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

CAPITAL ASSISTANCE PAPER

Proposal and Recommendations
For the Review of the
Development Loan Committee

AFRICA REGIONAL: NIGER - MALANVILLE-GAYA BRIDGE AND GAYA PORT

AID-DLC/P-1040

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CENTRAL AND WEST AFRICA REGIONAL
NIGER BRIDGE AND RIVER PORT CONSTR
FY 73-76

PUBLIC SAFETY ADMINISTRATION PROJECTS (700 PURPOSE CODES)

NO ABSTRACT ENTERED IN THE DIS SYSTEM

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

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AID-DLC/P-1040

June 13, 1972

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Africa Regional: Niger - Malanville-Gaya Bridge
and Gaya Port

Attached for your review are the recommendations for authorization of a loan in an amount not to exceed \$2,250,000 to the Republic of Niger to assist in financing the foreign exchange and local currency costs of goods and services for the elevation and reconstruction of the Malanville-Gaya Bridge, the construction of a river port in the vicinity of Gaya, Niger (including an access road from Gaya to the port site), and the procurement of port operational equipment.

Please advise us as early as possible but in no event later than close of business on Thursday, June 22, 1972, if you have a basic policy issue arising out of this proposal.

Rachel R. Agee
Secretary
Development Loan Committee

Attachments:

Summary and Recommendations
Project Analysis
ANNEXES 1-10

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AFRICA REGIONAL

NIGER - MALANVILLE - GAYA BRIDGE AND GAYA PORT

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Africa Regional

NIGER - MALANVILLE - GAYA BRIDGE AND GAYA PORT

SUMMARY AND RECOMMENDATIONS

- A. Borrower: The Borrower will be the Government of Niger (GON).
- B. Loan Amount: The A.I.D. loan will be for not exceeding \$2.25 million. This will complement grant assistance of \$4.4 million being provided by the Canadian International Development Agency (CIDA) for purchase of an initial river transport fleet. The investments in Niger River Commerce infrastructure are expected to be

CIDA grant for initial fleet	\$4.4 million
A.I.D. Loan for bridge and port	2.25 million
GON contribution to Niger River Commerce	<u>0.6 million</u>
TOTAL	\$7.25 million.

A financial plan for investments in commercial river transport is in Section III. A.

- C. Loan Terms: This will be a 40 year loan to the GON with interest of two percent for the first ten years during which no amortization of payments will be required; thereafter, three percent interest for 30 years, during which the loan will be fully amortized in level semi-annual payments of principal and interest, all payable in U.S. dollars.
- D. Purpose of the Loan: The loan provides financing for certain infrastructure investments which will permit more effective employment of the newly opened Niger River transport mode. It complements other assistance (CIDA) to the GON directed to start up of a river transport corporation.
- E. Description of the Loan: The loan will finance (1) elevation and reconstruction of the bridge across the Niger River in the vicinity of Gaya, Niger and Malanville, Dahomey to permit navigation beyond Gaya to Niamey and (2) construction of a river port to permit loading and unloading of cargo at Gaya, the focal point of the interior transport network serving the current primary export route along the Dahomey axis (Malanville-Cotonou).
- F. Background of the Activity: About two-thirds of Niger's external commerce currently moves along the Dahomey axis. Transport is expensive, service is unreliable, and delays are encountered in transshipment via the Parakou-Cotonou railroad link. With the completion of the Kainji Dam and the Kainji and Awuru locks on the Niger River in Nigeria, it has become technically feasible to consider river navigation from ocean ports in Nigeria (Port Harcourt and Buruti) to Niamey during seven months of the year. Under the leadership of the Niger River Commission and with urging from Niger, several studies have been completed of the river basin and of the potential for river transport in regional transport planning. A firm decision has been made to open up river navigation, and CIDA has agreed to provide a grant to the GON for the initial river transport fleet. The first river navigation is expected to begin in about November 1972.

However, the bridge across the Niger River in the vicinity of Gaya/Malanville, built in 1958, has only one meter clearance above high water level, which is a severe restriction upon navigation upriver beyond Gaya. Elevation of the bridge and construction of a port at Gaya have been recommended in all studies of regional transport as necessary incidents to river commerce.

G. Issues: None.

H. Statutory Criteria: The loan meets all statutory criteria. See Annex 10.

I. A.I.D. and Country Team View: The U. S. Ambassador to Niger and the Regional Development Officer for the Entente States (RDO/Niamey) have recommended that the loan be made. See Annex 8 B.

J. Recommendations: Authorization of a loan to the GON in an amount not to exceed \$2.25* million in accordance with the terms and conditions set forth in Annex 7 A.

CAPITAL ASSISTANCE COMMITTEE MEMBERS:

Loan Officer and Chairman:	Howard B. Helman, WARCDO
Area Specialist:	James Hill, ADO/Niamey
Engineers:	John B. Saccheri, WARCDO Wright Hintt, WARCDO
Legal Advisor:	John W. Roxborough, WARCDO
Economic Advisor:	Henry K. Heuser, CIC

* The loan will finance both dollar and local currency costs. CFA Francs (Communaute Financiere Africaine) are the common currency of the West African Monetary Union which includes Niger and Dahomey. Approximately CFA 250 = U.S. \$1.00.

I. THE PROJECT

A. Definition of the Project

The project comprises (1) the elevation and reconstruction of a bridge over the Niger River in the vicinity of Gaya, Niger, and Malanville, Dahomey, to permit river navigation for seven months of the year from the river estuary in Nigeria beyond Gaya to Niamey and (2) construction of a port in Gaya. The activity complements other investments in Niger River water transport, with the objective of initiating important external commerce via the "voies fluviales" (waterways).

B. Need to Which the Project is Directed

Niger, being a land-locked country about 700 kilometers inland from the sea, is greatly hampered in external trade by high transport costs. With completion of construction in 1970 of the Kainji locks and dam and the Awuru lock along the middle reaches of the Niger River in Nigeria, the rapids which had theretofore prevented navigation were submerged or circumvented. It has become feasible to consider navigation from western Niger during the approximately seven-month period of adequate channel depth to such ocean ports as Port Harcourt and Buruti. While the distance is long, being approximately 1710 kms from Niamey and 1345 from Gaya, compared with about 1058 and 763 by the shortest overland route along the Dahomey axis, the relatively low capital investment and resultant low ton km costs anticipated for river transport make this an attractive mode of transport for many products. Thus, there may be important economic advantages to introduction of a transport mode which would provide an attractive alternative to and introduce competition with other modes of transport.

Because the Government of Niger attaches high priority to opening commercial water transport, the Canadian International Development Agency (CIDA) has agreed to finance an initial river transport fleet (three pusher tugs and 12 barges). The proposed loan would finance parallel infrastructure to permit Niger to take more economic advantage of river transport. Specifically, elevation of the bridge would permit long distance river commerce to extend beyond Gaya to Niamey, while establishment of a port at Gaya would permit efficient use of existing road links in transferring external commerce to water transport. Discussion of the economic implications of the proposed investment on regional transport planning and evaluation of the benefit/cost ratio for the bridge and port are in Section II.B.

C. Framework for the Project

Through the sponsorship of the Niger River Commission, there has been extensive study of the Niger River Basin in terms of multi-purpose development. Although a comprehensive basin development plan as exists within the U.S. and as is suggested in the Memorandum of the President dated May 15, 1962 has not been fully achieved, planning is sufficient to permit analysis of benefits and costs as called for in Section 611(b) of the Foreign Assistance Act, as amended. (See Section II.C in Annex 6B.) There also have been several studies of Niger River transport within an integrated transport network serving Niger and surrounding countries. A bibliography is in Annex 9.

The GON has created and plans to put into operation an autonomous corporation to operate Niger River transport. The corporation (National Harbor Board Authority for Niger) will operate the river transport fleet and the ports of Gaya and Niamey. The capitalization of the corporation will include the initial CIDA-financed river transport fleet and an operating budget sufficient for start-up and support of operations. (See Section II.C.)

D. Parties to the Project

The Borrower will be the Government of Niger. Neither the Niger River Commission* nor the Government of Nigeria will be parties to the loan.

Approval of the Project by the Niger River Commission will be a condition precedent. Nigeria's cooperation in installing navigational aids, maintaining navigability of the river channel, and setting reasonable user fees for the Kajiji and Awuru locks will be sought either as conditions precedent or through special covenants calling upon the GON to work through the Niger River Commission for their accomplishment. (See Section III.C and Annex 7C)

* The Niger River Commission, created in 1964, incorporates the nine countries of the Niger River Basin: Cameroon, Chad, Niger, Dahomey, Nigeria, Upper Volta, Mali, Ivory Coast and Guinea. The Commission's objective is coordinated planning and cooperation among the states for all development works in the Niger River Basin.

E. Background

Niger, although a member of the Entente States with strong economic ties and sizable assistance including budget support from France, has important commercial ties with Nigeria. A substantial share of peanut exports, which comprise nearly two-thirds of Niger's foreign exchange earnings, and of livestock, another important export, is destined for Nigerian markets.* Since the railroad and road infrastructure in Nigeria provides reasonable communications to eastern Niger, external commerce for the eastern portion of the country moves primarily by the Nigeria rail system. Given the very large size of Niger and the generally thin population/production band running east-west along the southern frontier, high internal transport costs largely control direction of exterior commerce. West of the line, external traffic from the western portion of the country moves primarily via Dahomey. Such traffic constitutes about two-thirds of Niger's external trade.**

Niger has been very much dependent upon the Dahomey axis for its external transport, i.e., ocean port service at Cotonou, rail transport from Cotonou to Parakou (a parallel road also exists), and road transport to and beyond the Malanville/Gaya bridge. The deep-water port at Cotonou was completed in 1965; it currently handles about 500,000 tons annually of which 150,000 are attributable to Niger. Transport on the Cotonou-Parakou railroad was about 190,000 tons of freight in 1968, of which 138,000 originated or terminated in Niger, a surprising 75%. The railroad operated at a loss of 167 million CFA in 1965, but this figure declined to 70 million in 1968 due to increased traffic from Niger which could not be moved through Nigerian routes because of political disturbances. It is estimated that, if the railroad could retain its present share of Niger traffic, it would soon cease to operate at a deficit. Thus, there is a symbiotic relationship between the two countries and a mutual interest in efficient operation of the transport axis.

* In the case of peanut exports, the movement to Nigeria is largely for intermediate processing, since Nigeria also is an important exporter of peanut products.

** Western Niger may be defined to include roughly the territory west of an imaginary north-south line located between Birni Nkoni and Maradi. (See Figure 1 in Section II.A.)

During 1970, work was completed on the Kainji dam and Kainji (2) and Awuru locks, as well as some blasting between Gaya and Yelwa in Nigeria. This has made possible commercial river commerce from Port Harcourt and Buruti, Nigeria to Niger during the approximately 7-month navigable season. Although there is not yet significant river traffic through the locks, Nigeria has indicated willingness to cooperate, including investments to improve navigation.

For the major part of the year, water transport would offer a less expensive option, for certain products. These include imports of petroleum products for which the increase in consumption is growing at a significantly higher rate than that of total trade. Export of peanuts and peanut products are another important prospect, since peanut exports amounted to roughly two-thirds of Niger's present foreign exchange earnings. With the forthcoming opening of two uranium mines in Arlit, there will be export of approximately 3,400 tons of processed ore and imports of perhaps as much as 25,000 tons of raw materials per year. Thus, while Niger has a close interest in an efficient road/rail system of evacuation, it has a strong incentive to foster a competitive transport alternative. Other transport routes have only negligible effect on traffic to and from Western Niger.

The proposed loan, therefore, must be looked at carefully in the context of regional transport planning. A.I.D., IBRD and the Government of Dahomey have recently agreed to parallel finance reconstruction of the Parakou-Malanville road (from the railroad to the Malanville/Gaya bridge) as a two-laned paved road at a cost of \$18.5 million. The opening of river commerce will offer an alternative route to ocean ports. The effect of the opening of river commerce on road traffic was reviewed in the Economic Study for the road prepared by LaMarre Valois (see Annex 9). The low traffic estimate figures of that study which show a rate of return of 10.7%, assumed the projections for river commerce used in the preparation of this CAP. The CIDA and FAC studies of regional transport planning (see Annex 9) provide the analytical basis for the conclusion presented in Section II B that both investments are consistent with efficient regional transport planning. The Economic analyses of the respective CAPs conclude that they are economically justified (see Section II B and Annex 6A).

Of the numerous studies, related to Niger River Commerce to and from Niger (See Annex 9), four are of special interest:

1. "Etude sur l'Amenagement du Fleuve Niger," Oliver Gautier (FAC, April 1967); this study compares alternative modes of transport development, projecting traffic growth on a conservative base, and recommending favorably on the economic returns from water transport;
2. "Navigability Study of River Niger between Tossaye and Yelwa," Netherlands Engineering Consultants (NEDECO) (Netherlands, September 1970); this study provides an excellent technical analysis of the Niger River Basin, providing cost estimates for river improvements and projected estimates of traffic potential;
3. "Etudes des Accés a la Mer de la République du Niger," Lamare Valois International Ltd., (CIDA, June 1971); this study compares investment and transport costs for the overall transport system serving Niger, makes projection on traffic growth at the assumed rate of about 4% until 1980, which is optimistic and provides a discounted cost comparison over 20 years for differing assumptions as to transport mode.

4. "Etude Economique Complementaire de la Route Parakou-Malanville," Lamarre Valois International, Ltd. and N. D. Lea Associates (IBRD, April 1971); this is the economic study on which the decision to finance reconstruction of the two lane paved road from Parakou to Malanville was justified for parallel IBRD and A.I.D. financing.

F. Justification for the Project

1. Importance of the Project

The development of an alternative and competitive transport link to the sea is the highest transport priority from the point of view of the Government of Niger. Developing that link in conjunction with other transport investments will encourage growth of regional transport. These coordinated investments become an effective means of confronting the high cost of inland transport to Niger and its restrictive effect upon growth of external trade. The specific investments contemplated, opening up the port of Gaya and river access to Niamey, will provide improved transport prospects for export, particularly for agricultural production, as well as offering favorable terms for importation of commodities essential to expanding the rate of internal growth.

2. Strategy for U.S. Assistance

The strategy of U.S. assistance in the so-called non-emphasis countries is to encourage to the maximum extent regional cooperation in priority areas of economic development. Primary emphasis has been on agriculture; heavy related emphasis has been on transport, being a key link in reducing restraints to increased agricultural productivity. The proposed activity will have its primary benefits directed to exports of peanuts and minerals and to import of petroleum products. Although the direct effect on such activities as production of livestock and cereals, to which A.I.D. has devoted considerable attention in the Entente Region (Niger, Upper Volta, Dahomey, Togo and Ivory Coast), will be relatively modest, the incentive to increase productivity of other agricultural (export) products will have an important indirect effect on productivity in traditional agriculture.

The elements which must accompany the U.S. strategy, regional cooperation, favorable participating state policy and financial support, and multi-donor coordinated financing, are being realized in the activity.

II. EVALUATION

A. Description of the Regional Transport System

1. Description of Niger's Principal External Transport Routes

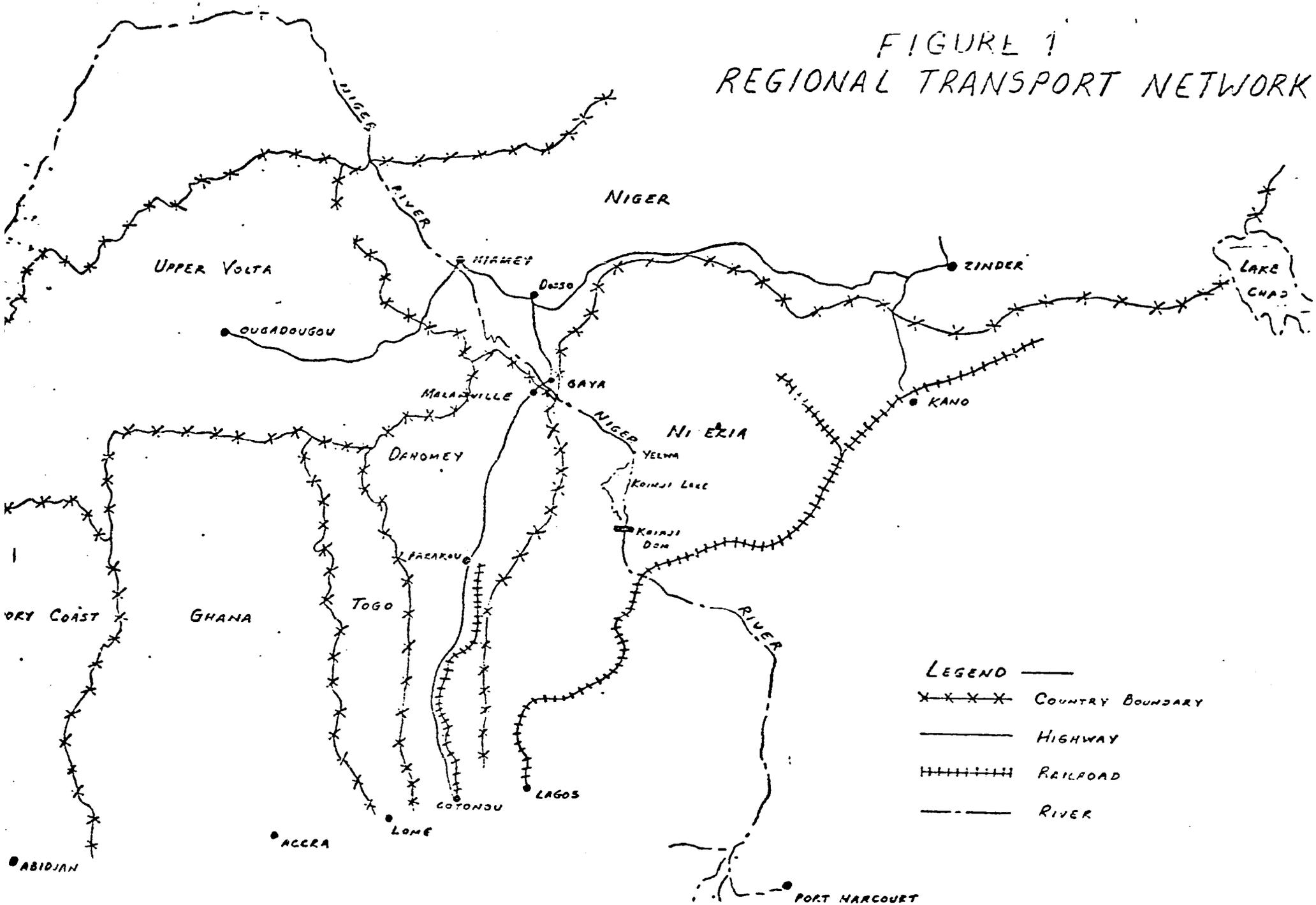
Niger's principal external traffic links are indicated on the map of Niger and surrounding countries in Fig. 1. An important part of Niger's export trade is with Nigeria. Nigeria transport links also provide the most efficient communications to eastern Niger. Roughly 1/3 of Niger's total external commerce moves to and from Nigeria. The remainder moves to and from the west, predominantly by the Dahomey axis.

