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PREFERENTIAL TRADE AREA
for Eastern and Southern African States

VOLUME II

PROFILES OF PRIORITY PROJECTS

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SUMMARY OF PROJECTS FOR NORTH-PTA COUNTRIES

A. PRIORITY PROJECTS

PROJECT NO.	TITLE AND COST ESTIMATES	COUNTRY
1.	ISIOLO-MOYALE ROAD 130 Million USD	Kenya
2.	GARISSA-LIBOY-KISIMAYO ROAD 120 Million USD	Kenya/Somalia
3.	DJIBOUTI-BERBERA ROAD 98 Million USD	Djibouti/Somalie
4.	AWASH-JIGJIGA-TOGOWUCHALE-NABADEED Road 86 Million USD	Ethiopia/Somalia
5.	ADDIS-ABEBA-DJIBOUTI RAILWAY 156, 390,000 USD	Djibouti/Ethiopia
6.	TELECOMMUNICATIONS NETWORK REHABILITATION AND EXTENTION 18 Million USD	Somalia
B. NEW PROJECTS		
7.	AIRPORT LIGHTING SYSTEM: 1,4 Million USD	DJIBOUTI
8.	Maritime Training Institute in ASSAB: 11 million USD	ETHIOPIA
9.	Construction of ship repair yard New Dry dock: 49 million USD	ETHIOPIA
10.	Purchase of Marine crafts for Ports of Assab and Massawa: 12 million USD	ETHIOPIA
11.	Purchase of cargo handling equipment for ASSAB port : 28 million USD	ETHIOPIA
12.	Strengthening of a section of ADDIS-MOYALE Road MODJO-AWASSA Section: 26 million USD	ETHIOPIA
13.	Felege Neway LODWAR Road (Study) : 1.98 million USD	ETHIOPIA
14.	Road Maintenance Project :63.9 million USD	ETHIOPIA
15.	Construction of Prallel runway and Apron expansion at Bole Airport: 89.771 USD	ETHIOPIA
16.	Conversion of rubber-tyred gantries in Mombasa Port : USD4 Million	KENYA
17.	Refendering Berths 16-18, Mombasa Port: 6.6 million USD	KENYA
18.	Mombasa Port Equipment Procurement: 26.09 million USD	KENYA

PROJECT NO.	TITLE AND COST ESTIMATES	COUNTRY
19.	Container Freight Station at Mombasa Port: 30.45 million USD	KENYA
20.	Rehabilitation of Berth No.8 Mombasa Port: 400,000 USD	KENYA
21.	Construction of Bulk grain handling Terminal: 16 million USD	KENYA
22.	Refendering of Berths 1-10 at Mombasa 0.8 million USD	KENYA
23.	General Port Studies 0.5 million USD	KENYA
24.	Development of Inland Container Depot: 107.5 million USD	KENYA
25.	Maritime Improvement and Equipment supply to Somali Ports: 0.5 million USD	SOMALIA
26.	Rehabilitation and Development of Somali shipping services :16 million USD	SOMALIA
27.	NEGELLE-DOLO-BARDERA-KISIMAYO Road: 160,000,000 USD	ETHIOPIA/SOMALIA

GRAND TOTAL: 1,260,281,000 USD

SECTION A

REGIONAL PRIORITY PROJECTS

PROJECT PROFILES

Project No.1

Title: Isiolo - Moyale Road
Country: Kenya
Type of Project: Upgrading up to Bitumen standard

1. Responsible Agency: Ministry of Works, Kenya

2. Project description

The Isiolo-Moyale road is 510 kilometres long and constitute a section in Kenya of the Trans-East African Highway which starts from Gaborone (Botswana) and terminates in Cairo (Egypt). It is not only an important link between Ethiopia and Kenya but is also a vital trade route between the two countries and the eastern and southern African sub-region as a whole.

The road was constructed to engineered gravel standard during the 1966-74 period. However, because of the environmental conditions of the area traversed by the road, the long distances involved and other problems which militate against adequate road maintenance, much of the gravel material has been swept away by the action of the rain and vehicles thus rendering the road to be heavily corrugated, uncomfortable and expensive to drive on.

3. Background and justification for the Project

It is intended to improve the 510 kilometres long road from its existing gravel standard to bitumen standard with a view to developing the local conditions of the area traversed by the road, and to improve and facilitate trade between Kenya and Ethiopia and the PTA-IGADD sub-region.

More importantly, the road improvement will save Kenya a significant foreign exchange expenditure in importation of fuel and spare parts as a result of reduced vehicle operating costs. Furthermore, time that can effectively be put into developmental use will be saved.

The Kenya Government took a positive decision to bituminus the road as for back as 1976. A feasibility study was undertaken that year which yielded an economic internal rate of return of 36.5%. In addition, design, material investigations and tender documents were completed in 1979. The feasibility study for the road was revised in November, 1988 and revealed an I.R.B. of 19.24%. The EEC has undertaken to review the studies including the Engineering design studies and tender documents. EEC could be the leading agency in mobilisation of funds for the construction of the road.

4. Project components:

(a) Reconstruction of the embankment and restoration of the pavement structure

(b) Installation and replacement of the drainage structure

(c) Development of Waries

(d) Development of depots, including signs and parkings workshops

5. Costs and Implementation

(a) The cost is estimated at US$130 million at 1990 prices.

(b) The project would be implemented on the basis of international competitive bidding.

