ten years of experience in road administration, construction and maintenance, as well as in budget matters and cost price accounting; (b) five years of experience in a managerial position in Africa; and (c) five years of experience in technical and professional training, particularly in on-the-job training. Experience in administrative and financial management of a construction firm and in manpower planning and personnel management is preferred. His duties will include, but not be limited to:

- (i) coordinating all mission activities and maintaining contact with official institutions;
- (ii) preparing and executing, in conjunction with DPW, the training program;
- (iii) preparing professional ability tests to be used as a basis for recruiting specialized personnel, and recommending the personnel to be recruited; and
- (iv) preparing a road maintenance manual.

(2) Road Maintenance and Construction Expert

5. He should be a civil technician or road works foreman with at least five years of experience. In particular, he should have extensive knowledge of and experience in (a) construction and maintenance equipment, (b) use of heavy equipment, (c) various elements of road construction, (d) soil mechanics, and (e) soil compacting. He should:

- (i) train the work-site chiefs;
- (ii) assist in training equipment inspectors and operators; and
- (iii) provide practical, on-site training to sector chiefs.

(3) Heavy Equipment Mechanic

6. He should have at least eight years of professional experience with heavy equipment used in public works. His qualifications are as follows: (a) specialization in both diesel and gasoline engines; (b) experience in operation and maintenance of equipment used in maintenance work; (c) knowledge of vehicle electrical systems; and (d) basic knowledge of general mechanics. His task will be to:

- (i) train and give refresher courses to diesel- and gasoline-engine mechanics;
- (ii) train and give refresher courses to mechanics, mechanic-helper/greasers for workshops and mechanized road units;
- (iii) train spare parts storemen; and
- (iv) assist in training equipment inspectors.

(4) Expert in Equipment Operator Training

7. This expert should have at least three years of experience in training in this field. He should be familiar with the major types of heavy equipment currently used in road construction and maintenance. He will:

- (i) train and give refresher courses to operators of various types of road machinery; and
- (ii) supervise the mechanics-helpers and greasers assigned to worksites.

(5) Brigade Chief

8. He should have at least eight years of experience with public works equipment and its use in periodic maintenance and road construction in general. His duties will be the following:

- (i) organizing the regravelling training brigade, in conjunction with the Chief of Mission and DPW;
- (ii) preparing the manpower and functional organization of the training brigade;

- (iii) assisting DPW in preparing the training brigade's annual work program;
- (iv) supervising the road maintenance work performed by the training brigade; and
- (v) ensuring the training of specialized personnel in the above works and that of Chadian counterparts who will then be able to assume responsibility for the training brigade and any other brigades which might be formed.

(6) Expert in Technical/Administrative Training

9. This expert should be a road technician with at least ten years of experience in the organization, management and administration of road maintenance. In particular, he should have good knowledge of working conditions in developing countries. He will have the following tasks:

- (i) implementing the training and/or refresher courses given to the road sector chiefs in the areas of (a) modern techniques of light maintenance of earth roads (cantonnage) and operations to preserve the road surface, (b) basic soil mechanics, (c) preparation of annual light maintenance programs for earth roads, (d) principles of accounting; and
- (ii) assisting the chief of mission in all matters related to technical and administrative training.

CHAD

Outline Terms of Reference and Qualifications for a
Transport Economist for the Directorate of Transport

1. The transport economist will help the Director, DT, to organize DT and assist in elaborating and applying a rational transport policy. In particular he will:

- (1) participate and supervise in the collection and annual publication of transport statistics and preparation of technical reports on:
 - (a) vehicle fleet inventory by type and age, on a country-wide basis with provisions for annual updating;
 - (b) proposal for revised of surface transport tariffs in light of the recommendations made by consultant SEDES, under the Second Highway Project, and consultant ORGATEC;
 - (c) review of road user charges from the viewpoint of equity and efficiency considerations, including the identification of financial resources for creating a financially autonomous road maintenance authority by 1985, and fiscal measures aimed at reducing the cost of spare parts to ensure improved vehicle maintenance;
 - (d) assessment of the future needs of the vehicle fleet in light of the present excess trucking capacity, and if necessary, recommendations for regulation of vehicle imports;
 - (e) recommendations for reducing import duties on spare parts and the effect of these measures on road user revenues;
 - (f) review of Chad's international transit agreements and preparation of proposals for revision of these agreements;
 - (g) measures directed at harmonizing road regulations between Chad and its neighbors, especially Nigeria; and

- (h) establishment of scheduled inter-city bus transport in Chad.
- (ii) assist in inter-departmental coordination for transport planning and enforcement of road traffic regulations;
- (iii) develop a system of periodic analysis of freight transport demand to establish the freight allocation system within CTT on a scientific basis, and provide assistance to CTT on economic and statistical matters;
- (iv) collect and analyse financial and operational statistics of the transport industry (CTT, Air Tchad, and other transport entities);
- (v) establish and organize an advisory committee, comprising representatives of concerned Government ministries, shippers, CTT, freight forwarders, the Chamber of Commerce, and other related groups, to help formulate a national freight transport policy and to resolve operational difficulties arising from time to time in freight transport operations. The Director of DT would act as chairman of the advisory committee; and
- (vi) establish a system for classification of trucks, and formulate criteria for road transport operations on international and domestic routes.