The transport links serving Niger external trade to and from the west are:

a. Cotonou-Parakou-Malanville-Gaya-Niamey (1058 km). This is the principal evacuation route, with the Malanville/Cotonou segment being referred to as the Dahomey axis. There are parallel rail and paved road links from Cotonou to Parakou (438 km); a two-lane paved road will be reconstructed (from an existing single lane paved road) from Parakou to Malanville (325 km). The Niger River is crossed by the Malanville/Gaya bridge and there is an existing two-lane all-weather road from Gaya to Dossa and a one lane all-weather road from Dossa to Niamey (295 km). Through truck transport along this route can be accomplished in 1 to 2 days. Transit time, where there is transfer by rail shipment, may be much longer, with delays commonly averaging 14 to 18 days. This time could be substantially reduced by additional investment in equipment and other improvements to the operating efficiency of the railroad (see Section II. C. and Annex 2).

b. Abidjan-Ouagadougou-Niamey (1672 km). There is parallel road and rail transport from Abidjan to Ouagadougou (1147 km), with a laterite highway from Ouagadougou to Niamey (525 km) crossing the Niger River on the J. F. Kennedy Bridge at Niamey. This is a longer and more costly route than the Dahomey axis. However because of the more efficient marketing system and broader product availability, there is importation along this route, with arrangements being made for a concomitant level of back haul traffic. Shorter road links to Abidjan through Ghana or Togo are not practicable because of poor road conditions and border difficulties. Travel by rail or road from Abidjan to Ouagadougou takes one to two days, with at least one additional day required for transport from Ouagadougou to Niamey. Transfer between rail and road transport increases total travel time but not to the extent along the Dahomey axis.

FIGURE 1
REGIONAL TRANSPORT NETWORK



c. Port Harcourt (or other ocean port)-Niamey, via the Niger River (1710 km). Navigability is considered here to mean a channel depth of at least 1.5 meter for a channel width of at least 50 meters and larger for turns and turnabout points. With completion of the Kainji and Awuru locks, this criteria will be met for about 7 months of the year (Sept-April), from Port Harcourt to Yelwa to Gaya (1345 km) to Niamey (1710 km). Navigation beyond Gaya is restricted until the bridge is raised. It has been estimated that 14 days will be required for the up-stream voyage and 11 days downstream, permitting about 7 round trips per year. Construction of a road from Yelwa to Gaya (200 km) would permit river traffic to continue for 11 months of the year. The road would cost \$3.5 million and would appear to offer only modest economic advantages. It has not been considered in the analyses which follow. A description of the Niger River from the estuary in Nigeria to Niamey in Niger is in Annex 2A.

2. Comparative Costs and Time for Transport Modes

The following table summarizes the basic unit cost, distance and time parameters essential to comparing transport modes:

Transport Link	Distance (kms)	Time (hrs)	Cost/km (¢)	Total Cost (\$)
<u>Road-Rail-Dahomey Axis</u>				
Cotonou-Parakou (Road)	438	6	3.6	16.68
Cotonou-Parakou (OCDN Railway)	438	6	2.8	12.26
Parakou-Malanville Rd.	325	6	3.6	11.70
Gaya-Niamey Combined Travel	295	4.5	3.6	10.62
Cotonou-Gaya Combined Travel	763	12	3.14	23.96
Cotonou-Niamey	1058	16.5**	3.27	34.58
<hr/>				
<u>Niger River Transport</u> ***	(kms)	(days)	(¢)	(\$)
Port Harcourt-Gaya	1345	14.5	1.4	18.83
Gaya-Niamey	365	3.5	1.4	5.11
Port Harcourt-Niamey	1710	18.0	1.4	23.94

* These are costs based upon anticipated tariffs for each mode of service. They do not include economic costs such as additional storage facility requirements, interest charges on goods being transported, etc.

**With delays in loading and transshipment from rail to truck, average delivery time is 14-18 days.

***Time required differs from that indicated in Section II. C., since loading and transshipment times are here included.

B. Economic Analysis

This analysis will explore:

- (1) whether the investments in Niger River transport are economically justified with a view to optimization of the external transport system serving Niger; and
- (2) assuming the introduction of Niger River commerce, what is the benefit/cost ratio for the additional investments financed under the proposed loan.

1. Optimization of the External Transport System

This subject has been studied and extensively discussed in recent years, two reports affording detailed insights and furnishing the data for this discussion:

(a) "Etude des Accés à la Mer de la République du Niger" (Study of Niger's access Routes to the sea), Lamarre Valois International, Ltd. (CIDA, June 1971);

(b) "Etude sur l'Aménagement du Fleuve Niger" (Study on the Improvements to the Niger River), Olivier Gauvier (FAC, April 1967).

The assumption made in defining individual cases for which transport system cost comparison are made are quite complex. They are explained in Annex 5. Certain of the conclusions which follow from the financial comparison are presented here.

(a) The Office Commun Dahomey-Niger de Chemin de Fer (OCDN railway) does not currently represent a transport service of efficiency and cost as would favor economic dependence upon the line for nearly all export traffic;

(b) Delays at point of road/rail transshipment (Parakou) average about 18 days; this could be sharply reduced (to 2-3 days) by investment in equipment (\$6.8 million) and improvement of operations;

(c) As traffic on the railway increases the per unit cost of service will reduce to a point which will equal or approach competitiveness with water traffic for nearly all commodities, making economically favorable reliance on a single transport axis. How quickly this will occur, assuming water transport is not opened up, will depend on the rate of traffic growth. The two studies differ markedly on rate of growth prior to 1980, and therefore, they express divergent views on the timing and economic

benefits of river transport as a second external transport alternative for the region;

(d) The water transport distance from the estuary to Gaya is 87% longer (1345 km) than the road-rail link to Cotonou (763 km); consequently, ton-km costs for water transport must be markedly lower than for rail and road if the water transport is to be competitive; an efficient turn-around and high capacity of utilization during the period of navigation will be an important influence on realization of transport cost savings for the region.

(e) Opening of water transport will increase the portion of external cost of transport paid in foreign currency rather than CFA francs (investment in equipment, annual maintenance of the river channel in Nigeria, operating expenses including fuel purchase and navigation fees), but will probably reduce aggregate expenditures outside Niger. (The foreign exchange implications ought not be an important factor in comparing the economic alternatives, however, since one may reasonably assume continued regularization of monetary transfers by the West Africa Monetary Union.);

(f) The possibility of opening river transport for 11 months of the year, by offloading at Yelwa and moving traffic from Yelwa to and beyond Gaya on a newly constructed road offers only modest net benefits which are not significant enough to warrant discussion here in comparison of transport alternatives.

(g) If river traffic is opened, petroleum imports and exports of peanut products and cotton, as well as export of processed uranium from the mine at Arlit^{1/} and import of raw materials for the processing will be moved ^{by} river during the period of navigability (7 months); movement of such traffic by river will necessitate increased storage facilities, mostly at Gaya, estimated to be a minimum of at least two months output or consumption;

(h) A paved road should be built from Arlit to the existing paved access road to Gaya; based on the expectation that a second uranium mine would be opened within a few years of the first, this project would have an internal rate of return of about 18%;

(i) Export traffic from Niamey is small; it is reasonable to anticipate that all agricultural products not produced in the vicinity of Niamey would gravitate to Gaya and that most products moving to Niamey would be consumed locally; import traffic to Niamey will grow rapidly, particularly for petroleum products; therefore, river traffic between Gaya and Niamey would be expected to have a capacity factor of the order of 50%.

^{1/} It was concluded in the CIDA study that traffic to and from the mine would move to the west rather than eastward toward the Nigeria railroad.

The CIDA study establishes a transport model for Niger external commerce and compares total discounted transport cost for each of six cases over a 20 year period. The cost comparisons appear in Annex 5.

The study concluded that the least cost solution would envisage near total dependence on the Dahomey axis, river transport not being opened up. However, the cost margin is extremely small over the next alternative, which envisages opening of river navigation to Niamey during seven months of the year, is smaller. Both cases assume completion of ~~an~~ two lane paved road from Parakou to Malanville.

The FAC study reaches similar conclusions, but indicates that introduction of water transport now would be economically favorable but with the net economic benefits declining as the time lapse prior to opening of water transport becomes protracted.

Although there is room for disagreement over assumptions made in these analyses, the Capital Assistance Committee feels that there are some clear findings which can be drawn from the studies:

(a) Although the studies differ as to whether introduction of river transport now represents the least cost regional economic transport solution (the FAC study findings would support a favorable conclusion, while the CIDA study concludes that directing essentially all traffic over the Dahomey axis provides a slight net cost savings), using the most unfavorable estimates (CIDA), the cost difference between alternative solutions is not sufficient to offset the probable advantages offered by a second transport alternative in view of the uncertain future service dependability of the railroad;

(b) From Niger's standpoint, there is strong economic advantage in opening a transport alternative, especially for movement of certain commodities (petroleum and raw materials and uranium for the Arlit mine). The approximate annual growth rate of 9% p.a. until 1980 of the CIDA study is too optimistic leading to an overly expanded base for projections beyond 1980; the 5% growth rate used in the FAC study is more realistic but the base is too low based on realized import/export traffic in 1970. Thus, total traffic may be expected to fall between the two projections. The favorable disposition of profitable traffic items (petroleum, raw materials and uranium) to movement by water, the prospect for processing of peanut products at Gaya prior to export, and the probability that aggregate trade with Nigeria will increase are all indications favoring opening of water transport.

(c) Recognition need be given to the impact that this decision may have on the OCDN railway. Because of the existence of a parallel road axis, rail rates have a fixed ceiling above which traffic will move by road between Parakou and Cotonou. The railroad also has high fixed costs, particularly for ~~salary and administrative expense~~ for an excessive number of employees. Opening of the waterway will place a considerable strain on the railroad. Total traffic may grow over several years to a level sufficient that ~~its share~~ of traffic will support its operations. But, there will be some years in the nearer future in which it will be necessary to subsidize its operations.

This may be a valuable incentive to make the difficult political decision to cut-back personnel. Once accomplished, the favorable future prospect for traffic growth after a few years, may place the railroad in a favorable operating posture.

In summary, the Committee concludes that:

(a) Given the closeness of economic cost between alternative solutions, the absence of a demonstration of service reliability by the railroad, and the inherent advantage of competition in increasing operating effectiveness, that the choice of a transport mode which includes river commerce during the seven month navigable season is economically warranted from the standpoint of regional planning; and

(b) From the standpoint of the Niger, the choice has substantial economic advantages.

2. Benefit-Cost Ratio for the Loan

(a) Analytical Framework

The investments in river channel improvements (Kainji dam, Kainji and Awuru locks, and channel improvements -- blasting, dredging and placement of markers) and in the initial river transport fleet have already been made. The river fleet investment will be amortized from revenues generated by commercial river transport. Therefore, in assessing the benefits attributable to installation of the port and reconstruction of the bridge, it will be necessary to reduce total benefits attributable to transport cost savings from river commerce by annual cost factors associated with:

1. additional port investment costs at Niamey;
2. additional storage facility installations made necessary by seasonal (7 month) river commerce; and
3. a portion of the cost of river channel maintenance which is not reimbursed through assessment of user fees for commercial river transport.

Each of the above three elements is difficult to assess. The assumptions made and the basis for calculation are in Annex 6A. All benefits and costs have been discounted at 10%, corresponding to the opportunity cost for capital most commonly

used for transport investments in West Africa.

The assumption that all transport cost savings from opening of river commerce to Gaya and Niamey are attributable to the bridge and port, is not a wholly conservative assumption. Some commerce from Niger would have been possible in the absence of additional investment or as the result of lesser investment than here proposed. However, the assumption is considered justified for the following reasons:

1. the extent of commerce which would have been realized without additional investment would not have been large, but growth of economical river transport and the economic impetus to western Niger associated with such commerce would have been severely retarded; this element of benefit is not quantified in this analysis, but is considered to be significant;

2. the elevation of the bridge and construction of the port are minimum acceptable conditions for promotion of sound commercial river transport to Gaya and Niamey.

(b) Comparative Transport Costs and Traffic

The per unit (ton_km) transport costs used in this analysis are based on actual or anticipated tariffs for each transport mode rather than upon economic or marginal transport costs.

For rail and road traffic, these costs are expected to remain fairly constant, although economic costs will vary considerably with level of traffic. The cost for river transport is that which was recommended in the FAC and CIDA studies (See Annex 9). These costs are:

Rail	7 CFA (2.8¢)/ton_km*
Road	9 CFA (3.6¢)/ton_km**
River	3.5 CFA (1.4¢)/ton_km***

* This figure is expected to be retained through subsidization of the railroad. A ceiling level of something less than 9 CFA marks the upper limit of movement, as traffic would then shift to road transport. While traffic growth before 1990 might be sufficient to put the railroad in a more reasonable financial position, it is not expected to be large enough to permit lower transport rates.

**This is a conservative figure for the Parakou-Malanville road and one significantly lower than for internal transport in Niger. Higher rates also pertain for petroleum products, because back haul traffic is not possible.

*** A graph showing the economic cost variations for the three traffic modes as a function of traffic is included in Annex 6A.

Therefore, net transport cost savings per ton shipped by river to Gaya and Niamey may be computed as follows:

	Gaya		Niamey	
	Distance (km)	Total Cost (\$)	Distance (km)	Total Cost (\$)
Dahomey Axis	763	23.96	1058	34.58
Niger River	1345	18.83	1710	23.94
Net difference	(582)	5.13	(652)	10.69

Traffic projections have varied in the two studies used. The projections used herein are based primarily upon CIDA study, where assumptions relating to apportionment of traffic are less favorable to the river than in the FAC study. The projections are set forth in detail in Annex 6A. The following summarizes combined total imports and exports via the alternative transport modes:

	Dahomey Axis				Niger River ^a			
	Gaya		Niamey		Gaya		Niamey	
	Tons (000)	Tons_Kms (000,000)	Tons (000)	Tons_Kms (000,000)	Tons (000)	Tons_Kms (000,000)	Tons (000)	Tons_Kms (000,000)
1975	16.5	12.0	34.0	36.0	50.5	66.0	50.0	81.0
1980	22.0	17.0	43.0	46.0	64.0	85.0	64.0	103.0
1985	26.0	20.0	56.0	59.0	82.0	97.0	82.0	132.0
1990	34.0	27.0	71.0	75.0	105.0	137.0	104.0	167.0

(c) Calculation of Benefit-Cost Ratio

From the above, annual gross transport cost savings to Gaya and to Niamey can be computed for the years indicated. These can be plotted on a graph and annual gross benefits extrapolated for the fifteen year period. Since transport investments in this analysis have been compared on the basis of 20 year mode and since the service life for the bridge and port may be expected to be at least this long, benefits and costs will be discounted through 1995, with the conservative assumption that annual benefits after 1990 will be the same as in that year. The calculations are set forth in Annex 6A. The benefit-cost ratio resulting from this analysis is 1.15. The ratio is sufficiently favorable to indicate economic justification for the investment.

* These figures do not include shipment of P.L. 480 sorghum or other grain imports of which there may be 10,000 tons per year which could potentially move by river.

C. Technical Analysis

1. Scope of the Project

The project will comprise (1) elevation and reconstruction of the bridge across the Niger River in the vicinity of Malanville, Dahomey and Gaya, Niger such that for two spans of the bridge there will be a clearance of at least 7.0 meters above the probable high water line; and (2) construction of a river port in the vicinity of Gaya. A detailed description as will appear in Annex 1 of the Loan Agreement, is in Annex 7 B.

The project will include preparation of final engineering plans and construction contract bid documents, supervisory engineering services during construction, and construction services including procurement and installation of equipment.

2. Design Alternatives

a. Malanville-Gaya Bridge

Of the several design alternatives studied for raising the bridge deck, two were considered feasible and compatible with the operation of the model and size of barges and pusher towboats built to navigate on the Niger River.

The first alternative considered rearranging spans 4 and 5 into a single bay which would span about 50 meters. Within the bay would be constructed a mechanically operated vertical draw-bridge system between four concrete tower columns. The draw-bridge could be elevated to provide at least 7 meters overhead clearance for river traffic. This solution would cost slightly more than \$1 million.

The second alternative considered elevation of spans 4, 5 and 6 to a clearance of 7.0 meters above high water through introduction of a uniform grade ascending from both sides of the bridge to the most elevated spans. The bridge is currently at level grade. The raised deck sections would be anchored to prefabricated steel trimmer beams inserted between the deck and the prestressed concrete column caps at each bent. Each bent height would be a computed offset from the 3.3% longitudinal grade design for the center line bridge roadway alignment. This arrangement gives a clearance of 7 meters at bays 4 and 5. The bridge alignment grade and cross section are symmetrical on both sides of bay 4 and 5. Lateral supports are introduced to give added stability at bent 13. A metal wall liner anchored to wooden piles will be sheathed around columns of bent 4, 5 and 6 as a protective measure against through river traffic. This protective wall allows a 20 meter clearance within the bay which is considered adequate for barge traffic passing through this bridge channel on a tandem basis. This second alternative was estimated to cost \$892,000. A schematic design is in Annex 4. Maintenance costs, however, will be very much lower than for the draw-bridge alternative.