Project No.2

Garisa-Liboy-Kissimayo

1. Responsible Agency: Somalia and Kenya

2. Project Description:

The work involves upgrading of the road from Kissimayo via Liboyi (border post) 422km, from an existing earth track of 3.5 to 6m width, low cost bituminized road of 7m width in a generally flat terrain and generally red/black clay soil with intermittent silt or road appearances.

3. Background and the Need for the Project:

Kenya and Somalia are members of the Preferential Trade Area, and also of the Technical Consultative Committee (TCC) the four North PTA countries, which is mandated to improve on a priority basis, the physical interconnection of the TCC countries. Garissa-Kissimayo is one of the missing links of North-PTA states. The countries have agreed to do that utmost with the assistance of the PTA and IGADD, to promote the realisation of projects of the missing links to accelerate the physical and economic integration of the subregion.

In addition to the unquantifiable social benefits that will accrue from the implementation of the project, the INTRA-PTA Exchange and Trade would enhance the viability of the project.

There have been also intensive rangeland development efforts in the north-eastern province of Kenya over the last two decades. Further Kengalo livestock production strategy is aimed at purchasing livestock in the semi-arid areas and transport them to the wetter and larger national markets in central southern Kenya. The project area is drought-prone, and an efficient and serviceable road network is needed to support the food security operations within that area. The execution of the project would also improve the security situation which the two countries wish to stabilise.

4. Project Components:

The project constitutes the sections Garissa-Liboyi (In Kenya) and Liboy Kissimayo in Somalia which for purposes of viability is considered one project.

5. Alternative and Recommendations:

Since this project would enhance increased food production in the area, as well as growth in agricultural employment, resource conservation and poverty alleviation, its improvement to all-weather standard is very vital. This is a class A road that connects the two capitals of Nairobi and Mogadishu, and with Kissimayo, Mogadisho and Garisa-Nairobi being paved highways, this gap of substantial section forms the only missing link, in an otherwise direct link between the two capitals.

6. Costs and Implementation

Construction costs are estimated at US$120 including feasibility, engineering design studies, tender documents and supervision. Within the PTA cooperation arrangement, it is recommended to finance first feasibility study and engineering studies for about 1.8 millions US$ consulting services would be procured to finalise detailed studies, tenders and supervision. Construction would be left to contract on the basis of competitive international tenders.

Project No.3

Title: Berbera-Loyada-Djibouti Road
Countries: Djibouti and Somalia
Type of Project: Upgrading and Construction

1. Responsible Agency: Djibouti Ministry of Works

2. Project Description

The project consists of construction to a bitumen standard road of 324 km, between Djibouti and Berbera (in Somalia). The selected alignment is parallel to the coast and traverses vast stretches of pastoral and agricultural land and connects many other coastal towns including Loyada, Elgal, Zeila, Bulhar, Togoshi and Lughayai, and many fishery points scattered along the coast.

3. **Background and Justification of the Project**

Somalia and Djibouti have a long historical link on social, economic and cultural grounds, and are interested in strengthening their links through the development of infrastructure that would open new areas of cooperation and co-ordination of their development efforts, with emphasis on agriculture, livestock, fisheries and trade. The construction of the road is regarded as the most important project that would bridge the gap in land connection and enhance integration.

The road would stimulate the development of data schemes in the Bulhar area, afforestation in the Lughayei and Zeila areas, where eucalyptus acacia and folder trees flourish; and the cultivation of fruits and vegetable gardens along the Loyade and Tagoshi area where the water table is generally high in the Togs (dry rivers).

The project are is also found to be suitable for surface water resources development, where reservoirs with capacity of 10,000m^2 could be built and filled with underground water.

4. **Alternative and State of project**

An alternative alignment from Zeila to Berbera had been studied, and an inland route along the settled area close-to the Ethiopia/Somalia border, had also been indicated, but the two countries have agreed on the coastal alignment.

Feasibility studies have been financed by EDF. The financing of the section Djibouti-Zeila was secured within the framework of Lome III. The commencement of work has been blocked by the donor because of the prevailing situation in the Northern part of Somalia, though the conditions of tender stipulated that work on the first section of the project should start within a period of 18 months.

5. Costs and Implementation

Total cost of the project is estimated at US $130 million. ECU 28 million (US$32 million) have already been secured for the first section, and US$98 million are still needed for financing the section Zeila-Berbera.

Project No.4

Title: Awash-Harar-Jigjiga-Togowuchale-Nabadeed Road

Country: Ethiopia - Somalia

Type of Project: Upgrading and Paved Standard

1. Responsible Agency: Somalia-Ethiopia Road Department

2. Project Description:

The 491 km project consists of upgrading of the Awash-Harar-Jigjiga road (417 km) to paved standard, and construction of the Jigjiga-Togowuchale-Nabadeed road (74 km). There will be widening and some curve improvement in the Harar-Jigjija Togowuchale section in Ethiopia but no major drainage structure to build. In Somalia, the 20 km long, Togowuchale-Nabadeed section has to be constructed, because it is still a missing link. It is important to mention that the project constitute the shortest road link between the two countries.

3. Background and Justification of the Project

The project is one of several alternative road links between the two countries, and the one selected as top priority by the two countries to enhance the socio-economic integration of commercial activities, whereas Somalia would be able to import agricultural cereals such as sorghum, maize, coffee, onions, potato, etc. from Ethiopia in exchange for fishery product and other commodities that are imported from abroad through Somalia. Existing traffic on the Awash-Harar-Jigjiga is considerable and causes cumbersome maintenance expenses. Construction and paving would reduce operating costs drastically and would bridge a vital missing link between the two countries.