Qualifications

2. The expert should hold a graduate level degree in economics and should have at least five years of post-graduate work experience in transport planning and operations. He should be familiar with regulations and tariff setting for various transport modes. He should have worked for some time in a developing country, preferably in West Africa. He should be fluent in French.

CHADOutline Terms of Reference and Qualifications of the
Trucking Industry Expert to be Attached to CTTFunctions

1. The trucking industry expert will serve as a technical adviser (operations) to the President, CTT, and provide technical assistance to CTT's Assistant Director responsible for freight operations. In particular, he will:
 - (i) review the transport operations of CTT, and suggest methods to improve them;
 - (ii) evaluate the freight allocation system within CTT, and devise a more equitable and efficient method, if necessary;
 - (iii) collaborate with DT to:
 - a) establish a system for classification of trucks, and formulate criteria for operations on international and domestic routes;
 - b) establish and organize an advisory committee for coordinating freight transport operations;
 - c) recruit an appropriately qualified Chadian for training abroad in trucking operations; and
 - d) arrange appropriate practical training (for a six-month period) abroad for CTT's Assistant Director, responsible for freight operations.
 - (iv) explore the possibility of creating an external branch of CTT in Douala with a view to expedite transit of Chadian goods through Cameroon;
 - (v) determine the feasibility of establishing:
 - a) inter-city bus transport; and
 - b) workshop for maintenance of the truck fleet as part of CTT operations; and
 - (vi) prepare a final report on his assignment including recommendations for improving the efficiency of freight transport operations.

Qualifications

2. The expert should hold a graduate degree, preferably in economics or finance, and have five years experience in the transport field with at least three years in trucking industry operations, preferably in a freight forwarding agency or freight bureau. Managerial experience in a multi-national transport organization would be desirable. He should have worked for some time in a francophone African country, and have familiarity with French transport industry regulations and legislation. Fluency in French is mandatory, while some knowledge of Arabic would be useful.

Training Facilities in Chad1. Background

The Government of Chad (GOC) and the World Bank (IDA) are currently financing a 2-year Public Works training and re-training program through the auspices of the American consulting firm ORT. The guiding principle of the program is a balanced application of theoretical coursework and shop training in the Training Center and active practical work in the field using the program's Mobile Training Brigade. This concept has been highly successful in Zaire under a similar ORT program and is currently progressing very satisfactorily in Chad. The current program has been extended until October 1978 at which time AID will finance all training expenditures required in the context of the USAID/TBRD/ADB multidonor road maintenance program for Chad. The AID-sponsored ORT program will run 4 years, during which an estimated 247 specialists would be trained and some 400 kms of national roads would be regravelled by the Training Brigade. At the end of the contract period the equipment utilized for the Mobile Training Brigade would be re-integrated into the GOC's regular operational maintenance program and the Training Center would continue to function as an integral part of the Department of Public Works' regular program.

2. Existing training possibilities

An overview of the existing possibilities for training the range of personnel required for the proper functioning of the DFW indicates that no new training structures other than those contemplated under the proposed project are required for the needs of the multidonor project. Basic theoretical training can be obtained through the Ecole Nationale des Travaux Publics (ENTP), College and Lycee Technique, Centre de Formation Professionnelle et de Perfectionnement (CFPP) or the current ORT Center. For a practical understanding of actual field working conditions local specialists consider it essential to recycle all personnel through the ORT program.

- ENTP: The ENTP in N'Djamena recruits its students from four countries (Chad, CAE, Gabon, Niger) and offers four-year training programs in public works, surveying and rural works. It is expected that no more than 3-4 potential Chadian candidates for the Road Maintenance Program could be produced annually by the school. These graduates, after practical training by ORT, would be eligible for supervisory posts in workshops or on work teams.

- College and Lycee Technique: Both the College and the Lycee are currently located in Sahr but are scheduled to be transferred to N'Djamena for the 1978 school year and to be reorganized into one school - the Lycee Technique Industriel. Fields of expertise provided to the students of interest to the project include automobile and

diesel mechanics. Some 20 graduates per year would conceivably be utilized in skilled laborer positions by the Road Maintenance Program and would require additional on-the-job training through ORT.