The initial construction cost savings and the operating and maintenance cost savings of the deck raising plan (alternative 2) over the draw-bridge scheme (alternative 1) lead to the recommendation for its selection.

b. Gaya Port

Three sites located in the vicinity of the village of Gaya, Niger, were considered. All three are situated along the Niger side of the river, one south east of Gaya, one directly south of the Gaya village, and one south west of Gaya. The site located south east of Gaya was selected because it is protected from the main river channel and it contains sufficient water depth to receive barges docking in Gaya. In addition, the 20 acres of land adjacent to the Niger river are relatively flat with stable soil and provide about 160 meters of water frontage with no major obstacles to the construction of port facilities.

A comparison of the costs of improvements required at each site, port accessibility (both by River and by land), and the types of service facilities that could be constructed further favored the location of the port south east of Gaya, as indicated in the schematic design in Annex 4.

3. Technical Description and Cost Estimates

a. Raising the Gaya-Malanville Bridge

The existing two lane concrete highway bridge across the Niger river between Malanville, Dahomey and Gaya, Niger, was completed in 1958, and has a total length between abutments of 455.4 meters consisting of 18 equal spans of 25.3 meters. Each of the 17 identical piers consists of 4 cylindrical piles 1 meter in diameter/^{with} reinforced concrete cap. These caps support the four prestressed concrete beams on which the bridge deck has been placed. The deck includes a 6 meter wide roadway plus 0.5 meter walkways on both sides, and appropriate curb and guard rails. The bridge is designed for H-20 loading.

The underside of the beam spans is at elevation 160.94 m. and is estimated that during some high water seasons (best for navigation) the clearance between the underside of beam and the water surface will be less than one meter. It has been determined that the most economical solution to provide for navigability in this reach of the river, although a detailed comparison with other alternatives will be made during final design, would be to raise the two spans over the deepest channel (thalweg of the stream) so as to provide 7 meters clearance above the most probable high water. This necessitates a maximum raise of 5.4 meters for these two spans, with lesser raises for succeeding spans on each side. The spans to be raised the maximum are numbers 4 and 5 from the Gaya side. By maintaining a down grade of 3.3% from these two raised spans, the original grade will be reached at span 16 on the Malanville side. However, on the Gaya side, where the channel is closest to the shore

it will be necessary to raise the existing approach fill and the abutment, as shown on the attached schematic diagram.

Traffic across the bridge will be interrupted for protracted periods while work is in progress - possibly for 10 months to a year. The GON will make available a ferry to accommodate traffic during the Malanville-Gaya bridge reconstruction period. The ferry operation will be a GON contribution to the activity. The ferry will provide adequate capacity for the anticipated traffic (less than 100 vehicles daily).

It is the loan committee's conclusion that preliminary design information is sufficient for a technical appraisal and that the approach is technically feasible.

There will be no changes in the maintenance and operation of the bridge after completion of the raising work; but the possibility of accidental damage will be increased. It is contemplated that the existing agency now responsible will continue maintenance after completion of the alteration.

Cost estimates for elevation and reconstruction of the bridge are:

	Foreign Exchange Portion (\$ US)	Local Currency Portion (\$ US equivalent)	Total Costs (\$ US)
Mobilization	20,000	20,000	40,000
Drilling through deck and trimmer beams	40,000	20,000	60,000
Prestressed concrete	20,000	20,000	40,000
Falsework, lifting and securing spans	95,000	80,000	175,000
Metal trimmer beams	60,000	40,000	100,000
Approaches, abutments and fill	46,000	120,000	166,000
Lateral support for piers	15,000	10,000	25,000
Protection work - piers 4, 5 and 6	75,000	50,000	125,000
Barges, material and equipment	20,000	-	20,000
Miscellaneous tools and supplies	25,000	-	25,000
Direct Cost Sub-Total	416,000	360,000	776,000
Contingencies at 15%	62,000	54,000	116,000
Sub-Total	478,000	414,000	892,000
Designs, plans, specifica- tions, and supervision of construction at 15%	124,000	10,000	134,000
TOTALS	602,000	424,000	1,026,000
<u>% of Total Cost</u>	58.7%	41.3%	100%

b. The New River Port at Gaya

After considering several alternatives, the site for the proposed new river port at Gaya was selected at a location about 4 kms southeast of Gaya on the north bank of the Niger River. The site is roughly rectangular in shape and accessible only by foot path. The site -- about 8,7 hectares (21.5 acres) -- is fairly level and sandy. About 260 meters of it fronts the river and is 335 meters deep. There are about 150 trees on the site, ranging up to two feet in diameter. Toward the river, the ground slopes downward and becomes swampy for about 100 meters adjacent to the river. A quay wall about 260 meters long will be built along the river front and fill will be placed in the low area to provide an adequate elevated working area for the port. The local petroleum company and a peanut oil processor have preliminary plans to develop adjoining properties to take advantage of the port development. Preliminary estimates indicate that, if all of Niger's petroleum products are to be imported via the Niger River waterway, about 20,000 m³ of storage might be required at Gaya to permit POL distribution during five months of the year. No building or facilities, except for pipeline easements, will be required within the port area for these two industries. In addition to the access road, quay wall, open storage areas (hard-standings), fence and gates, the following additional facilities and utilities will be required: eight storage sheds (including two transit sheds), an office building for communications and customs, a corral for animals, and the usual water supply, sanitary, electric power, night lighting, and fuel facilities.

It appeared that adequate depths exist offshore, but this will be reviewed in detail during design. The river is wide enough to permit turning and maneuvering of boats and barges. Adequate anchoring and storage areas for barges and boats during the low water period exist both upstream and downstream from the site.

Operation and maintenance of the new port facility will be the responsibility of the Gaya Port Commission which will have to collect fees for dockage, cargo handling, storage, and related services. It is assumed that the rates for these services will be set so as to cover operating and maintenance costs. Technical advice and assistance during the initial phases of the operation will be provided.

A preliminary cost estimate for the new Gaya river port is as follows:

	Foreign Exchange Portion (\$ US)	Local Currency Portion (\$ US Equiv.)	Total Cost (\$ US)
Mobilization	15,000	15,000	30,000
Access Road	30,000	50,000	80,000
Clearing trees	500	1,000	1,500
Grading, drainage, and hardstandings	60,000	40,000	100,000
Fencing, gates and corral	3,000	2,000	5,000
Quay wall, including rip rap, bollards, etc.	110,000	150,000	260,000
8 storage sheds (including 2 transit sheds)	74,000	150,000	224,000
Office, communications and customs building	15,000	15,000	30,000
Water supply and distribution	10,500	4,000	14,500
Septic tank and sanitary facilities	20,000	5,000	25,000
Port operating equipment (boat, forklift, cranes, etc.)	98,000	2,000	100,000
Fueling facilities	7,000	4,000	11,000
Electric power supply and distribution	7,000	5,000	12,000
Fire protection	8,000	3,000	11,000
	<hr/>	<hr/>	<hr/>
Direct cost, subtotal	458,000	446,000	904,000
Allowance for contingencies, 15%	69,000	67,000	136,000
Design, plans, specifications and supervision of con- struction, 15%	<u>140,000</u>	<u>16,000</u>	<u>156,000</u>
Total	667,000	529,000	1,196,000
% of total cost	55.8	44.2	100

4. Niger River Transport Capacity

The study of transport possibilities for river navigation in the Republic of Niger prepared by "La Societe d'Etudes pour le Transport sur le Fleuve Niger", National Society for River Transportation Studies (NSRTS study), dated January 1971, outlines a satisfactory program of port and shipping operations on the Niger River that has been approved by the GON.

The study recommends that navigation is possible 7 months per year from Niamey, Niger to Port Harcourt, Nigeria. The navigation season begins in September and ends in April. By utilizing shallow water draught barges traveling at navigation speeds of 8 to 12 kms/hr, 7 roundtrip convoy cycles per year can be organized. Only daytime navigation is anticipated.

The river transport fleet proposed to give maximum return on investment will be composed of the following:

- 12 shallow draught barges - 36 ft by 8 ft by 200 ft long, 750 tons capacity & 5 ft water draught
- 2 pusher towboats - 23 ft by 6 ft by 78 ft long
1450 HP and 3'6" water draught
- 1 pusher towboat - 23 ft by 6 ft by 78 ft long
730 HP and 3'6" water draught
- 2 patrol boats - 30 ft long.

This equipment is capable of transporting 60,000 tons of cargo in each direction, totaling 120,000 both ways per year.

Initially, 3 barges and 1 1450 HP pusher towboat will be delivered to start operations during the navigation period 1972-1973. The remainder will be delivered in time for the start of the following year's navigation period.

The convoy's optimum navigation schedule is tabulated as follows:

<u>River Pt. Location</u>	<u>Distance</u>	<u>Travel Time Schedule</u>	
		<u>Upstream</u>	<u>Downstream</u>
Port Harcourt to Jebba	970 kms	6	5 $\frac{1}{2}$
Jebba to Awuru	87 "	1	$\frac{1}{2}$
Awuru to Kainji	18 "	2 $\frac{1}{2}$	1 $\frac{1}{2}$
Kainji to Niamey	635 "	5	4
Totals	1710 kms	14 $\frac{1}{2}$ days	11 $\frac{1}{2}$ days

From the tabulated data it can be shown that one roundtrip between Port Harcourt and the Kainji dam (17 days) is approximately equal to two roundtrips between Niamey and the Kainji dam (9 days). At the Kainji dam, barges require special handling and guidance in order to cross its locks. In view of these conditions, the study has determined that the most efficient arrangement considers working the two 1450 HP pusher towboats below the Kainji dam and the single 730 HP pusher towboat above the Kainji dam. Therefore, the use of two 1450 HP pusher towboats traveling at an average speed of 12 kms/hr will deliver a convoy of 4 loaded barges at the Kainji dam about every 9 days from Port Harcourt. This travel time would equal that of using one 730 HP pusher towboat and the same convoy of 4 loaded barges traveling at an average speed of 8 kms/hr to complete one roundtrip between the Kainji dam and Niamey in 9 days. With this operating arrangement, 3 convoys each with a capacity of 3,000 tons, can complete one cycle from Port Harcourt to Niamey every month during the navigation season. Similarly, each of the two pusher towboats can accomplish 7 roundtrips, between Port Harcourt and the Kainji dam, with the pusher tug between Kainji and Niamey completing 14 roundtrips during the 7 month navigation period. Of course, initially the single 1450 HP pusher towboat will make the whole voyage from Port Harcourt to Niamey and return. River transportation trial runs have been scheduled to begin about November 1972, under the general guidance and technical assistance of Canadian advisers to the GON.

5. Operation and Maintenance of Niger River Navigation and Commerce

An autonomous corporation with majority GON ownership will undertake operation of Niger external commerce by river as well as operation of the ports of Gaya and Niamey. An organization chart for the corporation is in Annex 3.

Maintenance of the Niger River channel within Niger will be the responsibility of the Ministry of Public Works; maintenance of the river channel within Nigeria will be undertaken by the Government of Nigeria Inland Waterways Commission (see special covenants and discussion in implementation letter No. 1 which appear in Annex 7 C and D.

It is estimated in The Netherlands and CIDA studies (see Annex 9) that about \$1.1 million will be required for ordinary maintenance and improvements of the waterway and Niger ports, so as to permit navigation from the estuary to Niamey for about 7 months per year. This estimate assumes considerable dredging of sections of the river channel. Mr. Gordon, the CIDA advisor to the GON on river navigation has indicated that he believes that channel navigability can be maintained by techniques other than dredging at a very much lower annual cost (\$300,000). For purpose of conservatism, the \$1.1 million figure has been used throughout this analysis. The cost is expected to be met through a cost sharing arrangement to be derived from water use fees paid by the corporation and other river users and investments by the GON and Government of Nigeria. (See special covenants and comments in Implementation Letter No. 1 in Annex 7 C. and D.)

Maintenance would include the following operations:

- (1) Maintenance and upkeep of the river ports of Niamey and Gaya, Niger;
- (2) Maintenance, repairs and spare parts procurement on navigation and port operations equipment;
- (3) Maintenance of the riverbed of the navigation channel to prevent or remove sandbanks at various sections throughout the navigable length. (A continuous operation is needed particularly at intersections with in-flowing streams). This operation is of particular importance because many sandbanks have proved to be unstable, resulting in a shift of the location of the navigable channel from year to year;
- (4) Maintenance and relocation as necessary, corresponding with item (3) above, of the navigational aids (buoys and beacons) throughout the navigable length;
- (5) Special shipping and navigation patrolling and river channel maintenance operations at the Bajibo Rapids, Awuru bypass canal and lock, and the Kainji dam locks to assist and facilitate convoys negotiating passage through these difficult crossings; the discharge from Kainji dam downstream must be maintained at a minimum of 1600 m³/sec. to ease navigations through the Bajibo Rapids and the Awuru bypass canal and locks.

The Government of Niger will covenant to provide in annual budget planning the funds necessary for such maintenance to the extent that the funds are not provided through operating costs or user fees of the river transport corporation.

6. Training Programs for Port and River Transport Operations

A satisfactory plan exists for training of administrative port operations and navigation personnel for the river transport corporation and for the ports of Gaya and Niamey. Staffing requirements will be filled by local recruitment. About 60 trained personnel will be required. Training is financed by CIDA and the GON, and includes:

(a) 2 men selected to occupy key supervisory positions for the ports. They are currently enrolled at the Port Administration school in Lagos, Nigeria. The training period is one year;

(b) 4 additional men have been selected to fill administrative positions in the river transport corporation. They were enrolled in the Maritime Administration school in Ottawa for about 30 weeks. Following this arrangements were made with a Tunisian commercial river transport company to give them practical on-the-job training for a period of 6 months;

(c) for the 3 navigation crews, 30 technicians of varied skills will be recruited. They will be sought from ex-French Merchant Marine Companies, as well as local riverboat operations;

(d) a highly skilled technician has received special training in river transport equipment maintenance in Canada. He will return to the Ministry of Public Works, but will be available to the river transport corporation on a cost reimbursable basis;

(e) in addition, to provide qualified personnel for probable expansion of the Niger River transport corporation's activities beyond its first few years of operation, the GON foresees enrolling a number of young secondary school graduates in the Navigation School in Abidjan.

Key training courses began in May 1971, so as to provide an initial operating staff by November 1972.

9. Technical Soundness

The studies listed in Annex 11 provide a sound technical basis for concluding that the Niger River can be made navigable from Niamey to Port Harcourt, for estimating the cost of essential improvements and of annual maintenance to the river channel, for establishing specifications for the river fleet, and for comparing design alternatives and making reasonable cost estimates for the elevation and reconstruction of the Gaya-Malanville bridge and for construction of the Gaya port. Refinement of design details including reconsideration of design alternatives for elevation of the bridge and for the port will be undertaken by a U.S. consulting firm in its preparation of plans, cost estimates, and contract documents, for which A.I.D.'s approval will be a condition precedent to construction. Provision has been made for training of personnel for operation of the port, as well as for continual maintenance of both the bridge and the port. Arrangements for provision of auxiliary facilities, such as power and water at the port site, and essential investments, such as improvements in the river channel between Gaya and Niamey, and installation of petroleum storage facilities at the Gaya port will be required as conditions precedent to construction.

A reasonably firm estimate of cost to the U.S. Government of this activity has been computed. A satisfactory plan for execution of the activity has been prepared (see Section III.C). Therefore, it is concluded that the facilities to be financed under the loan can be constructed in a sound manner and cost should not exceed those estimated for the activity and that, consistent with the plan for commercial navigation of the Niger River, there is reasonable basis to conclude that they will be effectively employed.

D. Impact of the Loan on U.S. Balance of Payments

About \$1.26 million (56% of the loan proceeds) will finance U.S. goods and services. The remainder of the loan will be used for direct purchase of CFA francs to finance local expenditures.

E. Ecological Considerations

Since elevation of the bridge involves essentially no modifications to the foundations, there is not expected to be any impact on local ecology.

Construction of the port will entail erection of a quaywall of approximately 160 meters paralleling the existing river bank. River flow is not rapid, and the installation is not expected to produce any significant change in flow patterns. A similar quay has been installed at the Niamey port and no changes in ecological conditions were noted.

Blasting and other improvements to river channel navigability do not materially alter stream flow and are not expected to have any adverse effect on the ecology of the river.

The principal ecological concern from commercial river navigation would be contamination from petroleum products being transported. The barges are shallow draft flat vessels which will contain inner storage tubes. There is little risk of serious damage to the barges or of breaking of the inner containers. Off loading operations will be quite simple while there is the theoretical possibility of the pipe failure which spills oil into the river. The risk is relatively small and losses are expected to be controllable to manageable levels.

Therefore, no adverse effect of the project upon local ecological conditions is anticipated.

III. LOAN ADMINISTRATION

A. Financial Plan

1. Cost of the Project

The A.I.D. loan will finance the dollar and local currency costs of engineering design and construction of the bridge and port. These may be summarized as follows:

(\$000)	<u>Gaya-Malanville Bridge</u>		<u>Gaya Port</u>	
	<u>Foreign Exchange Costs</u>	<u>Local Costs</u>	<u>Foreign Exchange Costs</u>	<u>Local Costs</u>
Engineering Services	124	10	140	16
Construction	416	360	458	446
Contingencies	62	54	69	67
Totals	602	424	667	529

This provides a combined total of \$2.222 million of which approximately 44% will be used for purchase of CFA francs. The A.I.D. loan will be in the amount of \$2.25 million.

2. Schedule of Proposed Investments in Niger River Commerce

Current financial contributions to Niger River Commerce may be summarized as follows:

CIDA (grant)	\$4.4 million
A.I.D. (loan)	2.25 million
Government of Nigeria *	
GON investment	0.6 million
TOTAL	<u>\$7.25 million</u>

* The Government of Nigeria will install channel markers and other navigation aids along the river channel from the estuary to the Niger border at Yelwa. The cost for such installation is not known, but will not be a major investment.

The CIDA contribution is for the purchase of the initial river transport fleet, for training of river transport and port operations personnel, and for blasting and streamflow directing installations in the Niger River channel between Gaya and Niamey (see Section II. C.).

The GON contribution will include the following elements:

	(\$000)
(1) land, rights of way, casements	(no value assigned)
(2) site preparatory work for bridge access road and port *	50
(3) improvements to the port of Niamey	100
(4) improvement to the Niger River channel between Gaya and Niamey **	25
(5) rehabilitation of a ferry and its operation during the period of bridge reconstruction	100
(6) provision of potable water and electric power services to the port of Gaya	25
(7) initial capitalization of the Niger River transport corporation ***	300
TOTAL	<u>600</u>

* In addition to land clearance and grade work, this may entail removal and reconstruction of the existing customs house at Gaya.