4. Project Components

The Awash-Harar-Jigjiga road section has to be upgraded from the existing gravel road to bitumen standard with a width of up to 7m. The Jigjiga-Togawushale-Nanadeed road section is to be build from a feeder road standard with gravel surface to paved road of 7 meters of width.

5. Costs and Implementation

The project is estimated to cost US$86 million and would take four years to be completed. Economic and engineering studies have been completed for the Awash-Harar-Jigjisa segment but economic studies for Jigjiga-Togowuchale-Nabadeed have to be done.

Project No.5

Title: Ethiopia-Djibouti Railway Rehabilitation

Country: Ethiopia and Djibouti

Type of Project: Rehabilitation

1. Responsible agency:

Ethiopia-Djibouti Railway Organisation

2. Project description:

The single track railway line betwen Djibouti and Addis Ababa, managed jointly by the two Ethiopia-Djibouti Railway Organisations is 781 km long. It is one metre gauge, with 102 m minimum curve radius, and steel sleepers. The rail type vary and are of 20, 25, 26, 30 and 30kg/m.

The condition of the track is below acceptable levels of maintenance, locomotives, coaches and wagons are not only inadequate but they are also, on the average, beyond their economic service life; the telecommunications equipment are old stations are not fenced, and are not adequate for the volumes of traffic, data processing equipment is outdated and inadequate.

The objectives of the project area:

(a) Rehabilitation of the track and improvement of its limiting geometric parametres, required to improve safety and efficiency;

(b) Procurement of locomotives, coaches and freight wagons;

(c) Installation of modern signaling and telecommunications system;

(d) Establishment of a training centre

(e) Upgrading of major railway stations

(f) Improvement of the data processing system.

3. Background and justification

The Djibouti-Addis Ababa railway line is one of the oldest railway lines in the PTA subregion. It was constructed at the beginning of this century. The two countries intend to replace the old sleepers and rails by new ones with a resistance of 30 kg/m at the minimum and 46 kg/m at the maximum on almost the whole length of the line (781 km). The Italian firm has undertaken a study for complete rehabilitation of the railway. The priority programme of the project would constitute the following components:

4. Projects components:

- 11 main line locomotives
- 4 shunting locomotives
- 36 coaches
- 198 freight wagons
- Rehabilitation of rail cars
- Spare bogies and generators
- 152 km of rail
- 114000 steel sleepers
- Earthmoving machinery
- Track maintenance machines
- Ballast transport machines
- Installation of a signalling and telecommunication equipment
- Improvement of main stations
- Construction of a training center
- Construction of wagon repair shop
- Reduction of the max. gradient to 1.8% especially at three locations where the gradients is 2.8%
- Diversion of the track from the active fault zone
- Improvement of the minimum curve radius
- Reinforcement of bridges to carry 17 ton axle loads

5. Costs and implementation

The project as a whole is estimated to cost more than US$300 million. The priority programme is expected to cost US$156,390,000 and implementation would be in different phases and is expected to be 10 years.

Project No.6

Somalia Telecommunications Network Rehabilitation and Extension

1. Responsible Agency: Ministry of Posts and Telecommunications of Somalia

2. **Project Description:**

(a) Rehabilitation of the former facility at Hargeisa, Berbera Burao to Djibouti and the Arab countries.

(b) Somalia Ethiopia link realisation through Hargeisa-Ijara-Tugwujale-Jigjiga

(c) Installation of Domestic Satellite Earth Station for Mogadisho and Hargeisa, with trunk exchange at Hargeisa.

These projects include new equipment procurement in addition to rehabilitation of out-of-operation facilities

3. **Background and the Need for the Project**

The project was put out of work during the civil disturbances in the project area, and need to rehabilitated to enable Somalia to establish a microwave link along PANAFTEL routing with Ethiopia, Djibouti and the Arab World (Yemen, Saudi Arabian, etc.)

4. **Project Components:**

(a) Assessment of the situation to determine extent of damage and residual value of the infrastructure

(b) Reconstruction and Restoration work

(c) New construction of Radio-Relay Link or satellite to connect Mogadisho to Hargeisa

(d) New link Hargeisa to Ethiopian border

5. **Alternatives and Recommendations:**

The only alternative is a satellite link direct with each country connecting Mogadisho to Addis Ababa and Djibouti. But this arrangement does not provide communication facility to Northern Somalia.

6. **Costs and Implementation**

(a) Originally project cost estimates are 18 million US$. An assessment of the damage would be required to determine the residual value of existing facilities

(b) Implementation entails assessment by constant and then contracting the work

SECTION B

NEW REGIONAL PROJECTS

Project No.: 7

Title: Airport Lighting System, Djibouti

Country: Djibouti

Type of Project: Improvement of air transport services

1. Responsible Agency: Civil Aviation Authority, Djibouti

2. Project Description:

The project involves installation of a lighting system for the runway, taxiway and aprons of the Djibouti International Airport.

3. Background and Justification of Project:

(a) The Civil Aviation Authority of the Republic of Djibouti, under the auspices of the Ministry of Commerce, Transport and Tourism, is improving facilities at the International Airport, in phases needed by credit made available from the Kuwait Fund, Saudi Fund and Abou-Dhabi Fund.

(b) The on-going projects include:

(i) Rehabilitation and widening of the Runway, which has gone to tender;

(ii) Restoration and repairs of the terminal building, for which prequalification of contractors is in progress, and

(iii) The telecommunications facilities which have been tendered.