- CFFP: Operating in N'Djamena under the auspices of the Ministry of Labor, this training center graduates low-level technicians in various fields following two years of practical field work. After some specific retraining perhaps 10 auto mechanics and tool and die operators could be integrated into the project each year.

- ORT: The DPW and IDA are currently financing a 2-year Public Works personnel retraining program through the American consulting firm ORT. The program is practically-oriented and features on-the-job training of drivers and mechanics through utilization of a "Mobile Brigade School" which trains candidates at the same time that it actively participates in regravelling and reshaping maintenance of the national road network. The output of the program, with a normal operating schedule, should approach 247 specialists and represent 100 km/year of heavy regravelling maintenance.

The ENTTP, Lycee Technique, CFFP and an expanded ORT will have the basic capacity to follow through on all training necessary to DPW maintenance programs. It would understate the current situation to assume that all potential candidates will necessarily be integrated into the DPW operations, for employee salaries paid by private and parastatal firms in Chad, as well as those in neighboring countries such as Cameroon, are substantially higher than those provided by the DPW. This complicates the task of providing well-trained manpower to the DPW given that the employees benefiting from the training program are often offered higher pay and consequently are drawn away from the Public Sector as soon as they become attractive employment propositions. Depending on the salary structure and the national and regional economic situation at any particular point in time the number of persons to be trained could be significantly underestimated. Thus, in establishing the training needs of the DPW a 30% drop-out and turnover rate has been estimated.

Request for Waiver for Training in 899 Countries

A. Background

Under the proposed project it will be necessary to train at least 18 individuals outside of Chad. Of this number 10 will receive technical training (9-15 months) at the Regional Road Maintenance Training Center in Lome; 5 will be sent to the ORT Training Center in Geneva (6-12 months); two to the National Transportation Institute in Paris (24 months) and one to a trucking center in France (6 months). No waivers are required for the participants scheduled for Lome.

B. Discussion

The decision to request training in 899 countries is based on the following considerations:

1. Training and Cost Effectiveness: None of the proposed candidates are fluent in English. To bring them up to a level of English required to absorb and utilize the training would require an inordinate amount of time and money. When compared to the length of the training We estimate that if English language training is included, the cost of the participant training component of the project will double, and the effectiveness of the training will be less than if conducted in French.
2. Appropriateness of Facilities: The ORT training facility in Geneva has developed training courses tailored to the needs of West Africa and has successfully trained five counterparts under the ongoing second Highway Maintenance program. It has also developed teaching aids and curriculum which are now being used in the N'Djamena training center. The greatest degree of continuity will be assumed by continuing to utilize the Geneva training facility.

With respect to the 6 month on-the-job training for the operations manager of CTT, the most appropriate facility would be a trucking company in a French speaking country. The contractor selected to provide the technical assistance to CTT will assist in identifying an appropriate training facility.

The National Transportation Institute in Paris is the most appropriate institution for the two individuals selected for academic training. Not only are courses offered in French, but the institute has adapted itself to the realities of its former colonies and has designed a two year curriculum appropriate to the prevailing levels of education in West Africa. Further, course content and approach are appropriate to the existing state of the arts and recognize the embryonic state of the regions transport planning and implementation capability.

3. Absences of appropriate U.S. training facilities: Lack of teaching in French coupled with course and curriculum content not suited to the Sahelian context effectively precludes U.S. institutions.

C. Recommendation: On the basis of training and cost effectiveness and the appropriateness of the proposed training to the Sahelian context, the Project Committee recommends a waiver be granted for 899 procurement for training services.

Approved _____

Disapproved _____

Date _____

BEST AVAILABLE DOCUMENT

Annex R

PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS

PART II

COUNTRY : Chad
PROJECT : Road Maintenance
PROJECT NUMBER: 677-0032

Pursuant to Part I, Chapter 1, Section 121 of the Foreign Assistance Act of 1961, as amended, (the "Act") I hereby authorize a Grant to the Government of Chad ("Cooperating Country") of not to exceed Three Million Five Hundred Thousand United States Dollars (\$3,500,000) to assist in financing certain foreign exchange and local currency costs of goods and services required for the Project as described in the following paragraph.

The project shall consist of participating with the International Development Association ("IDA"), the African Development Fund ("ADF") and the Cooperating Country in financing the costs of the Third Highway Program under which (A) IDA, ADF and the Cooperating Country will finance a four-year road maintenance program that will provide routine maintenance for approximately 5300 km of unpaved roads and tracks in the Sahelian and Southern zones and periodic maintenance of approximately 400 km of gravel roads, (B) IDA will finance the reorganization of the Department of Public Works of the Cooperating Country, a three-phase study of rural road requirements of the Cooperating Country, the local construction of

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four ferry boats and completion of the feeder road maintenance program, and (C) A.I.D. will finance (a) technical assistance equipment and operating costs for the continuation of a road maintenance training center for mechanics, operators and other personnel of the DPW who will staff the maintenance programs described above and for the establishment and operation of a road maintenance training brigade which will regravels, as part of the training program, approximately 400 km of roads (b) technical assistance for the Directorate of Transport ("DT") of the Cooperating Country and the Cooperative des Transporteurs ("CTT") and (c) third-country training for selected personnel of the Cooperating Country (hereinafter referred to as the "Project").