** This is exclusive of annual river channel maintenance costs.

*** The GON has estimated the level of working capital at \$300,000. A substantial portion of this may be contributed by autonomous, mixed enterprises such as the peanut, cotton and petroleum commercial firms who will be stockholders in the river transport corporation. Working capital requirements may exceed these expectations. The GON will covenant to make additional funds available to the river transport corporation to assume financial liquidity (see Section III. C.).

3. Reasonableness of GON Contribution to the Project in Relation to Available Investment Resources

As indicated in the Macro-Economic Analysis (see Annex 1), the GON contribution to donor-financial investments is probably less than 10%. Therefore, the GON investment contribution to the project is consistent with that for other investments. In addition, the GON will assure availability of working capital for the river transport corporation, and will invest possibly a considerable annual sum in river channel maintenance. Therefore, the Loan Committee concludes that the aggregate GON contribution indicates a serious interest in the project and is tailored to meet the needs for GON investment for the project in a manner consistent with their limited budget resources.

4. Disbursement Procedure

Dollar disbursements will be accomplished through A.I.D.'s standard letter of commitment procedure. CFA francs, to meet local currency disbursements, will be purchased through the U.S. Disbursing Officer.

5. Alternative Sources of Financing

The A.I.D. assistance complements assistance being provided by CIDA for the initial transport fleet. Other donor organizations, including IBRD, have been approached for financing for river transport, bridge improvements and port facilities and have not indicated interest. The GON has not considered approaching the AFDB for financial assistance because the AFDB does not have concessional financing available and the GON cannot afford hard terms. While a special soft loan fund for the AFDB has been approved in principle by donor countries, it would be some time before such funds might be available for a project of this nature. A.I.D.'s participation is at the request of the GON and with encouragement of CIDA. As such, alternate financing is not available. Ex-Im Bank indicated that it is not interested in financing this Project.

6. Loan Repayment Prospects

The following figures for 1969^{a/} summarize the debt service burden:

Total debt	\$ 77.8 million
Debt service	0.5 million
Debt service ratio	8.3%

The proposed loan will provide an increase in debt of about 3% for Niger. Niger's debt position is very modest in comparison with other less developed countries. However, in view of Niger's continual dependence on external aid transfers for meeting budget requirements, it can only be concluded that Niger will remain dependent for the foreseeable future on external aid to assure continued credit worthiness.

Within the context of the franc zone and the historic trade and support relations between Niger and the Common Market countries, there is reasonable basis for belief that Niger will retain adequate domestic and foreign resources, have annual budgets sufficient to finance external obligations, and indeed improve their position vis-a-vis dependence upon external assistance. Therefore, we conclude that prospects for timely repayment of the loan are favorable.

^{a/} "Total External Indebtedness of Developing Countries", DAC Working Party on Financial Aspects of Development Assistance (March 7, 1972), and IBRD Economic Appraisal Report for Niger (1972)

B. Timetable for Implementation

Loan Authorization	June 1972
Signature of Loan Agreement	Sept. 1972
Solicitation of Expressions of Interest for Engineering Services	Sept. 1972
Prequalification of Engineering Firms Completed	Dec. 1972
Request for Proposals for Engineering Services	Dec. 1972
Engineering Service Contractor Selected	Feb. 1973
Contract Executed for Engineering Services	March 1973
Initial Conditions Precedent Met	March 1973
Opening of L/Comm for Engineering Services	April 1973
Completion of Cost Estimate, Bid Documents	Jan. 1974
Issue Invitations for Bid for Construction Contract	Feb. 1974
Construction Contract Award	April 1974
Conditions Precedent to Construction Met	April 1974
L/Comm Opened for Construction Services	May 1974
Notice to Proceed with Construction	May 1974
Construction Completed	Aug. 1975
Operation, Training and Maintenance Warranty Period Completed	Aug. 1976
Final Inspection and Acceptance	Sept. 1976
Terminal Disbursement Date	Dec. 1976

C. Project Execution Plan

It is contemplated that a single U.S. engineering firm will be hired initially for design and preparation of contract documents for both the bridge and the port. Upon satisfactory completion of plans, specifications, cost estimates and contract documents, the engineer shall supervise construction.

A single construction contractor may also have advantages, but the decision will depend upon number and capabilities of eligible bidders, and upon the recommendation of the engineer. Bids for construction may be invited for the bridge and port separately and combined, with the GON reserving the right to make the award to the lowest combined or separate bids.

Before beginning engineering services for the bridge and port, there will be required, in addition to standard provisions:

(1) agreement in principle by the Niger River Commission to the Activity;

(2) a convention between the GON and the Government of Dahomey authorizing reconstruction of the bridge;

(3) evidence that GON agencies will undertake responsibility for maintenance of the bridge and operation and maintenance of the port; and

(4) demonstration that the initial river transport fleet can navigate the Niger River from the estuary to Gaya with commercial cargo.

Following completion and approval by A.I.D. of final design and contract bid documents, the following will be required in addition to standard provisions before beginning construction:

(1) evidence that a river navigation corporation has been set up, with adequate charter, initial capitalization and planned availability of working capital, and that the initial river transport fleet will be turned over to the corporation;

(2) evidence that the Government of Nigeria has established reasonable fees for transport through the Kainji and Awuru locks;

(3) evidence that the Government of Nigeria will place suitable navigation aids and make other essential improvements in river channel;

(4) evidence that the GON will provide and operate ferry service during reconstruction of the bridge;

(5) evidence that petroleum storage facilities will be constructed adjacent to the Gaya port; and

(6) arrangements for provision by the GON of electric power and water supply at the Gaya port.

In addition, through special covenants, the GON will agree (1) to maintain and make improvements in the river channel between Gaya and Niamey and (2) to work through the Niger River Commission with the objectives of:

(a) obtaining agreement of the Niger River Basin countries on the responsibilities of each country for keeping navigation open along the portions of the river within or adjacent to its boundaries, including the responsibility for financing of annual maintenance and improvements of the river channel; and

(b) assuring that the Government of Nigeria will continue to employ a reasonable schedule of fees for water transport through the Kainji and Awuru locks.

Macro-Economic Analysis

1. Summary

The main conclusion of this analysis is that Niger is unable to direct significant internal resources into productive investments, particularly for transportation where the size and interior land-locked nature of the country necessitate costly infrastructure; without external assistance the resources cannot be found to permit effective intervention.

2. General Economic Trends

Agriculture and livestock, for a narrow spectrum of products provide employment for almost 90% of the population and contribute in excess of 50% of the Gross Domestic Product and over 80% of export earnings. There is little prospect for a major shift in economic patterns; nor in growth projections. The economy is handicapped by high cost external commerce and unfavorable climate.

Niger is predominantly in the savannah zone, with rainfall ranging from near zero in the desert to 500-600 mm along the southern frontier. Because of more favorable ground moisture conditions, ninety percent of the population is concentrated in a strip less than 150 km wide adjacent the southern frontier. Use of land farther north is limited to cattle grazing and cereals production, gradually changing into largely unused desert which covers about four-fifths of the country. Rainfall occurs from June to about early October and has a direct bearing on the type and quality of the export crops. With such a short rainfall cycle there is great dependence on water from the Niger River which flows from Guinea highlands.

Niger with a per capita income of only \$88 has probably experienced a slight decline in recent years. With a population growth rate of 2.7% per year during the past decade, Niger had a rate of increase in real per capita income of about 2% per annum from 1960 to 1966 due primarily to increase in peanut production and secondarily to increase in cotton production. However, since then Gross Domestic Product has only been increasing at a rate of about 1.5% per year, during which time prices have increased at a rate of about 2.2% per annum. This is due to the very unfavorable 1968-69 drought and to lesser climatic factors thereafter.

The industrial sector represents 10% of Gross Domestic Product, and has little prospect for increasing in importance. Import substitution of manufactured goods has limited prospects. Investment is moving forward in the development of uranium mining at Arlit which is expected to provide a net increase in foreign exchange earnings in excess of \$2 million per year in 1975. The opening of river transport and establishment of a port at Gaya may result in installation of a peanut processing (oil extraction) plant at Gaya.

Niger has had increasingly unfavorable trade balances in recent years, which have been more than offset by capital inflow, including market increase in foreign aid. It has foreign exchange reserves of \$19 million, the equivalent of 4 month imports. The annual trade deficit, which as amounted to 10% of GDP in recent years, is expected to diminish markedly in the near future, declining from about \$36 million in 1970 to about \$20 million in 1974.

Balancing of the budget has been and remains a major problem, with excess of expenses over Government revenues increasing from 9.5% of GDP in 1966 to 11.4% in 1969. In 1969, imports were 172,873 metric tons and rose to 207,594 M.T. in 1970; for 6 months of 1971, it was 99,641. In 1969, exports for Niger were 180,888 and dropped to 142,959 in 1970 and for six months of 1971 it was 52,676 MT. The strange decline following 1969 is in part the result of drastic shifts away from peanut production of cereals, which was a consequence of food shortages caused by the disastrous drought during 1968-69.

3. Foreign Assistance

Niger has received marked increases in foreign aid in recent years and prospects are favorable that such aid will continue to increase in the near future. Foreign aid constitutes about 80% of the development budget.

Principal sources of foreign aid continue to be first FAC and then FED. Recently Canada has provided important assistance to Niger. Other donors in addition to AID include West Germany, Great Britain, Libya, IDA and UNDP. Foreign investment assistance may be summarized as follows:

	<u>1967</u>	<u>1968</u>	<u>1969</u>
France	4.6	4.7	6.1
FED	11.3	2.7	5.3
AID	2.3	2.1	1.4
Others	<u>1.5</u>	<u>4.1</u>	<u>3.7</u>
	19.7	13.6	16.5

Source: IBRD appr. Rep't
A.I.D. Econ Data Book

The principal AID projects are:

	<u>AID Loan (L)/Grant (G) Assistance (\$000)</u>
J.F. Kennedy Bridge	1,800 (L)
Parakou-Malanville Road (Dahomey)	8,000 (L)
Entente Fund Livestock Sector	1,700 (L) a)
Entente Fund Cereals Sector Loan	0,900 (L) b)
& Grant	0,315 (G)

a/ \$1.7 million is the portion of the \$6.0 million loan which is anticipated will be used to finance investments in Niger. An A.I.D. Grant to the Entente Fund of \$390,000 has also been made for operating support of the Meat and Livestock Community.

b/ The proposed loan will be about \$1.8 million of which about half will be for Niger. A grant of \$630,000 has been made to the Entente Fund to finance commodities, training and technical assistance. The benefits will be divided about equally between Niger and Upper Volta.

4. Availability of Government Financial Resources For Development Expenditures and Allocation of Budget Resources to the Transportation Sector

Average annual budget contributions to development over the past several years have been less than 10% of total budget resources, and have amounted to about 20% of development investments. When the government budget resources declined substantially (1969) development investment contributions from budget resources declined to a markedly greater extent, reflecting commitment of a large part of budget resources to essentially fixed salary and administrative expenses. It may reasonably be concluded that actual GON contribution to foreign assistance projects is less than 10 percent of the total cost.

The 1971-74 plan calls for development investments of \$171 million over four years, which is three times higher than the investments actually realized during the previous four-year period. 61% is for transport, with 15% earmarked for livestock and agriculture. The proportion earmarked for the transport sector is especially significant as it reflects the priority which the Government of Niger attaches to the sector.

5. Capacity to Increase Tax or Other Revenue

Tax revenues are derived principally from heavy tariff on imports and levy upon a very narrow base of locally produced crops and products. Niger has increased tax revenues for the past several years at roughly twice the rate of increase in GDP for the same period. (See table VIII).

Revenues derived from direct taxation have risen from 36.9% of the total revenues in 1966 to 38.25% in 1969. The increase in taxes exacted on farm income has increased at a very much higher rate than increase in farm income during the past decade. The net result is that in an unfavorable crop year, taxes may reach 50% of cash income to the farmer in Niger. The revenue derived from indirect taxes has increased 30% from 1967 to 1970. Since import duties are already very high, it is concluded that there is little prospect for increasing tax or other revenues through new or enlarged Government levies for the foreseeable future.

STATISTICAL DATA ON THE ECONOMY OF NIGER

Table No.

I	Gross Domestic Product-Composition
II	Balance of Payments
III	Principal Items of Export
IV	Budget Receipts and Budget Deficit
V	Currency and Credit
VI	Investment Budget - Source of Funds
VII	Importance of Government Investment Expenses
VIII	Tax Revenue

TABLE NO. I

GROSS DOMESTIC PRODUCT - COMPOSITION

	<u>1966</u>	<u>1969</u>
Gross Domestic Product	\$331 million	\$346 million
Population	3.6 million	4.0 million
GDP/Per Capital	\$ 90	\$ 88
	%	%
Origin of Gross Domestic Product		
Primary (Agriculture)	59.2	53.1
Industry and crafts	5.1	5.4
Commerce	19.8	18.0
Government	5.0	5.7
Other	10.0	17.8

TABLE NO. II

BALANCE OF PAYMENTS

(in millions of US\$)

	<u>1969</u>	<u>1970</u>
Goods		
Exports	27.3	37.5
Imports	(57.1)	61.8
Net	(29.8)	(24.3)
Services (Net)	(10.9)	(11.3)
Goods and Services (Net)	(40.7)	(35.6)
BCEAO <u>1/</u>	(4.6)	(11.8)
Commercial Banks	<u>(0.3)</u>	<u>2.5</u>
Total	(4.9)	(9.3)

1/ Banque Centrale pour les Etats d'Afrique Occidentale.

TABLE NO. III

PRINCIPAL ITEMS OF EXPORT

(in millions of US\$)

	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>
Animal Products				
Amount	3.1	2.4	2.8	2.7
Percent	10%	8%	11%	12%
Peanut Products				
Amount	18.7	21.6	16.3	13.4
Percent	60%	69%	63%	59%
Other				
Amount	9.3	7.2	6.8	6.6
Percent	30%	23%	26%	29%
Total				
Amount	31.1	31.2	25.9	22.7
Percent	100%	100%	100%	100%

TABLE NO. IV

BUDGET RECEIPTS AND BUDGET DEFICIT

(in millions of US\$)

	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>
Ordinary Budget Receipts	30.9	31.4	34.0	33.2	40.0
Ordinary Budget Expenses	27.0	31.2	30.6	34.1	36.3
Ordinary Budget Net	3.9	0.2	3.4	0.9	3.7
Extraordinary Budget Net	(0.6)	(0.2)	(0.5)	0.9	1.3
Balance (Deficit)	3.3	0	2.9	1.8	2.4
Gross Domestic Product	331	336	327	346	
Ordinary Budget Receipts	30.9	31.4	34.0	33.2	40.0
ODR as % of GDP	9.5%	10.0%	10.1%	11.4%	

TABLE NO. V

CURRENCY AND CREDIT

(in millions of US\$)

	<u>1968</u>	<u>1969</u>	<u>1970</u>
Currency	20.2	22.3	25.9
Quasi-Currency	1.4	2.6	2.9
Domestic Credit	26.4	28.5	26.4
Price Index (1964=100)	110.9	127.6	130.0

TABLE NO. VI

INVESTMENT BUDGET -
SOURCE OF FUNDS

	<u>1967</u>	<u>1968</u>
	(\$ million)	%
Government Budget	3.6	13.3
Foreign Sources	23.2	86.7
France	(8.1)	(30.1)
FED (R.E.G.)	(7.1)	(26.5)
Other	<u>(8.0)</u>	<u>(30.1)</u>
Total	26.8	100.0

TABLE NO. VII

IMPORTANCE OF GOVERNMENT INVESTMENT EXPENSES

	<u>1967</u>	<u>1968</u>	<u>1969</u>
Ordinary Budget Expenses	31.2	30.6	34.1
Government Investment Expenses	3.3	3.5	2.3
Government Investment Expenses as Percent of Ordinary Budget Expenses	15%	11%	7%
Foreign Aid for Investment	11.1	12.0	14.4
Government Investment Expenses as Percent of Government Investment Expenses and Foreign Aid for Investment Combined	23%	22%	13%

TABLE VIII

TAX REVENUE

	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>
		(US\$ Millions)		
Direct Taxes	11.4	13.0	11.4	13.9
Indirect Taxes	17.8	18.2	17.9	21.3
Direct and Indirect Taxes	29.2	31.2	29.3	35.2
Ordinary Budget Receipts	31.4	34.0	33.2	39.8
Direct and Indirect Taxes as Percent of Ordinary Budget Receipts	92%	92%	89%	88%

DESCRIPTION OF THE NIGER RIVER FROM THE ESTUARY TO NIAMEY

The Niger River from the estuary, Port Harcourt to Niamey, Niger can be divided into stretches:

Port Harcourt - Jebba (0-905 km)

With the region being heavily populated, a great part of the river route is already being used by commercial navigation. Because of the changing nature of the sandbars at Jebba, the navigable channel changes in depth during the course of the year.

Jebba - Bajibo (905-957 km)

Between Bajibo and the Kainji Dam, the river flows faster, is narrower in some places and flows through rocky sections where some improvement works have been completed. At Bajibo, the rapids have been improved by rock blasting and closing of a secondary channel which has resulted in increasing the depth of the river. The Bajibo rapids and the Awuru canal and locks need to be negotiated by breaking up the existing tandem arrangement of barges and tugs into one tug with two barges.

Bajibo - Awuru (957-992 km)

At Awuru a bypass canal with a lock has been constructed, rock outcroppings have been removed to clear the navigable channel.

Awuru - Kainji (992-1010 km)

In approaching the lock at Awuru downstream and navigating the passage of Kapatachi, going upstream in the lock toward Kainji, there are strong crosscurrents between the islands.

Kainji - Yelwa (1010-1140 km)

To facilitate the crossing of the rapids at Bajibo and Awuru, the flow from the Kainji Dam must be regulated at 1600 M³/second. The reservoir formed by the dam at Kainji has submerged the rocks downstream from Yelwa.

Yelwa - Gaya (1140-1345 km)

Because of the changing nature of the sandbars, especially at crossings, the navigable channel changes in depth and shifts in course over the span of several years.