(c) The Government of France has financed the study for the lighting of the Runway, Taxiway and Aprons. However, the Government is not in a position to seek additional loans due to existing debt burdens, and hence desires to obtain grant funds for the realisation of the lighting ships. The lighting system, needs to be carried out together with the other improvements, to be cost-effective.

(d) Since this is the most important and only international airport in the Republic of Djibouti, the project would complete on-going improvement works, and would enable the use of the airport at night and during inclement weather.

(e) Project Components

The work would involve:

(a) Runway lighting

(b) Taxiway lighting

(c) Parking Apron Lighting

4. Costs and Implementation

(a) The cost is estimated at US$1.4 million, and is expected to be a grant;

(b) The work would be carried out on the basis of international competitive bidding;

(c) The work could be implemented immediately, since studies have been finalized.

Project No. : 8

Title: Construction of Maritime Training Institute in Assab

Country: Ethiopia
Title of Project: Maritime Training

1. Responsible Agency: Maritime Transport Authority of Ethiopia

2. Project Description:

The project involves construction and establishment of a Maritime Training Institute at Haleb island in Assab Administrative Region for academic, technical and vocational education in the maritime sphere, to produce adequate, skilled and professional manpower for all aspects of maritime transport and technology. Construction of office buildings and laboratories, simulation workshops, recreation facilities and residential quarters; and procurement and installation of teaching equipment and materials will be involved.

3. Background and Justification for the Projects:

The volume of cargo handled and the number of and size of ships calling at the national port of Assab and Massawa are increasing from time to time. A projected growth rate indicate that annual growth will continue in the future. The fleet of the National Shipping Lines (ESL) is also increasing and is expected to continue to increase due to the expected growth of seaborne trade.

In order to meet this growing demand, port modernization, improvement of port capacity and trained manpower become very important. The Boat Building project at Haleb island is expected to produce 60 boats of various sizes per year. There is also an on-going effort to establish new dry-dock facilities with a capacity of 20,000 DWT at Haleb. Thus the growing importance of maritime transport, the expansion and modernisation of ports and other related activities, complemented with the sophistication of science and technology in the maritime sector and its higher operational complexity and standard, are some of the main reasons for the establishment of maritime Institute, which will train the required manpower for the maritime sector as a whole.

The institute is expected to produce adequate skilled and professional manpower in all aspects of maritime transport and thereby ensure the safety, proficiency, efficiency and development of maritime transport. It would also expand the educational horizons of the people, develop skilled manpower, and treate employment opportunities for the nation. The project will contribute towards improved port efficiency, the promotion of the effectiveness and growth of national shipping lines, and the formulation and implementation of viable national maritime policies. It would enhance compliance with international maritime and related standards, and

would contribute towards the achievement of other national goals much as greater understanding and exploration of maritime resources and foreign currency savings. Further more, the institution would be at the service of the entire PTA subregion.

4. Project Components:

The components of this project include civil construction of the facilities, and procurement and installation of equipment.

5. Costs and Implementation

Total cost estimates are 11 million US$

(a) The cost of civil work is estimated at US$5.0m

(b) The cost of equipment is estimated at US$6.0m.

(c) The procurement of goods and services including construction and installation would be carried out on the basis of international competitive building.

Project No. 9

Project profile

Project Title	:	Construction of ship repair yard: New Dry Dock
Promoting Agency	:	Marine Transport Authority
Site and Location	:	Haleb Islands Ethiopia, at Assab
Project Objective	:	To construct a new Dry Dock Facility for ships of 20,000 DWT
Project Outputs	:	Repair and Maintenance and Annual Survey of Ships
Main inputs	:	Labour, Materials and Equipment
Technology	:	Modern Ship repair technology for Dry Dock
Benefits	:	Greater Foreign Currency Savings from repair and maintenance of National Commercial Ships
	:	Foreign Currency earnings opportunities from repair and maintenance of foreign ships
	:	Provide annual inspection services to naval ships and other vessels
	:	Safer shipping and longer life of ships
Total Cost	:	BIRR 100 Million Equivalent 49 million USD
Time Table	:	Pre-feasibility study 1987/00 90/91
		Feasibility Study 1988/89 91/92
		Commerce implementation 1989/90 91/93

DESCRIPTION

OBJECTIVE	:	The existing facilities at Massawa are technologically obsolete and have limitations of space and draught. As a result, it cannot be improved to handle bigger ships. Hence, a new and modern ship repair yard needs to be constructed with capacity to handle the repair and maintenance requirements of the fleets of the Ethiopian Shipping Lines Corporation as well as those of foreign ships.
OBJECT LOGIC	:	The Ethiopia Shipping Lines Corporation increased its fleet size and as the country's external trade is expected to grow the corporation will further increase its fleet size to meet the demand for seaborne trade. However, since the ship repair facility at Massawa does not have capacity for the existing Ethiopian ships, repair is done abroad. This has caused an outflow of large sums in foreign currency and is costly. If we have a modern facility, time and money can be saved, employment opportunities created and skills developed. Further more, availability of such a facility in the region may attract ships engaged in the region to use the facility, whereby more foreign currency can be generated.
SERVICE	:	To maintain classification, a general cargo ship undergo an annual survey for which the underwater parts of the bull can be properly inspected for damage.
	:	Every four year ships undergo a special survey which entails inspection of bull, sterngear, machinery etc.
	:	Other periodical and unscheduled surveys.
MATERIAL AND OTHER INPUTS	:	Cement Structural Steel Steel Sheet piling Steel rail Reinforcement Timber etc.