I hereby approve the total level of A.I.D. appropriated funding planned for the Project of not to exceed Nine Million United States Dollars (\$9,000,000), Grant, during the period FY 1978 through FY 1982, including the amount authorized above and additional increments of grant funding during such period subject to the availability of funds and in accordance with A.I.D. allotment procedures.

I hereby authorize the initiation of negotiations and, after receipt of written notification from IDA and ADF that their participation in this Project as planned has been formally approved by these institutions in accordance with their respective internal approval procedures, execution of the Grant Agreement by the officer to whom such authority has been delegated in accordance with A.I.D.

regulations and Delegations of Authority, subject to the following terms, together with such other terms and conditions as A.I.D. may deem appropriate:

a. Source and Origin of Goods and Services.

Except for ocean shipping and motor vehicles, goods and services financed by A.I.D. shall have their source and origin in countries included in Code 941 of the A.I.D. Geographic Code Book or the Cooperating Country, except as A.I.D. may otherwise agree in writing. Ocean shipping financed under the Grant may be procured in any eligible source country except the Cooperating Country; motor vehicles financed by A.I.D. shall be manufactured in the United States.

b. Conditions Precedent.

1. Prior to the first disbursement under the Grant, or to the issuance of commitment documents with respect thereto, the Cooperating Country shall furnish to A.I.D., in form and substance satisfactory to A.I.D., an executed copy of an agreement and of an agreement between the cooperating country and IDA, between the Cooperating Country and ADF[^] and documentary evidence that the conditions precedent to each agreement, if any, have been satisfied, except[^] that may be reciprocal with this condition, and that each such agreement is fully effective and ready for disbursement.
2. Prior to the first disbursement of funds for the procurement of equipment for the training center and the maintenance training brigade, or to the issuance of commitment documents with respect thereto, the Cooperating Country shall furnish to

A.I.D. the following in form and substance satisfactory to A.I.D.

- A. specifications and bid documents for such equipment;
- B. executed contract(s) for the procurement of such equipment.

3. Prior to the first disbursement of funds under the grant for the procurement of technical assistance for the training center and maintenance brigade, the Cooperating Country shall furnish to A.I.D., in form and substance satisfactory to A.I.D., an executed contract in accordance with Chapter 1 of A.I.D. Handbook 11 with a firm acceptable to A.I.D.

c. Covenants.

The Grant Agreement shall contain covenants providing in substance as follows:

1. The Cooperating Country shall prepare and submit to A.I.D. by December 31, 1978, a detailed training curriculum satisfactory to A.I.D. and, by December 31, 1979, an assessment of future training requirements prepared in consultation with IDA and A.I.D.
2. The Cooperating Country shall appoint a suitably qualified Chadian to serve as a counterpart to the transport-economist assigned to DT and shall provide such other local staff, ^{as may be} needed for the effective implementation of this component of the Project.
3. The Cooperating Country shall ensure that each Chadian for whom third-country training is financed by A.I.D. shall undertake

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in writing to serve the DPW or service from which selected for at least five years after completion of such training and that each such Chadian shall be considered on full service while in training.

4. The Cooperating Country shall (a) maintain a separate account for the Road Fund outside the Treasury, (b) establish and maintain adequate accounting procedures to record revenues to and expenditures from the Road Fund, (c) allocate to the Road Fund and deposit in the Road Fund account amounts collected from fuel taxes and ferry boat tolls, (d) establish in DPW's accounting office a sub-account to allocate 87% of Road Fund revenues to the Project, (e) maintain records adequate to record single and cumulative expenditures for the components of the Project it will finance, and (f) provide A.I.D. with semi-annual reports, commencing January 31, 1979, a summary statement, as of June 30 and December 31 regarding the total revenues to the Road Fund and expenditures ^{made} or committed for the Project by category of disbursement.

d. Waivers.

Notwithstanding paragraph a. above and based upon the justification set forth in Annex Q of the Project Paper, I hereby approve a procurement source waiver from countries included in Code 941 of the A.I.D. Geographic Code Book to Code 935 for the procurement of certain training services, provided that the amount thereof shall not exceed \$200,000, and certify that the procurement of such services in countries included in Code 935 will best

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serve the interests of the United States.

Assistant Administrator
for Africa

Date