Gaya - Niamey (1345-1710 km)

The major obstacle is the low clearance of the Gaya bridge, about one meter clearance at maximum highwater level. In general, the navigable channel poses no problems including the W where the river passes the Atacora chain with some sharp turns, resembling a W. Obstructions to navigation are exclusively caused by rock formations running perpendicular to the river and by sandbank formations.

DESCRIPTION OF THE OCDN RAILWAY AND OF ROAD TRANSPORT SERVICES

OCDN Railway

The main transit route for Niger and Dahomey's most important transport axis consists of the Port of Cotonou, the railway to Parakou and the Parakou-Malanville Road.

The railway network main line (438 km) was constructed between 1900 and 1913 from Cotonou to Sava and extended to Parakou in 1939. The OCDN railway has relatively low traffic volume, less than 100,000 tons between Cotonou-Parakou in 1966, a "normal" year. Some significant freight findings are:

1. Groundnuts were the principal Niger export carried by OCDN, comprising 29,000 tons, or 81% of total exports.
2. Principal Niger imports were:
Petroleum products - 36,000 tons or 50% of total.
Food products (sugar, salt, drinks, meal) -
13,400 tons or 19% of total.

Most OCDN traffic was carried the full distance from Cotonou to Parakou, comprising 95% of northbound and 68% of southbound freight. Average transport delays are 18 days. Passenger traffic has decreased by 20% since 1963 and amounted to 63 million passenger km in 1968. During this period passenger service was expanded notwithstanding decline in passenger traffic. OCDN has now decided to reduce passenger service with the objective of returning to an average seat occupancy of 50%, the 1963 rate. Income from freight covers the total cost attributable to freight services, and in favorable years provides a small surplus, while the passenger service is definitely a deficit operation. The OCDN has consistently shown a deficit, however, it is estimated that if the railroad could retain its present share of Niger traffic, deficits would be eliminated in the future. In 1970 both the port and the railroad had financial surpluses, the latter for the first time in many years.

In the past, the OCDN has received major financial help for the modernization of its rolling stock and fixed installations, 1959-1967 amounting to 1,139 million CFA. These sums have been considered as donations, given mainly by FAC.

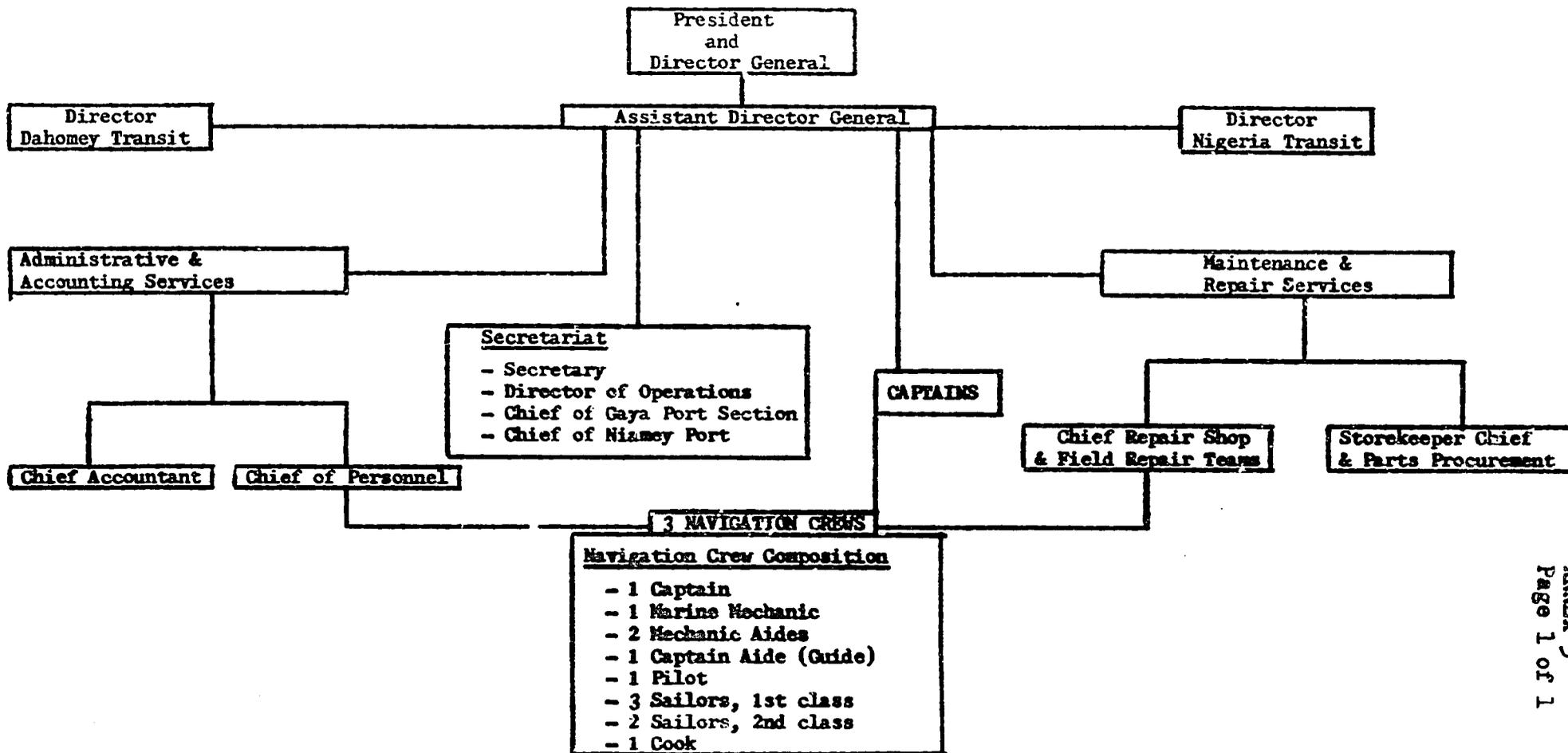
Road Transport

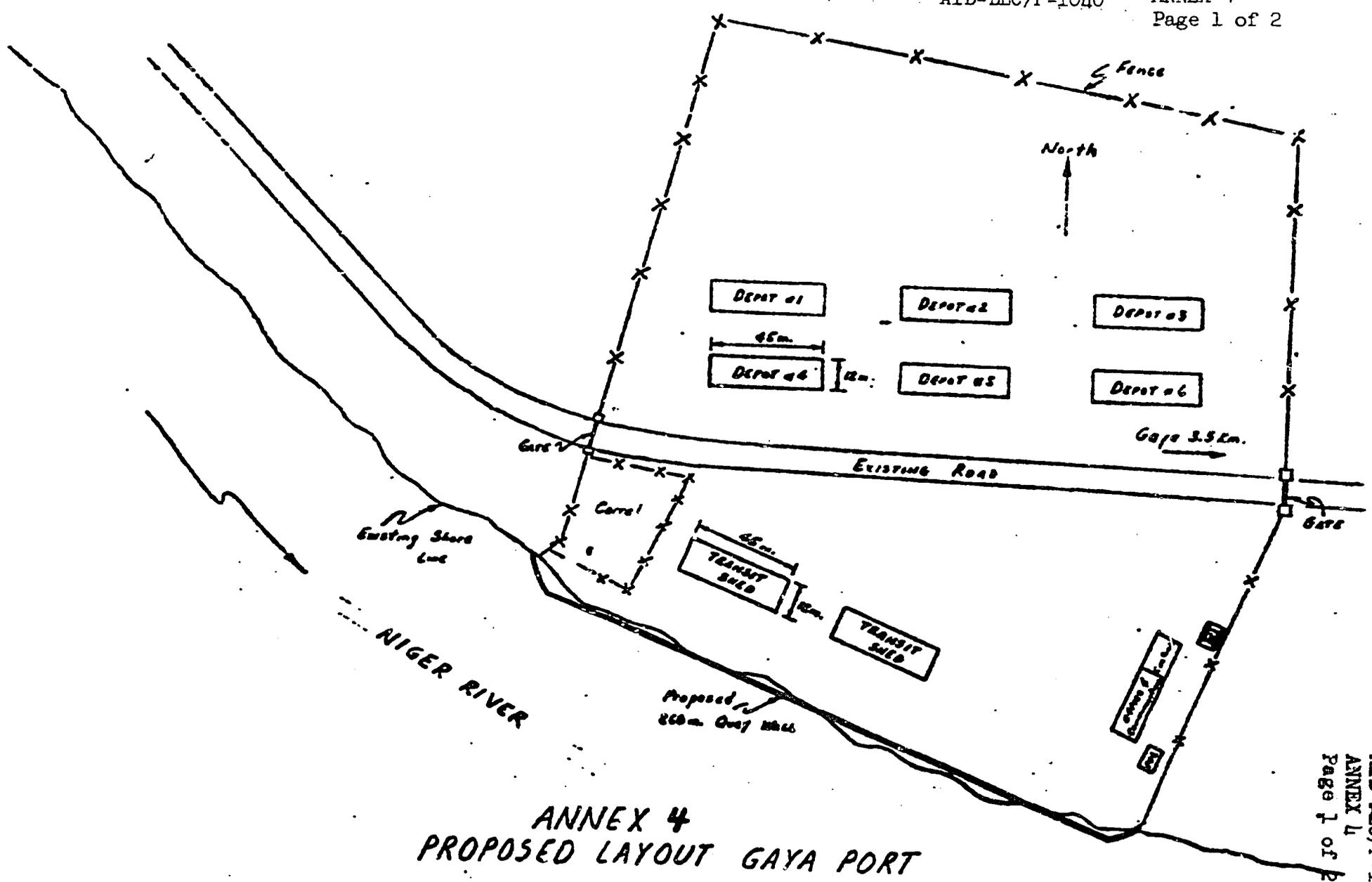
Road transport in Dahomey is the dominant mode of transportation, accounting for over 60% of the freight and 90% of all passenger traffic. In 1967, 800,000 tons of goods were transported on the highway network accounting for 135 million ton km versus 80 million ton km for the railway. The Directorate of Public Works (DPW) Maintenance Department has conducted a decreasing volume of work due to the unavailability of serviceable equipment. With operating expenses remaining relatively constant because of a fixed payroll, and with revenues becoming increasingly inadequate to meet expanded maintenance requirements caused by traffic growth, the DPW has experienced an increasing annual deficit.

In 1968, revenues derived from its service charges were \$36,000 while operating expenses were \$180,000. Dahomey relies heavily upon foreign aid for road machinery and for road construction. From 1960 to 1968 highway investments totalled \$10 million of which FED and FAC contributed \$5.8 million. Total costs for reconstruction of the Parakou-Malanville Road to two lanes were estimated at \$14.1 million. With the existence of the water transport route, the Internal Rate of Return for the Road has been calculated at 10.2%.

The transport fleet is composed of both Niger and Dahomey firms, of which there is both private and mixed (majority state owned, but with private investment and management) enterprises. There appears to be adequate transport services, and tariffs are not excessive in comparison with service elsewhere in West Africa.

ORGANIZATION
FOR
NIGER RIVER NAVIGATION CORPORATION

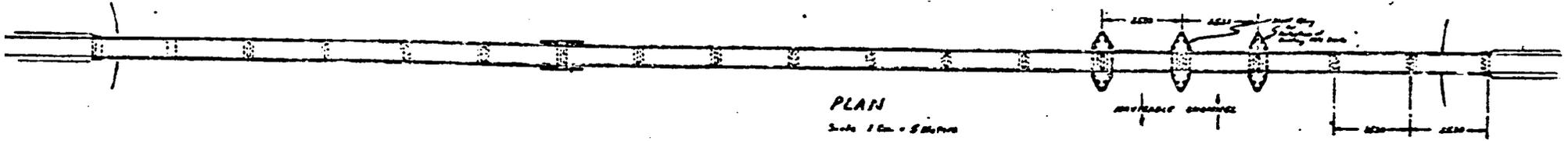
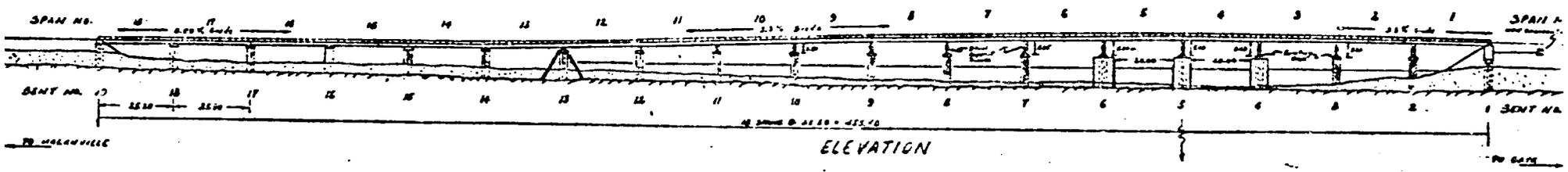




ANNEX 4
PROPOSED LAYOUT GAYA PORT

Scale 1 Cm. = 10 meters

ANNEX 4
PROPOSED LAYOUT GAYA-MALANVILLE BRIDGE



Summary of Optimization Computations, and Principal Assumptions behind them for 4 Relevant Transport Systems.

A. General Assumptions:

1. Transport requirements for imports through the sea ports will grow by 9 percent per year from 1973 to 1980 and by 5 3/4 per cent through to 1990. Transport requirements for exports will grow by 7 1/2 per cent from 1973 to 1980 and then by 1 1/2 per cent to 1990. The decline in export tonnage growth rate is due primarily to the change from exports of shelled ground nuts to exports of ground nut oil.
2. Navigability from the sea to Niamey is limited to the period 16 September to 14 April.
3. The following improvements of the road and rail system leading southward toward the sea are assumed to have been completed by the time navigation is to start:
 - a. Roads: Niamey - Dosso
 Dosso - Gaya
 Gaya - Malanville
 Malanville- Parakou

All of the 367 miles of road will be paved by 1973.

- b. Railroad: Parakou, continued containerization will speed up the road-rail transfer at Parakou but there will be no new investments. (This assumption is changed in some of the transport systems considered below.)

B. Transport Systems Considered for Optimization.

Case 1. Unimproved OCDN

- a. Normal delay at Parakou about 18 days, except for small proportion of containerized shipments.
- b. Average cost per ton/km of FCFA 10.5

Total present cost, discounted at 10 percent p.a.

for 20 years

\$ 344,000,000

* (Based on Lamarre Valois International Limitée, " Etude des Accès à la Mer de la République du Niger " Montreal 1971).

Case 2. Improved OCDN

Special Assumptions

- a. Renewal of equipment of railroad and general improvement of management at present cost of \$ 6,800,000 (20 years at \$ 725,000 p.a. discounted at 10 percent).
- b. Reduction in OCDN cost per ton/km by about 20 percent or down to FCFA 8.4.

Total present cost, computed as under Case 1. \$ 314,000,000

Case 3. Improved OCDN and further improved road system

Special Assumptions

- a. Road from Birui N' Koui to Arlit is improved and paved.
- b. A second uranium mine starts production in 1973.
- c. Cost of improving road amounts to \$ 19,920,000; internal rate of return is 18 percent (20 years); benefit/discount rate of 10% is 1.8.

Total present cost, computed as above: \$ 251,000,000

Case 4. Navigation included in Case 3. for seven months

Special Assumptions

- a. All three special assumptions listed for Case 3, above
- b. Cost of initial floating equipment \$ 11,100,000
- c. Cost of improving navigation:

	<u>Niamey-Gaya</u>	<u>Gaya-Yelwa</u>
Rock removed	\$ 36,000	\$ 9,000
Light-buoys	\$ 40,000	20,000
Harbor etc..	750,000	750,000
Raising Bridge	800,000	
	<u>\$ 1,626,000</u>	<u>\$ 779,000</u>

d. Annual costs \$ 1,100,000
 Total cost, computed as above: \$ 261,000,000

COMPUTATION OF BENEFIT-COST RATIO

A. Projection for Exports, Imports and Combined Traffic by the Dahomey Axis and Niger River:

Exports - Assumed all Exports move through Gaya

(000 tons and 000,000 ton/kms)

	Dahomey Axis		Niger River		Total	
	Tons	Ton/kms	Tons	Ton/kms	Tons	Ton/kms
1968		18.0			23.2	18.0
1970		19.0			24.7	19.0
1973		21.0			27.6	21.0
1975	13.6	10.0	15.9	21.0	29.5	31.0
1980	19.8	15.0	16.2	23.0	36.0	38.0
1985	24.0	18.0	19.0	25.0	43.0	43.0
1990	31.0	24.0	26.0	34.0	57.0	58.0

COMBINED TOTAL IMPORTS AND EXPORTS

	DAHOMY AXIS				NIGER RIVER			
	Gaya		Niamey		Gaya		Niamey	
	Tons	Ton/km	Tons	Ton/km	Tons	Ton/km	Tons	Ton/km
1968				65.0				
1970				70.0				
1973				82.0				
1975	6.5	12.0	34.0	36.0	50.5	66.0	50.0	81.0
1980	22.0	17.0	43.0	46.0	64.0	85.0	64.0	103.0
1985	26.0	20.0	56.0	59.0	82.0	97.0	82.0	132.0
1990	34.0	27.0	71.0	75.0	105.0	137.0	104.0	167.0

TOTAL IMPORTS, EXPORTS, COMBINED TOTAL

(000 tons and 000,000 ton/kms)

	<u>Total Imports</u>		<u>Total Exports</u>		<u>Combined Total</u>	
	Tons	Ton/kms	Tons	Ton/kms	Tons	Ton/kms
1968	88.6	86.0	23.2	18.0	111.8	104.0
1970	97.0	94.0	24.7	19.0	121.7	113.0
1973	111.1	108.0	27.6	21.0	138.7	129.0
1975	121.5	164.0	29.5	31.0	151.0	195.0
1980	143.0	213.0	36.0	38.0	193.0	251.0
1985	203.0	265.0	43.0	43.0	246.0	308.0
1990	257.0	348.0	57.0	58.0	314.0	406.0

B. COMPUTATION OF GROSS TRANSPORT COST BENEFITS FOR COMMERCIAL RIVER TRAFFIC.

Taking the per ton cost savings for transport to Gaya and Niamey, one can arrive at a gross decrease in tariff paid for the years indicated in the table below:

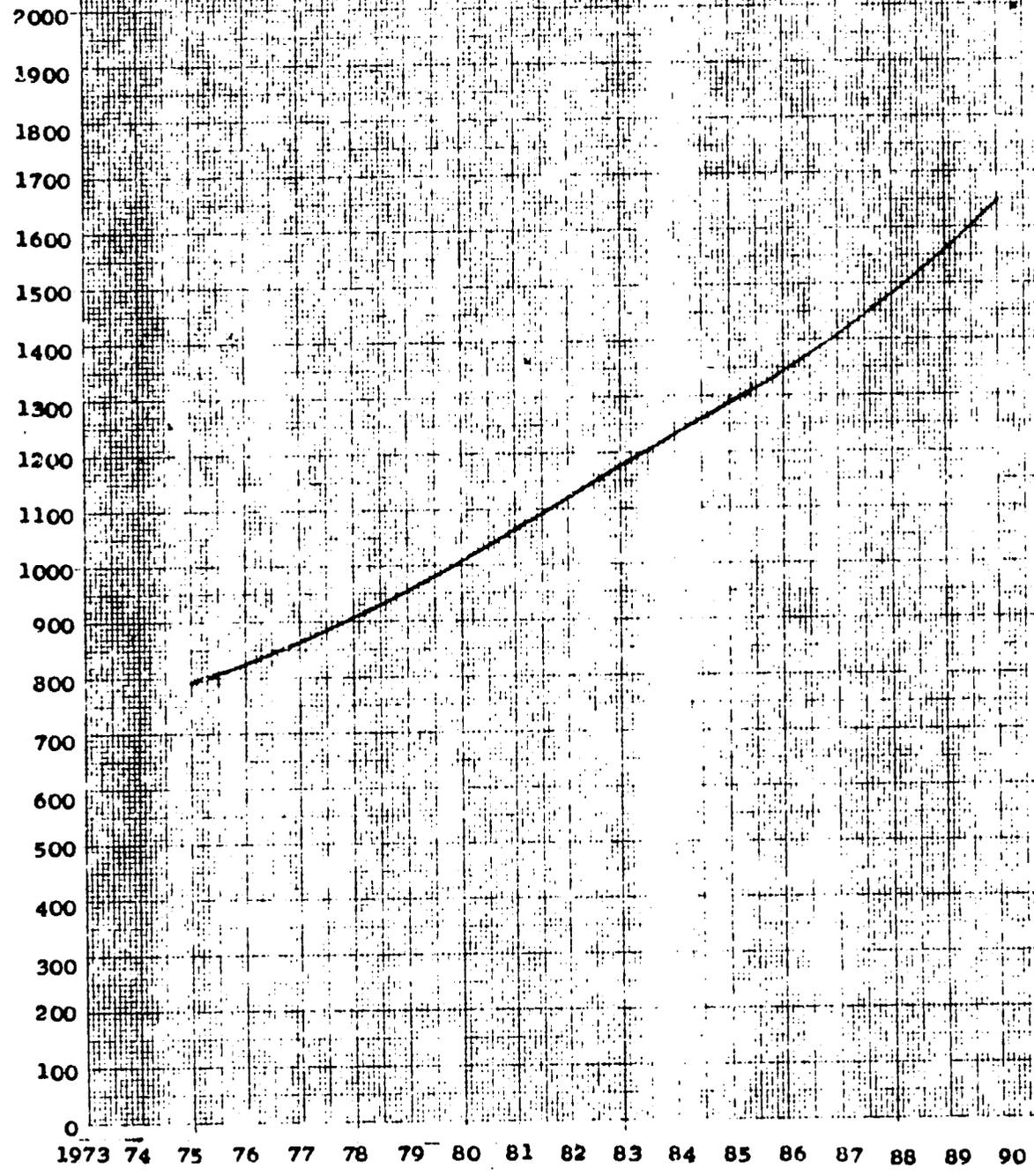
	<u>GAYA (\$000)</u>			<u>NIAMEY (\$000)</u>			<u>(000)</u>
	<u>(000)</u>	<u>Saving/</u>	<u>Gross</u>	<u>(000)</u>	<u>Saving/</u>	<u>Gross</u>	<u>Total</u>
	<u>Tons</u>	<u>Ton (\$)</u>	<u>Savings</u>	<u>Tons</u>	<u>Ton (\$)</u>	<u>Savings</u>	<u>Savings</u>
1975	50.5	5.13	259	50.0	10.64	532	791
1980	64.0	5.13	328	64.0	10.64	681	1,009
1985	82.0	5.13	421	82.0	10.64	872	1,293
1990	105.0	5.13	539	104.0	10.64	1,107	1,646

The projected savings are plotted on the attached graph, with annual gross savings extrapolated as follows:

1975	791
1976	823
1977	860
1978	905
1979	952
1980	1009
1981	1061
1982	1119
1983	1177
1984	1230
1985	1293
1986	1344
1987	1410
1988	1481
1989	1560
1990	1646

GROSS ANNUAL TRANSPORT BENEFITS

(0000)



C. COMPUTATION OF ANNUAL COSTS ASSOCIATED WITH:

1. investment in the port of Niamey;
2. maintenance of the river channel; and
3. investment in storage facilities.

1. Currently, port operations exist at Niamey through a variety of private facilities. Principal investment required will be for oil storage and handling facilities adjacent to the port site. No element of cost is included under this item, but an increase will be made in the cost component associated with petroleum storage facilities under item 3 below. Some improvements in the quay wall have been made at an estimated cost of \$60,000.

2. Annual maintenance of the river channel is estimated to cost \$1.1 million.* We have assumed that 1/3 of this amount would be met through user fees by the Niger River Transport Corporation and that one-sixth will be attributable to commercial river transport within Nigeria. Therefore, one-half of this amount will be charged as an annual cost in this analysis. (\$550,000)**

3. Annual cost associated with storage facilities. Since river commerce will be for only 7 months of the year, the principal storage cost attributable to the river transport mode will be the additional capacity required for storage over the several month period of non-navigability.

The discussion of this item will be broken into three components: petroleum products; mining materials (raw materials and processed ore); and agricultural export and miscellaneous import items.

Petroleum: Since there is a substantial existing rolling stock and vehicle fleet devoted to transport of petroleum products, it is assumed, particularly during the early years that some petroleum products may be moved by road during this brief period. Also there will be movement from port storage to existing internal storage throughout Niger. Thus, storage of petroleum sufficient for two months demand at the 1975 level is considered adequate. Requirements will increase rapidly after 1980, but much of the requirement will be storage associated with increased consumption, which is not attributable to the choice of transport mode, location being one of convenience. Therefore, we have made provision to double the storage facilities attributed as cost to the river transport mode in 1985.

Storage associated with mining products has not been provided for here. Although this is not a conservative assumption, the effect upon the outcome of this analysis is not expected to be large.

* This may be a very conservative estimate, since the Canadian advisor to the Gov't of Niger estimates that no dredging should be required, and since experience to date has shown blasting to be an inexpensive and effective means of making select improvements. Estimates for annual maintenance range from \$200-300,000 per annum to the above figure.

** All of the effected river channel, except the 295 km between Gaya and Niamey are in Nigeria. Therefore, it is likely that the Nigeria Inland Waterways Commission, who will conduct maintenance with Nigeria will bear a larger portion of the cost than is conservatively indicated here.

Storage associated with other products is expected to be relatively minor. This is because trucking capability exists to move these commodities to and from other storage facilities. Since the critical storage period is from April to October when the river is non-navigable, this corresponds with the period just before the harvest when local supplies are most depleted and when existing storage capacity is most underutilized. As a conservative assumption, 10,000 tons of storage capacity has been included at Gaya in 1975, with an additional 10,000 tons added in 1985.

We have estimated the volume of petroleum products moving up river in 1975 at 60,000 tons of the 100,500 tons total traffic. This is a conservative estimate. Therefore, we have made provision for 5,000 tons of storage at each of Gaya and Niamey. This corresponds to roughly 1,500,000 gallons storage at each site. We estimate the total cost of such facilities to be \$200,000 at each site.

For the remaining storage facilities at Gaya, we estimate the cost of construction of 10,000 tons storage to be \$250,000.

D. SCHEDULE OF BENEFITS AND COSTS (\$000)

	<u>Loan Disbursement</u>	<u>Quay for Niamey Port</u>	<u>Storage Facilities</u>	<u>Annual Maintenance</u>	<u>Annual Benefits</u>
1973	225		-	-	-
1974	1,000	60	-	-	-
1975	1,000		650	550	791
1976	-		-	550	823
1977	-		-	550	860
1978	-		-	550	905
1979	-		-	550	952
1980	-		650	550	1,009
1981	-		-	550	1,061
1982	-		-	550	1,119
1983	-		-	550	1,177
1984	-		-	550	1,230
1985	-		-	550	1,293
1986	-		-	550	1,344
1987	-		-	550	1,410
1988	-		-	550	1,481
1989	-		-	550	1,560
1990	-		-	550	1,646
1991	-		-	550	1,646
1992	-		-	550	1,646
1993	-		-	550	1,646
1994	-		-	550	1,646

E. DISCOUNTED BENEFITS AND COSTS - RATIO

(1) Costs (\$000)

<u>Loan Disbursement</u>	<u>Quay for Niamey Port</u>	<u>Storage Facilities</u>	<u>Maintenance</u>	<u>Total</u>
2,154	60	957	4,994	8,165

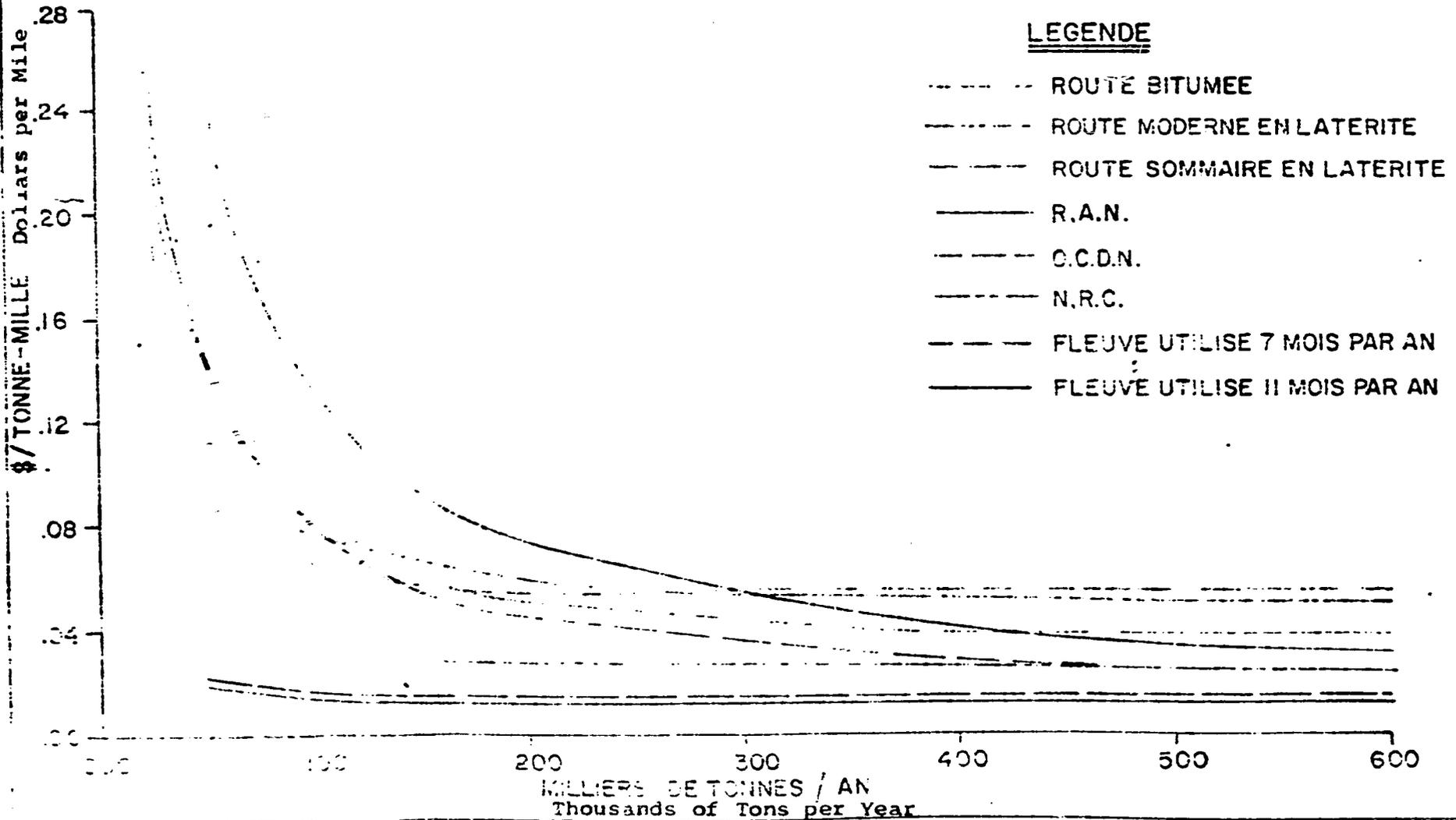
(2) Benefits

9,393

(3) Benefit/Cost Ratio = 1.15

TRANSPORT COSTS AS A FUNCTION OF ANNUAL TRAFFIC
COUT DE TRANSPORT EN FONCTION DE L'ACHALANDAGE ANNUEL

FACTEUR D UTILISATION UNITAIRE



COMMENTS ON COMPLIANCE WITH THE PRESIDENT'S MEMORANDUM
OF NOVEMBER 15, 1962 ON RIVER BASIN DEVELOPMENT

The Foreign Assistance Act of 1961, as amended, requires that plans for any water or related land resource construction project to be financed under that act shall include a computation of benefits and costs made insofar as practicable under the procedures in the Memorandum of the President dated May 15, 1962. That Memorandum establishes standards for formulation and evaluation of plans, and emphasizes the importance of comprehensive multipurpose river basin planning. Such planning is the responsibility of the Niger River Commission. Representatives of the nine member countries have coordinated and integrated the multipurpose planning of water resources projects on the Niger for the Kainji Dam (hydroelectric power and navigation) and for the Awuru lock (navigation) in Nigeria, and the Markala dam (irrigation) in Mali. Several additional projects, mostly multipurpose involving hydropower, irrigation, flood control and/or water supply are under active consideration.

Compliance with policies, standards, and procedures set forth in the President's Memorandum has been attained, insofar as practicable. Several studies have been made which have analyzed the positive modes of the utilization of the River Basin. They have concluded that this investment has positive features consistent with Basin development and that the activity is the least cost, maximum benefit approach to investment objectives. Because the economies of these Basin countries are still developing and the countries have very limited investment budgets, the sophisticated and costly planning and coordinating procedures described in the President's Memorandum are not applicable, practicable nor attainable in the Niger River Basin.

In summary, tangible benefits and costs of the activity have been calculated in studies. There is sufficient technical and economic analysis to determine that these investments are consistent with the Niger River Basin development and that the activity is the least cost, maximum benefit approach to specific investment objectives. This project will contribute to further River Basin cooperation (cost sharing and planning) and reflects a level of planning for basin development fully consistent with local resources and anticipated foreign assistance.

DRAFT LOAN AUTHORIZATION

CAPITAL ASSISTANCE LOAN AUTHORIZATION
Provided from: Development Loan Funds
Africa Regional: Niger - Malanville-
Gaya Bridge and Gaya Port

Pursuant to the authority vested in the Assistant Administrator for Africa of the Agency for International Development ("A.I.D.") by the Foreign Assistance Act of 1961, as amended, and the delegations of authority issued thereunder, I hereby authorize the establishment of a loan pursuant to Part I, Chapter 2, Title I, the Development Loan Fund, to the Republic of Niger ("Borrower") of not to exceed two million two hundred and fifty thousand dollars (\$2,250,000) to assist in financing the foreign exchange and local currency costs of goods and services for the elevation and reconstruction of the Malanville-Gaya Bridge, the construction of a river port in the vicinity of Gaya, Niger (including an access road from Gaya to the port site), and the procurement of port operational equipment, subject to the following terms and conditions:

1. Interest Rate and Terms of Repayment

The Borrower shall, in United States dollars:

- (a) Repay the loan to A.I.D. within forty (40) years, including a grace period of not to exceed ten (10) years.
- (b) Pay A.I.D. interest on the unrepaid principal and any interest accrued thereon at the rate of two percent (2%) per annum during the grace period and three percent (3%) per annum thereafter.

2. Other Terms and Conditions

- (a) Goods and services financed under this loan shall be procured from Niger and/or from countries included in Code 941 of the A.I.D. Geographic Code Book.
- (b) Such other terms and conditions as A.I.D. may deem advisable.

Assistant Administrator for Africa

Date

Description of Project

The Project shall consist of the engineering and construction services for (i) the elevation and reconstruction of the bridge over the Niger River in the vicinity of Gaya (Niger) and Malanville (Dahomey) to permit a clearance of at least seven (7.0) meters above high water level under two spans of the bridge, and (ii) construction of a river port in the vicinity of Gaya (Niger) including construction of an access road from Gaya to the port site and the procurement of port operational equipment.

Malanville-Gaya Bridge

The existing two-lane concrete highway bridge has a total length between abutments of 455.4 meters consisting of 18 equal spans of 25.3 meters. Each of the 17 identical piers consists of 4 cylindrical piles 1 meter in diameter capped by heavy reinforced beams. These caps support the four prestressed concrete beams on which the bridge deck has been placed. The deck comprises a 6 meter wide roadway plus 0.5 meter walkways on both sides, and appropriate curb and guard rails. The alteration work consists in uniformly raising the deck gradually and on an ascending and descending grade and anchoring it to prefabricated steel trimmer beams inserted between the deck and the prestressed concrete column caps at each bent. This arrangement gives a clearance of 7 meters at the 2 spans located over the navigable part of the river channel.