DESCRIPTION

EQUIPMENT	:	Universal milling machine lathe for shafts etc. Keel blocks Cranes Pumping accessories plate forming press Vertical turning mill Sand blasting & painting apparatus Diesel generator set etc
CIVIL WORKS AND CONSTRUCTION	:	Fairway & entrance channel workshop and other buildings Reclamation Slip way Dry Duck Pier Quay Roads Service building etc.

Project No. 10

Ethiopia: **Purchase of Marine crafts for the ports of Assab and Massawa**

1. Identification and summary

Origin of the project: Submitted by the Government Sub-sector: Ports

Order of priority: National project in favour of a disadvantaged country aimed at increasing the efficiency and safety of port operations

Nature of the project: Purchase of two tugboats to replace the old and obsolete once.

Location: North-eastern Ethiopia

Cost of the project: US$12 million (1987 value)

External financing required: Entire amount

Duration of project: Two years

Desirable starting date: 1991

Project initiator: Ministry of Transport and Communications

Project management authority: Marine Transport Authority.

II. Description of the project

1. Aim and objective

The objective of the project is to improve the productivity of ship and cargohandling operations in African ports. Its aim is to improve the efficiency and safety of ship movements in the ports of Assab and Massawa.

2. Nature and constituent parts of the project

The project consists of the replacement of the two tugboats that have been in use for the last 20 years. They are of low capacity, and pilots have difficulty in manoeuvring ships during the months of October to March, when a south-easterly winds prevail. The increased size of vessels makes their mooring and unmooring increasingly difficult.

III. Justification of the project

1. Economic and financial analysis

Benefits

Assistance to ships by powerful tugboats will facilitate their correct mooring. This will avoid damage to ships, port structure and installations. The economies thus to be achieved have not been quantified but they can be assumed to be considerable.

Cost

The cost of replacing the existing tugboats by more powerful tugboats is estimated at US$12 million

It is hoped that the project will be carried out in 1991.

Project No. 11

ETHIOPIA: PURCHASE OF CARGO-HANDLING EQUIPMENT FOR THE PORT OF ASSAB

I. Identification and summary

Origin of the project: Submitted by the Government

Sub-sector: Ports

Order of priority: National project in favour of a disadvantaged country aimed at improving the efficiency of port operations

Nature of the project: Purchase of cargohandling and construction equipment

Location: Assab

Cost of the project: US$28 million

External financing required: Entire amount

Duration of project: 10 years

Desirable starting date: 1992

Project initiator: Ministry of Transport and Communications

Project management authority: Marine Transport Authority

II. Description of the project

1. Aim and objective

The objective of the project is to improve the productivity of African ports. Its aim is to improve the performance of handling operations in the port of Assab. The present handling facilities are becoming obsolete and need to be replaced. The container terminal requires gantry cranes and some mobile cranes.

2. Nature and constituent parts of the project

The project comprises:

- the purchase of 250 ton mobile cranes and over 40 ton gantry cranes
- purchase of cargo-handling equipment, fork-lift trucks mobile cranes, tractors, trailers and loading and unloading equipment for the ports of Assab.

III. Justification of the project

1. Economic and financial analysis

Benefits

No quantified estimate of the benefits of the project has been made. Its advantages are nevertheless indisputable. It will help to further improve the present cargohandling rate and will make the port more efficient and competitive.

Cost

The cost of the project is estimated at US$28 million.

Project No.: 12

Title: Strengthening of a Section of Addis-Moyale Road-Modjo Awassa section

Country: Ethiopia

Type of Project: Road Strengthening

1. Responsible Agency: Ethiopia and Kenya

2. Project Description: Rehabilitation

The existing Modjo-Awassa highway (210 km) has inadequate pavement features. There are a number of noticeable structural failures which need to be strengthened with asphalt overlay, including shoulder widening, pavement structure rehabilitation and a few relocations of the existing alignment. Feasibility and detailed engineering studies have been completed.

3. Background and Justification of the Project:

The road section has been asphalted from Addis-Ababa to Moyale. But the section Modjo-Awassa has deteriorated and needs to be rehabilitated. The Modjo-Awassa road is a section of the Trans-East African Highway. The road needs to be upgraded and rehabilitated to reduce vehicle operating costs, reduce road maintenance costs, avoid expensive reconstruction, and ensure effective and efficient links between Ethiopia and Kenya by road.

The benefit-cost analysis indicates an internal rate of return of 12%.

4. Project Components: The components of this single project include pavement strenghthening, shoulder widening and realignment of a few substandard requests.

5. Costs and Implementation:

The project is estimated to cost US$26.00, of which US$17 million is being sought in foreign exchange, the remaining being for the account of Governments local components.

PROJECT NO.: 13

Name: Felege-Neway Lodwar Road
Nature of Project: HWY Pre-Feasibility study
Country: Ethiopia (Kenya)

1. Responsible Agency: Ethiopian Transport Construction Authority

2. Project Description

The work involves review of all engineering and economic studies available in Ethiopia and Kenya concerning the proposed road link, inspection of the route and record data on terrain alignment, materials available, drainage requirements, and other details including but not limited to, climatic conditions, soil informations, hydrological data, and quantity estimates. Determination of economic activity and potential of the area including agriculture, industry, mining, population, land use patterns, viability of the proposed road and then preparation of proposals based on above determination.