Gaya Port

The site for the proposed new river port at Gaya is located about 4 kms southwest of Gaya, on the north bank of the Niger River. The site is roughly rectangular in shape and is presently accessible only by foot path. The site, about 8.7 hectares (35 acres), is fairly level and sandy. About 260 meters of it fronts the river and is 335 meters deep. A quay wall about 260 meters long will be built along the river front and fill will be placed in low sections to provide an adequate elevated working area for the port. In addition to the access road, quay wall, open storage areas, fence and gates, the following facilities and utilities will be constructed: 8 storage sheds (including two transit sheds), an office building for communications and customs, a corral for animals, sanitary and fuel facilities and small storage tanks for water and fuel. Utilities, such as potable water supply and electricity power will be provided by the Borrower.

CONDITIONS PRECEDENT AND
SPECIAL COVENANTS

Conditions Precedent to Initial Disbursement.

(a) An opinion of the Minister of Justice of the Borrower or of other counsel acceptable to A.I.D. that this Agreement has been duly authorized and/or ratified by, and executed on behalf of, the Borrower and that it constitutes a valid and legally binding obligation of the Borrower in accordance with all of its terms;

(b) A statement of the names of the persons holding or acting in the office of the Borrower specified in Section 9.02, and a specimen signature of each person specified in such statement;

(c) An executed agreement between the Borrower and the Government of the Republic of Dahomey pursuant to which the parties (i) agree to the elevation and reconstruction of the Malanville-Gaya Bridge and (ii) provide for such other matters as ownership, access, and maintenance of the bridge; and certified by legal counsel satisfactory to A.I.D.;

(d) An executed contract for engineering consulting services for the Project acceptable to A.I.D. with a firm acceptable to A.I.D.;

(e) Evidence that the Niger River Commission has approved the Project in principle;

(f) Evidence that the necessary agencies of the Borrower are in being to assure adequate care, maintenance, and operation of the Project; and

(g) Demonstration that the initial river transport fleet can navigate the Niger River from the estuary to Gaya with commercial cargo.

Conditions Precedent to Additional Disbursement.

(a) Plans and specifications, bid documents, cost estimates, and time schedules for carrying out the Project;

(b) Executed contracts for the performance of construction and construction supervision services necessary to carry out the Project acceptable to A.I.D. with firms acceptable to A.I.D.;

(c) Evidence that the Borrower has obtained all real property rights, including easements and rights-of-way required for completion of the Project, or shall obtain such rights in time to permit the orderly construction of the Project;

(d) Evidence that a corporation has been created and charged with responsibility for transport to and from Niger ports, including a certified copy of a charter for the corporation evidencing adequate scope of authority to carry out all activities essential to river transport operation, evidence that the corporation has adequate initial capitalization to begin operations that the corporation has adequate working capital to carry out projected operations for that working capital will be increased to a level sufficient for such operations and evidence that the Borrower will turn over to the corporation the initial river transport fleet financed by the Canadian International Development Agency;

(e) Evidence that the Government of Nigeria has established reasonable fees for water transport through the Kainji and Awuru locks of the Niger River;

(f) Evidence that the Government of Nigeria has placed or will place navigation aids and has made or will make other improvements to the portion of the river channel in Nigeria essential to navigation from Niger to the estuary;

(g) Evidence that the Borrower will provide and operate ferry service during the period of reconstruction of the bridge;

(h) Evidence that there will be constructed adequate petroleum and/or other oil storage and handling facilities adjacent to the port of Gaya; and

(i) Arrangements for provision by the Borrower of adequate power and water supply at the Gaya Port site.

Special Covenants and Warranties.

(a) Bridge Construction Traffic Diversion.

The Borrower shall provide and operate ferries for traffic diversion during the period of construction on the Malanville-Gaya Bridge.

(b) Electric Power and Water Supply for Gaya Port.

The Borrower shall assure continued provision of electric power and potable water at the Gaya Port site of sufficient size to satisfy the total demand of the port.

(c) Care, Maintenance, and Operation of the Project.

The Borrower will include in annual budget planning sufficient funds to the agencies designated under Section 3.01(f) as responsible for the care, maintenance, and operation of the Project, or their successors, for performance of these responsibilities; and the Borrower undertakes to assure satisfactory performance by these agencies of the care, operation, and maintenance of the Project.

(d) Niger River Navigation Between Gaya and Niamey.

The Borrower shall include in annual budget planning sufficient funds for the maintenance and improvements of the river channel from Gaya to Niamey; and shall assure that such maintenance and improvements will be timely accomplished.

(e) Cooperation Through Niger River Commission.

The Borrower will use its best efforts in working through the Niger River Commission to achieve:

(1) Agreement among the Niger River Basin countries on the responsibilities of each country for keeping navigation open along the portions of the river within or adjacent to its boundaries, including the responsibility for financing of the annual maintenance and improvements essential to Niger River navigation; and

(2) The establishment and continuance by the Government of Nigeria of a reasonable schedule of fees for water transport through the Kainji and Awuru locks of the Niger River.

AGENCY FOR INTERNATIONAL DEVELOPMENT
WEST AFRICA REGIONAL CAPITAL DEVELOPMENT OFFICE

B.P. 1712, c/o American Embassy
Abidjan, Ivory Coast

Commissariat General au
Developpement
Republique du Niger
Niamey, Niger

SUBJECT: A.I.D. Loan N° 698-H-
Niger: Malanville-Gaya Bridge and
Gaya Port
Implementation Letter N° 1

Dear Sir:

This letter, which becomes effective upon execution of the Loan Agreement, sets forth the procedures for utilizing the proceeds of the Loan and provides information to facilitate the implementation of the Project in accordance with the Loan Agreement. Nothing in this letter and its attachments alters the scope of the Loan Agreement or the terms of the specific sections of the Loan Agreement that are referred to or explained in this communication. This letter and its attachments may be supplemented or modified by subsequent implementation letters to meet special situations that may arise.

I. Conditions Precedent to Disbursement of Loan Proceeds (Article III of the Loan Agreement). The conditions precedent to financing under the Loan Agreement are found in Sections 3.01 and 3.02. Although these provisions are largely self-explanatory, the following information is provided to assist you in complying with them:

A. Please refer to Attachment A, Guide for Counsel of Government, which will assist you in preparing the legal opinion required in Section 3.01(a).

B. Attachment B, AID Capital Projects Guidelines for Borrower Procurement of Engineering and Other Professional Services, describes procedures acceptable to A.I.D. in preparing a contract meeting the requirements of Section 3.01(d) of the Loan Agreement. Please note that the draft contract negotiated by you and the firm should be submitted to A.I.D. for approval prior to its execution. This contract will provide such services as final design, preparation of specifications and bid documents, assistance in procurement, and supervision of construction.

C. Attachment C, AID Capital Projects Guidelines for Borrower Procurement of Construction Services, will assist you in selecting construction contractor(s) and in preparing contract(s) meeting the requirements of Section 3.02(b) of the Loan Agreement.

In requesting A.I.D. approval of the proposed award of the construction contract, please provide an analysis of all bids received, prepared by your consulting engineer.

Conditions Precedent to Initial Disbursement

D. An executed agreement by the Government of Niger and the Government of the Republic of Dahomey approving reconstruction of the Gaya-Malanville Bridge - Section 3.01(d).

Since the bridge crosses an international border and is a shared property of the two governments an agreement between them governing reconstruction is an essential condition to A.I.D. financing for the reconstruction. This agreement should at a minimum indicate the following:

1. Approval of the two governments to reconstruction of the bridge,
2. Indication that both governments are satisfied with the design concept and,
3. Designation of parties responsible for maintenance of the bridge.

WARCDO would be pleased to offer comments on an agreed draft prior to execution. Note also that a legal opinion is required from the respective Ministers of Justice affirming the validity of the executed agreement.

E. Evidence that the Niger River Commission has approved the project in principal - Section 3.01(c).

The Niger River Commission, being charged with the responsibility of coordination among the river basin states to assure proper river basin planning, should concur in proceeding with the improvements to be financed under the Loan. The Niger River Commission's agreement in principal could be in the form of a letter from the Niger River Commission to the appropriate Ministry of the GON. We would prefer that it would indicate basic agreement to the design concept for the bridge and to the location of the Gaya Port.

F. Agencies responsible for care, maintenance and operation of the project - Sections 3.01(f) and 5.03.

The condition precedent calls for a designation of the GON agencies or other parties responsible to assure care, maintenance and operation of the Project. This includes designation of the

agencies responsible for care, maintenance and operation of the Gaya-Malanville bridge and of the Gaya Port. It would also be useful to receive an indication of the agency responsible and of the anticipated arrangements for care, maintenance and operation of the navigable river channel within Niger.

Your attention is called to Section 5.03 under which you have agreed to provide the financial resources and attention necessary to assure continued satisfactory care, maintenance and operation by the designated agencies. Therefore in complying with Section 3.01(f), you should also outline the arrangements for performance of this responsibility to permit WARCDO in the future to ascertain compliance with Section 5.03.

G. Demonstration that the initial river transport fleet can navigate the Niger River from the estuary to Gaya with commercial cargo - Section 3.01(g).

It is our understanding that the first navigation trials on the river will be accomplished about November 1972. The purpose of this condition is to assure that a satisfactory navigable channel permitting movement of substantial commercial cargo is in being before proceeding with financing for this project. In satisfaction of this condition precedent, we would anticipate receiving advice in the form of a letter from the agency responsible for river transport, of a successful navigation, indicating the quantities of cargo and time required to complete the turn-around voyage. It would also be useful to receive an indication of the system of transport operation which is contemplated for commercial river transport.

Conditions Precedent to Additional Disbursement

H. Plans and Specifications, Bid Documents, Cost Estimates and Time Schedules for Carrying Out the Project - Section 3.02(a).

The final documents completed under the initial engineering services financed under this project must be approved by A.I.D. before inviting bids for a construction contract.

I. Construction Contract - Section 3.02(b)
Sec Item C above.

J. Real property rights. Section 3.02(c).

K. Creation and Operation of a Niger River Transport Corporation - Section 3.02(d).

It is our understanding that the Government of Niger intends to create an autonomous transport corporation and to turn over the initial river transport fleet to that corporation. We would appreciate receiving (1) a copy of the corporation's charter, (2) advice from the corporation, in the form of a letter from the corporate official responsible for its operations (or in the form of a resolution from the Board of Directors), indicating the arrangements for initial capitalization of the corporation including initial operating capital, and (3) an agreement between the Government of Niger and the corporation transferring by sale or lease the initial river transport fleet to the corporation.

L. Reasonable fees for water transport through the Kainji and Awuru locks of the Niger River - Section 3.02(e) and 5.05(a).

Since the economic feasibility of river navigation is dependent upon the employment of reasonable fees for use of the Kainji and Awuru locks, such fee schedules should be established before moving forward with construction of the project. In satisfaction of this condition precedent it is contemplated that you will provide a copy of the fee schedule certified as to its validity by the agency of the Government of Nigeria responsible for collection of such fees.

Section 5.05(a) calls upon you to work through the Niger River Commission to assure establishment of a reasonable fee schedule. We recognize that the question of fee schedule is closely related to the arrangements which will be made for maintenance of navigation of the waterway within Nigeria. It is contemplated that working through the Niger River Commission you will be able to negotiate with the Government of Nigeria a satisfactory arrangement for user sharing of the cost of maintaining navigable river transport, such that reasonable fees may pertain and navigability be assured.

M. Placement of river navigation aids by the Government of Nigeria - Section 3.02(g).

In the planning for this project we have been assured that river navigation aids and other improvements essential for river navigability within Nigeria will be financed and installed by the Government of Nigeria. It will be sufficient for this condition precedent to indicate the type and location of navigational aids and improvements which have been made, or if not yet made to be made and the timing therefor.

N. Ferry service during bridge reconstruction - Section 3.02(c) and 5.01.

It is our understanding that the Government of Niger owns and will put into operation a river ferry which had been used during the time of construction of the John F. Kennedy bridge. In satisfaction of this condition precedent, we would appreciate receiving written advice from the responsible GON agency that the ferry will be made

available and an outline of the arrangements, including availability of financing, to assure continued ferry operation during the period of bridge reconstruction.

O. Construction of petroleum storage and handling facilities at the Gaya Port - Section 3.02(i).

The economic justification for opening river navigation is very closely related to the anticipation that petroleum products will be imported via the river to Gaya. Since river navigability extends for only 7 months of the year, the erection of adequate storage facilities is a key element in extending the portion of the year during which internal demands are met by imports via river transport. It is our understanding that private commercial firms importing petroleum products are currently prepared to install storage facilities adjacent to the Gaya Port site. To satisfy this condition precedent, it will be sufficient to provide a written commitment from one or more petroleum importing corporations, indicating the timing and quantity of storage facilities they anticipate erecting.

P. Arrangements for provision by the Government of Niger of power and water supply in the Gaya port site - Section 3.02(j) and 5.02.

You have agreed to provide electrical power and potable water supply at the port site as part of the Government of Niger contribution related to the project. In satisfaction of this condition precedent, WARCDO would anticipate receiving either evidence that the installations has been made or a firm written commitment by the appropriate Government of Niger agencies to undertake such installation including a description of the facilities to be installed and evidence that financing for the installation is included in budget planning. We wish to call to your attention that Section 5.02 requires you to take whatever action is necessary to continually assure adequate capacity to meet needs of the port for electrical power and water.

Q. Terminal Date for Meeting Conditions Precedent - Section 3.03.

Please note that under Section 3.03 of the Loan Agreement the terminal date for fulfillment of initial conditions precedent to disbursement is 180 days from the date of the Loan Agreement and 12 months from the date of the Loan Agreement in the case of conditions precedent to additional disbursement.

R. Bridge construction traffic diversion, Section 5.01.
See discussion under Section 1N hereof.

S. Electrical Power and water supply for Gaya Port, Section 5.02.
See Section 1P hereof.

T. Care, Maintenance and Operation of the Project, Section 5.03.
See Section 1F.

U. Niger River navigation between Gaya and Niamey, Section 5.04.

This section requires you to undertake annual budget planning and to take whatever other action is necessary to assure continual performance of maintenance and execution of improvements necessary to keep the river channel within Niger navigable. WARCDO wishes to note the importance of coordinating these services with those to be provided in Nigeria, calling your attention to the comments in reference to Section 5.05 (See Sections 1F and 1V hereof).

V. Cooperation through the Niger River Commission, Section 5.05.

Since the Government of Nigeria is not a party to this agreement and since the Niger River Commission is the recognized international body for coordination of river basin development, it is anticipated that you will work through the Niger River Commission to seek realization of reasonable service fees for use of the river locks and to obtain assurance of performance of maintenance and improvements essential to continued navigability of the waterway. We have already noted the necessity for cost sharing between the transport corporation using the river and the agencies of the Government of Niger and of Nigeria providing river maintenance and improvement services whereby at least a portion of such expenses are borne by commercial river traffic. We anticipate that you will work through the Niger River Commission to bring the responsive parties to work to this end. (See Section 1F hereof).

Sincerely yours,

Director

Attachments:

- Attachment A - Guide for Counsel of Government
- Attachment B - AID Capital Projects Guidelines for Borrower Procurement of Engineering and Other Professional Services (M.O. 1442.1 March 1971)
- Attachment C - AID Capital Projects Guidelines for Borrower Procurement of Construction Services (M.O. 1442.2, March 1971)
- Attachment D - Reporting Requirements
- Attachment E - Borrower's Shipping Statement

Niger: Gaya Bridge and Port Loan

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

I, S.J. Littlefield, Regional Development Officer for the Entente States (Dahomey, Ivory Coast, Niger, Upper Volta and Togo), having taken into account, among other things:

A. the establishment of a river transportation system on the Niger River,

B. the agreement of Canada to provide the transport equipment for the transportation system,

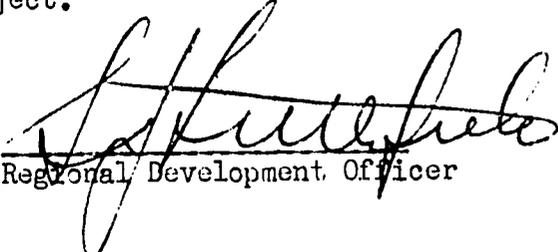
C. training now underway for personnel to man the equipment and manage the company,

D. the essentiality of the bridge and port works to insure the efficient functioning of the system,

E. the high priority placed on this program by the Government of Niger,

F. the importance of low cost transport for the development of this land locked country,

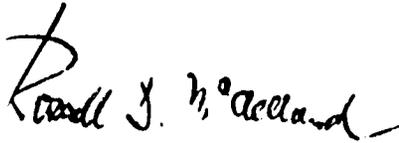
do hereby certify that in my judgment, the Government of Niger will have the financial capability and the human resources capability to implement, maintain and utilize effectively the subject capital assistance project.


Regional Development Officer

NIGER, GAYA BRIDGE AND PORT LOAN

Country Team Recommendation

The subject loan will be of substantial economic and social benefit to Niger, will constitute an important portion of the United States Assistance Program in the Entente States, and will be consonant with the overall United States objectives in the Entente States. Therefore approval is recommended.



Ambassador McClelland



S.V. Littlefield

BIBLIOGRAPHY OF REPORTS AND STUDIES

A. RIVER BASIN STUDIES

1. "Report on Energy and Transport - Interdisciplinary Mission for the Integrated Development of the Niger River Basin", G. Dekker (Economic Community for Africa, Oct-Nov 1969).
2. "Interdisciplinary Mission - Study on the Integrated Development of the Niger River Basin - Livestock Sector Report", R. Balay (Economic Community for Africa, Oct-Nov 1969).
3. "Interdisciplinary Mission - Study on the Integrated Development of the Niger River Basin", Paul Castolet (UNESCO, Jan 1970).
4. "Interdisciplinary Mission - Study on the Integrated Development of the Niger River Basin", Prof. Tricart (UNESCO).

B. TRANSPORT ANALYSIS

1. "Study on the Improvements of the Niger River", Olivier Gautier (FAC, April 1967).
2. "Navigability Study of the River Niger Between Tossaye and Yelwa", Netherlands Engineering Consultants (NEDECO, Sept 1970).
3. "Studies on the Access to the Sea of the Republic of Niger", Lamarre Valois International Ltd (CIDA, June 1971).
4. "Complementary Economic Study of the Parakou-Malanville Road", Lamarre Valois International Ltd and N.D. Lea Associates (IBRD, April 1971).
5. "Study of the Transport Feasibilities by Waterway in the Republic of Niger", La Société ^{d'Etude} for Transport on the Niger River (CIDA, Jan 1971).
6. "Report on the Malanville-Gaya Bridge and Gaya Port", Leahy (AID/W, Feb 72).
7. "Raising of the Bridge-Road of Gaya-Malanville", Lamarre Valois International Ltd (Aug 1971).
8. "Niger Transport Survey", A. Duncan (IBRD, January 1972).