3. Background and Justification of the project

The ultimate objective of the project is to provide an all-weather road between Southern Ethiopia and Northern Kenya in the OMO/TURKANA area. Preliminary studies indicate that there is immense potential for the development of natural resources including water resources, fisheries and livestock. A study to ascertain those potentials is therefore justifiable.

4. Project components

The work involves pre-feasibility study of the Felege-Neway Lodwar regional road as a single project.

5. Costs and Implementation

The study is estimated to cost US$1.98m (US).

ROAD MAINTENANCE PROJECT OF REGIONAL ROAD NETWORK

Project No.: 14

1. Responsible Agency: Ethiopian Transport Construction Authority

2. Project Description:

The work consists of routine and periodic maintenance at various intervals along the Addis-Djibouti road link new Dire-Dawa including patching and surface dressing for paved roads, and grading, regravelling and spat repairs for gravel surfaced roads. Regular maintenance drainage structures, shoulders and ditches is included. The work would be carried out on labour force account basis, and the project therefore entails procurement maintenance equipment, spare parts, shop tools and materials.

3. Background and justification of the Project

The Shashenene and Dire-Dawa Districts are responsible for a road network of 338 km, out of which 32% is paved, and 68 is gravel surfaced. The network of the two districts represents about 30% of the total main network under regular equipment is aimed at improving the serviceability of the roads in the project districts, resulting in a better surface condition, which will eventually lead to a reduction in vehicle operating costs.

The project is also designed to intercept the problem of premature strenghthening or rehabilitation that may be required because of inadequate recurrent and periodic maintenance.

The economic feasibility study of the project has been finalised.

4. Project Components

The project constitutes of equipment parts shop tools and materials.

5. Alternatives and Recommendations:

The alternative to timely maintenance is expensive reconstruction

6. Costs and Implementation:

The total cost of the project is estimated to be US$63.9 million, of which the forex component is US$23 million, for equipment and parts.

Project No: 15

Title: Construction of a Parallel Runway and Apron Expansion at Bole Airport, ADDIS ABABA

Country: Ethiopia

Type of Project: Civil Aviation

1. Responsible Agency:

Ministry of Transport and Communications, Civil Aviation Authority of Ethiopia

2. Project Description:

The project consists of construction of a parallel runway and extension of the apron at Bole International Airport to ensure availability of the facility before deterioration of the existing runway may force closure of the airport for extensive repair. Financing is required for all construction work of the project including the new runway, connecting taxiways and approach light installations. The existing runway has completed its useful life and any further repair could not rectify the engineering problems and therefore established the need for a new runway. Detailed design of the project has been completed.

3. Background and justification for the Project:

The annual traffic increase for Addis Ababa Bole International Airport for the last 10 years has averaged over 10% per year. The implementation of the project will allow continued air transport operations with the capability to handle wide body aircraft, while the existing runway undergoes the inevitable extensive repair and reconstruction saving will accrue to the national economy in avoiding the additional cost to carriers and inconvenience to passengers that would otherwise have to more to another airport during repair work.

Project No. 16

Title: Conversion of rubber-tyred gantries - Mombasa Port

Country: Kenya

Type of Project: Port Improvement

1. Responsible Agency: Kenya Ports Authority

2. Project Description:

The project concerns conversion of Rubber Tyred Gantries to use electric power directly from the mains so as to ensure uninterrupted flow of current. Characteristically, the flow of power from diesel engines is subject to fluctuation, with the result that the electronic components of the Gantrys suffer frequent breakdowns due to the uneven flow of power.

3. Background and Need for the Project

The use of diesel engines renders the services offered by the rubber tyred gantry cranes very unreliable, and their availability is often reduced to as low as 30% leading to long delays to container ships. The container terminal is thus rendered seriously inefficient and therefore cost ineffective.

The proposed conversion would reduce equipment downtime, improve equipment availability, and in turn improve turn-around time of ships as terminal operations become more fluid.

The container terminal would consequently be more efficient making, more cost effective for the good of the shipowners, port users, the port administration, and ultimately the nation at large.

4. Costs and Implementation

a) The project is estimated at US$4.0 million

b) The work will be carried out on the basis of international competitive bidding

c) The duration of the project will be 12 months

Project No.: 17

Title: Refendering Berths 16-18, Mombasa Port

Country: Kenya

Title of Project: Port Improvement

1. Responsible Agency: Kenya Ports Authority

2. Project Description:

The work involves refendering and maintenance of the berths and carrying out repairs to fittings and structures.

3. Background and Justification of the Project:

Berths 16-18 are the most recent berths to be constructed but are also the most extensively utilised berths due to increased containeurisation.

The high level of utilisation has obviously led to a high rate of wear and tear due to the constant impact between the vessels and the quay.

The investment would arrest further deterioration to the structures and enhance the safety of vessels and prolong the life of the facilities.

4. Project Components:

(a) Routine maintenance

(b) Refendering of berths

(c) Repairs to fittings and structures

5. Alternatives and Recommendations

Routine maintenance and repairs at this stage would avoid subsequent reconstruction and restoration at a much higher cost, as well as damage to vessels.

6. Costs and Implementation

(a) The cost estimated at Ksh.150.0 million (US$6.6m)

(b) The work would be carried out on the basis of international competitive tendering

(c) The duration of the project would be one year.