C. MACRO ECONOMIC ANALYSIS

- "Economic Appraisal", - (IBRD, 1972).

CHECKLIST OF STATUTORY CRITERIA
DEVELOPMENT LOAN FUND

I. COUNTRY PERFORMANCE

A. Progress Towards Country Goals

1. FAA Secs. 201(b)(5), 201(b)(7), 201(b)(8), 208. Discuss the extent to which the country is:

(a) Making appropriate efforts to increase food production and improve means for food storage and distribution.

Niger is implementing several projects to increase food production. It is participating in regional programs to increase commercialization of livestock and cereals through the Entente Fund.

(b) Creating a favorable climate for foreign and domestic private enterprise and investment.

Niger is seeking to encourage private enterprise and investment, including foreign investment generally as part of mixed enterprises, working through the Entente Fund's guaranty fund, their own development bank and through such programs as for regional livestock and cereals and private capital in river transport corps; they are improving opportunities for private investment.

(c) Increasing the people's role in the developmental process.

Niger is participating in several projects to increase food production (livestock and cereals commercialization) through the Entente Fund. These activities will reach the rural population and assist them to improve their income opportunities.

(d) Allocating expenditures to development rather than to unnecessary military purposes or intervention in other free countries' affairs.

Military expenditures in Niger are limited essentially to that required to maintain internal order and stability. See I D 2 of Statutory Checklist (p. 5).

(e) Willing to contribute funds to the project or program.

(f) Making economic, social, and political reforms such as tax collection improvements and changes in land tenure arrangement; and making progress toward respect for the rule of law, freedom of expression and of the press, and recognizing the importance of individual freedom, initiative, and private enterprise.

(g) Responding to the vital economic, political, and social concerns of its people, and demonstrating a clear determination to take effective self-help measures.

The Borrower's contribution to the Activity is consistent with its financial means. See Section III A.

As a condition to successful implementation of the project, the cooperating countries, Niger included, would be required to initiate major improvements in the conditions for exterior trade: specifically, prejudicial tax differences and multiple taxation, unfavorable price policy and ineffective middlemen trading practices. Co-operative arrangements on tariff and cost-sharing of the River Transport System are to be corrected. There are several newspapers with divergent political opinions. Private investments are encouraged for foreign investors and national entrepreneurs.

The regional development projects focus upon the two most vital economic sectors affecting the rural people of the region (agriculture and transport) and places clear emphasis on means whereby the majority of the people can pursue self help initiatives in the Agriculture Sector.

B. Relations with the United States

1. FAA Sec. 620(c). Is the government indebted to any U.S. citizen for goods or services furnished or ordered where: (a) such citizen has exhausted available legal remedies, including arbitration, or (b) the debt is not denied or contested by the government, ~~or~~ (c) the indebtedness arises under such government's, or a predecessor's unconditional guarantee?

None to our knowledge.

2. FAA Sec. 620(d). If the loan is intended for construction or operation of any productive enterprise that will compete with U.S. enterprise, has the country agreed that it will establish appropriate procedures to prevent export to the U.S. of more than 20% of its enterprise's annual production during the life of the loan?

Not applicable.

3. FAA Sec. 620(e)(1). Has the country's government, or any agency or subdivision thereof, (a) nationalized or expropriated property owned by U.S. citizens or by any business entity not less than 50% beneficially owned by U.S. citizens, (b) taken steps to repudiate or nullify existing contracts or agreements with such citizens or entity, or (c) imposes or enforced discriminatory taxes or other exactions, or restrictive maintenance or operation conditions? If so, and more than six months has elapsed since such occurrence, identify the document indicating that the government, or appropriate agency or subdivision thereof, has taken appropriate steps to discharge its obligations under international law toward such citizen or entity? If less than six months has elapsed, what steps if any has it taken to discharge its obligations? No.
4. FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction by mob action of U.S. property, and failed to take appropriate measures to prevent a recurrence and to provide adequate compensation for such damage or destruction? No.
5. FAA Sec. 620(l). Has the government instituted an investment guaranty program under FAA Sec. 221(b)(1) for the specific risks of inconvertibility and expropriation or confiscation? Yes.
6. FAA Sec. 620(c): Fisherman's Protective Act of 1954, as amended, Section 5. Has the country seized, or imposed any penalty or sanction against, any U.S. fishing vessel on account of its fishing activities in international waters? If, as a result of a seizure, the U.S.G. has made reimbursement under the provisions of the Fisherman's Protective Act and such amount has not been paid in full by the seizing country, identify the documentation which No.

describes how the withholding of assistance under the FAA has been or will be accomplished.

7. FAA Sec. 620(q). Has the country been in default, during a period in excess of six months, in payment to the U.S. on any FAA loan? No.

8. FAA Sec. 620(t). Have diplomatic relations between the country and the U.S. been severed? If so, have they been renewed? No.

C. Relations with Other Nations and the U.N.

1. FAA Sec. 620(i). Has the country been officially represented at any international conference when that representation included planning activities involving insurrection or subversion directed against the U.S. or countries receiving U.S. assistance? No.

2. FAA Secs. 620(a); 620(n). Has the country sold, furnished, or permitted ships or aircraft under its registry to carry to Cuba or North Viet-Nam items of economic, military, or other assistance? No.

3. FAA Sec. 620(u); App. Sec. 108. What is the status of the country's U.N. dues, assessments, or other obligations? Does the loan agreement bar any use of funds to pay U.N. assessments, dues, or arrearages? Niger is up to date on its U.N. dues, assessments, and other obligations. Yes, the loan agreement limits the use of loan funds for the specific project.

D. Military Situation

1. FAA Sec. 620(i). Has the country engaged in or prepared for aggressive military efforts directed against the U.S. or countries receiving U.S. assistance? No.

2. FAA Sec. 620(s). What is (a) the percentage of the country's budget devoted to military purposes, and (b) the amount of the country's foreign exchange resources used to acquire military equipment? Is the (c) country diverting U.S. development assistance or P.L. 480 sales to military expenditures? Is (d) the country diverting its own resources to unnecessary military expenditures? Has the (e) country spent money for sophisticated weapons systems?

- (a) 12.3%.
 (b) Most military equipment is provided through French assistance; little with Nigerien foreign exchange.
 (c) No.
 (d) No.
 (e) No.

II. CONDITION OF THE LOAN

A. General Soundness

-- Interest and Repayment

1. FAA Secs. 201(d), 201(b)(2). Is the rate of interest excessive or unreasonable for the borrower? Are there reasonable prospects for repayment? What is the grace period interest rate; the following period interest rates? Is the rate of interest higher than the country's applicable legal rate of interest?

The rate of interest is not excessive or unreasonable. The grace period is 10 years at 2% interest and 3% interest during the remaining 30 years. The rate of interest is less than Niger's applicable legal rate of interest.

-- Financing

1. FAA Sec. 201(b)(1). To what extent can financing on reasonable terms be obtained from other free-world sources, including private sources within the U.S.?

Financing from other free-world sources, including private sources within the U.S., are not available.

-- Economic and Technical Soundness

1. FAA Secs. 201(b)(2), 201(e). The activity's economic and technical soundness to undertake loan; does the loan application, together with information and assurances, indicate that funds will be used in an economically and technically sound manner?

Yes. See Sections II B and II C and III C.

2. FAA Sec. 611(a)(1). Have engineering, financial, and other plans necessary to carry out assistance, and a reasonably firm estimate of the cost of assistance to the U.S., been completed?

Yes. See Sections II B, II C and III and Annex 6B.

3. FAA Sec. 611(b); App. Sec. 101.

If the loan or grant is for a water or related land-resource construction project or program, do plans include a cost-benefit computation? Does the project or program meet the relevant U.S. construction standards and criteria used in determining feasibility?

Yes. See Section II B;
Yes. See Section II C and Annex 6A.

4. FAA Sec. 611(e). If this is a Capital Assistance Project with U.S. financing in excess of \$1 million, has the principal A.I.D. officer in the country certified as to the country's capability effectively to maintain and utilize the project?

Yes. See Annex 8A.

B. Relation to Achievement of Country and Regional Goals

-- Country Goals

1. FAA Secs. 207, 281(a). Describe this loan's relation to:

a. Institutions needed for a democratic society and to assure maximum participation on the part of the people in the task of economic development.

The project has its principal objective decreasing the cost of transporting goods and services. This would encourage participation on the part of the people in expanded agriculture production.

b. Enabling the country to meet its food needs, both from its own resources and through development, with U.S. help, of infrastructure to support increased agricultural productivity.

The project will bring about improvement in river transport infrastructure which will encourage river commerce. This will encourage export agricultural production and secondarily will increase production of food crops.

c. Meeting increasing need for trained manpower.

The project will include training of administrative, port operations and navigation personnel to assure efficient operation and maintenance of the river transport network, thus contributing directly to the improvement skills of Niger's transport technicians.

d. Developing programs to meet public health needs.

The project is not a public health project.

- e. Assisting other important economic, political, and social development activities, including industrial development; growth of free labor unions; cooperatives and voluntary agencies; improvement of transportation and communication systems; capabilities for planning and public administration; urban development; and modernization of existing laws.
- Adequate transportation is a vital necessity in the development process. This ^{activity} provides a second life line for Niger which will lower transport costs. This will assist the Agriculture and Industrial Sectors to decrease overall costs. The investment is consistent with Niger's Master Development plan in which the goals are directed to the concerns raised in the referenced statutes.
2. FAA Sec. 201(b)(4). Describe the activity's consistency with and relationship to other development activities, and its contribution to realizable long-range objectives.
- See Section II B of the CAP.
3. FAA Sec. 201(b)(9). How will the activity to be financed contribute to the achievement of self-sustaining growth?
- Transport remains a critical impediment to economic growth; the improvements in the external transport network made possible by this loan will encourage the individual initiatives essential to self-sustaining growth.
4. FAA Sec. 201(f). If this is a project loan, describe how such project will promote the country's economic development, taking into account the country's human and material resource requirements and the relationship between ultimate objectives of the project and overall economic development.
- See Section I B of CAP.
5. FAA Sec. 201(b)(3). In what ways does the activity give reasonable promise of contributing to development of economic resources, or to increase of productive capacities?
- The Project's principal objective is to ^{enable Niger to} reduce its external transport costs. The uranium mines at Arlit and the peanut industry would be among the primary, direct beneficiaries.
6. FAA Sec. 281(b). How does the program under which assistance is provided recognize the particular needs, desires, and capacities of
- The Project will make transport infrastructure improvements which will encourage individual initiative particularly for agricultural pro-

the country's people; utilize the country's intellectual resources to encourage institutional development; and support civic education and training in skills required for effective participation in political processes.

7. FAA Sec. 601(a). How will this loan encourage the country's efforts 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?

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

9. FAA Sec. 611(a)(2). What legislative action is required within the recipient country? What is the basis for a reasonable anticipation that such action will be completed in time to permit orderly accomplishment of purposes of loan?

--- Regional Goals

1. FAA Sec. 619. If this loan is assisting a newly independent country, to what extent do the circumstances permit such assistance to be furnished through multilateral organizations or plans?

duction; training will be provided for operating aid management personnel for the new river transport institution; commercial river transport will increase the extent of social contact and availability of products to people living adjacent to the river.

This project will stimulate international trade and commerce among Niger, Nigeria and Dahomey. The GON is hoping to attract private investments and foreign capital. The activity will improve the technical efficiency and commercialization of the transport sectors.

The entire loan will be utilized to procure goods and services from private enterprises.

None required.

It has not been practical to channel assistance through multilateral organizations or plans. However, the activity is consistent with river basin planning and the Niger River Commission will be instrumental in its being accomplished.

2. FAA Sec. 209. If this loan is directed at a problem or an opportunity that is regional in nature, how does assistance under this loan encourage a regional development program? What multi-lateral assistance is presently being furnished to the country?

Assistance under this loan encourages regional development by facilitating the movement of goods and services in the agricultural and industrial sectors between countries in the region. See Annex 1.

C. Relation to U.S. Economy

-- Employment, Balance of Payments, Private Enterprise

1. FAA Secs. 201(b)(6); 102, Fifth. About 56% of the loan proceeds will finance export of U.S. goods and services. What are the possible effects of this loan on U.S. economy, with special reference to areas of substantial labor surplus? Describe the extent to which assistance is constituted of U.S. commodities and services, furnished in a manner consistent with improving the U.S. balance of payments position.

2. FAA Secs. 612(b), 636(h). What steps have been taken to assure that, to the maximum extent possible, foreign currencies owned by the U.S. and local currencies contributed by the country are utilized to meet the cost of contractual and other services, and that U.S. foreign-owned currencies are utilized in lieu of dollars? There are no U.S. owned excess currencies for the region. The GON will contribute a portion of the local currency costs reasonably consistent with its budgetary capability. See Section II A.

3. FAA Sec. 601(d); App. Sec. 109. The loan agreement restricts procurement of these services to Code 941 countries, which includes the U.S. Loan agreement contains standard AID clause in regard to third-country nationals. If this loan is for a capital project, to what extent has the Agency encouraged utilization of engineering and professional services of U.S. firms and their affiliates? If the loan is to be used to finance direct costs for construction, will any of the contractors be persons other than qualified nationals of the country or qualified citizens of the U.S.? If so, has the required waiver been obtained?

4. FAA Sec. 608(a). Provide information on measures to be taken to utilize U.S. Government excess personal property in lieu of the procurement of new items.

The loan agreement contains the standard AID clause in this regard.

5. FAA Sec. 602. What efforts have been made to assist U.S. small business to participate equitably in the furnishing of commodities and services financed by this loan?

AID procedures will be followed to provide notice of intended procurement to U.S. small business.

6. FAA Sec. 621. If the loan provides technical assistance, how is private enterprise on a contract basis utilized? If the facilities of other Federal agencies will be utilized, in what ways are they particularly suitable; are they competitive with private enterprise (if so, explain); and how can they be made available without undue interference with domestic programs?

Technical assistance, as such, is not being financed under the loan. Facilities of other Federal agencies will not be used in the project.

7. FAA Sec. 611(c). If this loan involves a contract for construction that obligates in excess of \$100,000, will it be on a competitive basis? If not, are there factors which make it impracticable?

All construction contracts will be let on a competitive basis.

--- Procurement

1. FAA Sec. 602(a). Will commodity procurement be restricted to U.S. except as otherwise determined by the President?

Yes.

2. FAA Sec. 604(b). Will any part of this loan be used for bulk commodity procurement at adjusted prices higher than the market price prevailing in the U.S. at time of purchase?

No.

3. FAA Sec. 604(e). Will any part of this loan be used for procurement of any agricultural commodity or product thereof outside the U.S. when the domestic price of such commodity is less than parity? No.

D. Other Requirements

1. FAA Sec. 201(b). Is the country among the 20 countries in which development loan funds may be used to make loans in this fiscal year? In view of the regional character of the project, the loan falls outside this limitation.

2. App. Sec. 106. Does the loan agreement provide, with respect to capital projects, for U.S. approval of contract terms and firms? Yes.

3. FAA Sec. 620(k). If the loan is for construction of a productive enterprise, with respect to which the aggregate value of assistance to be furnished will exceed \$100 million, what preparation has been made to obtain the express approval of the Congress? Not applicable.

4. FAA Secs. 620(b), 620(f); App. Sec. 109(b). Yes. Has the President determined that the country is not dominated or controlled by the international Communist movement? If the country is a Communist country (including, but not limited to, the countries listed in FAA Sec. 620(f)) and the loan is intended for economic assistance, have the findings required by FAA Sec. 620(f) and App. Sec. 109(b) been made and reported to the Congress?

5. FAA Sec. 620(h). What steps have been taken to insure that the loan will not be used in a manner which, contrary to the best interest of the United States, promotes or assists the foreign aid projects of the Communist-bloc countries? The loan agreement contains the standard AID clause in this regard.

6. App. Sec. 110. Will any funds be used to finance procurement of iron and steel products for use in Vietnam other than as contemplated by Sec. 110? No.

7. FAA Sec. 636(i). Will any part of this loan be used in financing non-U.S.-manufactured automobiles? If so, has the required waiver been obtained? No.
8. FAA Secs. 620(a)(1) and (2), 620(p); App. Sec. 117. Will any assistance be furnished or funds made available to the government of Cuba or the United Arab Republic? No.
9. FAA Sec. 620(g). Will any part of this loan be used to compensate owners for expropriated or nationalized property? If any assistance has been used for such purpose in the past, has appropriate reimbursement been made to the U.S. for sums diverted? No. No such assistance has been used for this purpose.
10. FAA Sec. 201(f). If this is a project loan, what provisions have been made for appropriate participation by the recipient country's private enterprise? There will probably be sub-contracting for construction services with a local firm.
11. App. Sec. 104. Does the loan agreement bar any use of funds to pay pensions, etc. for persons who are serving or who have served in the recipient country's armed forces? Yes. The loan agreement limits the use of loan funds for the specific project.
12. MMQ Sec. 901.b. Does the loan agreement provide, for compliance with U.S. shipping requirements, that at least 50% of the gross tonnage of all commodities financed with funds made available under this loan (computed separately by geographic area for dry bulk carriers, dry cargo liners, and tankers) be transported on privately owned U.S.-flag commercial vessels to the extent such vessels are available at fair and reasonable rates for U.S.-flag vessels? Does the loan agreement also provide for compliance with U.S. shipping requirements, that at least 50% of the gross freight revenues of goods shipped under this loan must be earned by privately owned U.S.-flag commercial vessels to the extent such vessels are available at fair and reasonable rates for U.S.-flag vessels? Yes, to both questions.

FAA. Section 481. Has the country failed to take adequate steps to prevent narcotic drugs from entering the U.S. unlawfully?

No. Niger is cooperating with U.S. and international organizations in the control of narcotic drugs.

FAA. Section 604.e. Has there been compliance with restriction against procuring with AID funds agricultural commodities outside the U.S. when the domestic price of such commodity is less than parity?

No agriculture commodities will be procured with funds from this loan.