Project No.: 18

Title: Mombasa Port Equipment Procurement

Country: Kenya

Type of Project: Port Improvement

1. Responsible Agency: Kenya Ports Authority

2. Project Description:

Provision of assorted marine and cargo handling equipment during the national Development Plan (1990-1993).

3. Background and Justification of the Project:

Replacement is a felt need, especially for worn out equipment that have served part of their useful life, particularly for containeurisation needs. Modernisation and improvement of port facilities, including equipment for loading, off loading, share handling and storing, is a determinant factor, if faster handling and efficiency should be maintained.

Old equipment is inefficient and liable to entail delays and damage. As the port of Mombasa has a crucial function to play in a country with an open economy and its service is vital to the landlocked and hinterland countries of Rwanda, Burundi, Uganda, Zaire and Sudan, improvement of its equipment is crucial.

4. Costs and Implementation

(a) The cost estimate is Ksh 600 million (US$26.09m).

(b) The procurement of equipment would be on the basis of international competitive building.

(c) The duration of the project is four years.

Project No.: 19

Title: Container Freight Station at Mombasa Port

Country: Kenya

Type of Project: Port improvement

1. Responsible agency: Kenya Ports Authority

2. Project description:

The project consists of the development of a container freight station in Mombasa in the Kipevu area outside the port including the construction of a terminal and complimentary installations. The facilities would include container stripping and stuffing area, storage sheds, repair and cleaning area, transit cargo area for landlocked countries, and administrative and customs offices, and trade works and roads, and utilities linkages.

3. Background and justification

The provision of a container freight station adjacent to container terminal complex is a logical and long overdue culmination of the development process and expansion programme of the Port of Mombasa. Construction of the freight station will improve the flow of traffic in and around the terminal and thus facilitate the provision of better services. The following specific benefits are also envisaged:

- saving in ship turn-around time
- reduction of container dwell-time in the port
- enhanced terminal capacity
- increased earnings on an investment, and operational efficiency

4. Project components:

(a) Design of the freight station, including specifications plans, and tender documents; and supervision of construction

(b) Construction of the container freight station, composed of:

(i) General grading
(ii) Construction of track works, and road and rail links
(iii) Construction of offices and warehouses
(iv) Installation of floodlighting powers
(v) Provision of utilities (water, electric, etc).

5. Costs and Implementation

(a) Construction of cost is estimated at 785m Ksh. (US$30.45 m US$), including of engineering and supervision costs.

(b) The design and construction works would be carried out on the basis of an international competitive bidding.

Project No.: 20

Title: Rehabilitation of Berth No.8 Mombasa Port

Country: Kenya

Type of Project: Port Improvement

1. Responsible Agency: Kenya Ports Authority

2. **Project Description:**

Complete refurnishing of the berth to inject some new life to the facility at Kilindini.

3. **Background and need for the project:**

For some time no renewal works have been undertaken at this general cargo berth and some rehabilitation works are now considered long overdue.

Timely rehabilitation of the berth would avoid expensive reconstruction on a later date, and avoid damage to vessels.

The investment would render the facility safer to ships and prolong its life.

4. **Project components**

Civil engineering works.

5. **Costs and implementation**

(a) The estimated cost of the facility is estimated to cost Ksh.10.00 million (US$400,000)

(b) The work would be carried out on the basis of international competitive bidding

(c) The project could be implemented as soon as possible and for a maximum of two years

Project No.: 21

Title: Construction of bulk grain handling terminal

Country: Kenya

Type of project: Construction

1. Responsible Agency: Kenya Ports Authority

2. Project Description:

The work involves development of the Berth No.6 site into a berth for ships of 30.000 dwt. and construction of a silo complex for 450 000 tonnes, complete with mobile pneumatic unloading units with mechanical equipment for loading, and intake hoppers for road trucks and railway wagons.

3. Background and Justification for the project

Construction of the facility would replace the present bag handling and storage system which is inefficient from an operational and economic point of view. There will be savings on bags and other handling, storage and transport costs. Spillage of grains which from a substantial loss will be greatly minimised.

Grain will be transported from ships directly to silos through a modern conveyor system, which is an added advantage.

There would also be benefits to be derived from this project, in the form of increased berth capacity arising from the construction of an additional berth, and quick turn around of ships thus reducing ships waiting time.

As the construction of the Nairobi Silo Complex which forms part of the grain handling project is completed, it is important that the silo complex at Mombasa is developed to enable the economy to benefit fully from the entire project.

4. Project components:

- Development of Berth No.6
- Construction of Silos
- Provision of Mechanical Handling Equipment

5. Costs and Implementation

(a) The total estimated cost is Ksh.366.3 million (US$16 million), comprising of a foreign exchange component of Ksh.288.3 (US$12.5 m), 79%; and local currency of Ksh.78.0m (US$3.4m), 21%.

(b) The major cost component is machinery and equipment at an estimated cost of Ksh 164.7 (US$7.2), 49%.

Project No.: 22 Refendering of Berths 1-10

1. Responsible Agency: Kenya Ports Authority

2. **Project Description:**

Civil engineering work amounting to complete replacement of fenders, carrying out repairs to berths and fittings to arrest further deterioration of the berth structures and fittings on the Kilindini side of the port with a view to prolonging the life of the berths.

3. **Background and Need for the Project**

Due to carrosion and damage resulting from impact of vessels as they berth alongside the fenders are worn out thus endangering the safety of vessels during berthing operations.

The proposed investment would enhance the safety of vessels and provide a new lease of line to the berth infrastructure.

4. **Project Components**

(a) Replacement of fenders

(b) Repairs to berths and fenders

5. **Costs and Implementation**

(a) Cost estimates are Ksh.20m (US$0.8m)
(b) The work would be carried out on the basis of international competitive bidding

Project No.: **23**

Title: General Port Studies

Country: Kenya

Type of project: Port Improvement

1. Responsible agency: Kenya Ports Authority

2. Project description:

The general studies would cover development of facilities for cruise ships, conversion of berths 13-14 for container handling, improvement of the Kipevu causeway, reclamation of the Makupa Creak for utilisation as a stocking yard, redevelopment of the area around the lighterage wharf for packing and office space, duty free area and storage of transhipment cargo, and rationalisation of the railway lines within the port area.

3. Background and need for the project:

External funding is being sought for studies in certain port facilities with a view to improving future port performance.

In addition to extending the capacity utilisation, structural reorganisation and streamlining is required to enhance efficiency and port productivity, and hence in-depth studies are required, studies which cannot be carried out with existing manpower resources without major disruption of the Authority's other functions.

In specific terms, the study is considered justifiable for the following reasons:

(a) As there are no special facilities to cater to cruise ships, it is considered desirable to set up suitable facilities for cruise vessels and their passengers.

(b) Berths 13-14, currently used for handling Ro-Ro traffic and for stripping and stuffing containers due to lack of a container freight station, are being considered for conversing and enlargement of the container terminal complex, due to the increasing container traffic.

(c) The causeway has a steep gradient and restrictive geometrics, thus limiting its use by heavy-duty trucks. Improvement would minimize breakdowns of trucks within the causeway.

(d) Reclamation of the creak through drainage, airfilling and paving as appropriate, for parking and cargo handling would provide badly needed additional space within the yard.

4. Project components:

- studies would be made for the following:
- Provision of facilities for cruise ships;
- Conversion of some berths into container terminals
- Improvement of the causeway to ease restrictive gradients
- Reclamation work for stocking of containers, and
- Redevelopment of area around lighterage wharf for parking, duty free area, and for storage of transhipment cargo, etc.

5. Cost and implementation:

(a) Costs estimates for studies = 0,5 million US$

(b) Studies would be carried out on the basis of proposals to be provided by short-listed international consulting concerns and cost estimates would be made available by the studies

(c) The work could be accomplished in about 6 months in 1990 or 1991

(d) Since traffic handled by lighters is diminishing, and the lighterage wharf and its back up yard are under-utilised, parking for cruise passengers, property development in the form of office for rental, development of a duty-free facility, storage for transhipment cargo and other facilities could be identified by means of the proposed study, to make effective use of the wharf and its yards.

(e) There is a felt need to remove disused rail lines and resurface the area to cope with the increasing volume of yard cargo, and make the optimum use of the limited space available behind berths, and handle cargo efficiency without crossing rail lines.

Project No.: 24

Title: Development of inland Container Depot-Kenya

Country: Kenya

Type of Project: Containerization of Transport

1. Responsible Agency: Kenya Ports Authority

2. Project Description:

The project involves development of Inland Container Depots (ICD's), including the provision of the required equipment, for handling of containers destined to hinterland ports at Kisumu, Malaba and Eldoret, with the aim of major objectives of containeurisation, namely rapid and door to door deliveries.

3. Background and Justification for the Project

The rate of growth of container transport throughout the Mombasa Port has been very rapid, traffic volume having increased forty (40) times between [illegible] and 1982.
Port, projected for 10-25 years, indicate that inland container depots need to be developed. Construction of container depots in the hinterland would therefore improve terminal performance and eliminate port congestion and inefficiencies which would otherwise lead to more claims for loss and damage of cargo.

4. Project Components:

(a) Construction of :

(i) trackwork,
(ii) hardstanding and surfacing access,
(iii) buildings

(b) Installation of flood lighting towers

(c) Utilities supply (water, electricity, etc).

(d) Procurement of equipment:

(i) Rubber tyred and rail mounted gantries

(ii) tractors and trailers,

(iii) short mast forklift trucks, and

(iv) railway wagons

5. Costs and Implementation:

(a) The cost of the project is estimated at Ksh2,473 millions of US$107.5 million

(b) The project will be implemented on the basis of international competitive bidding, both for construction of civil works, and the procurement and installation of equipment

(c) Plots have already been identified for the development of ICD's at Eldoret, Malaba and Kisumu

The Kisumu ICD with an anticipated throughput of 6,000 TEU's is expected to be operational in 1991 and will serve mainly Uganda, Rwanda and Burundi.

The ICD at Eldoret with an expected throughput of 15,000 TEU's is to be operational in 1992, and will serve mainly traffic in Western Kenya. The ICD at Malaba is planned to act as an alternative route through lake Victoria for Uganda, Rwanda, Burundi and Zaire, also serving Nyanza and certain inland ports in Western Kenya. With a specific throughput of 20,000 TEU's, it should be operational in 1992.

Project No.: 25

Title: Maritime Improvement and Equipment Supply to Somalia Ports

Country: Somalia

Type of Project: Port Development

1. Responsible Agency: Ministry of Fisheries and Maritime Transport, Somalia

2. Project Description: The project package consists of the procurement of:

1) Marine communications made up for Receiver Transmitters and VHF of adequate capacity

2) Solar system energy supply (which is modern and requires less manpower, and Radar at the Harbour Master's Offices in Mogadisho, Berbera and Kissimayo, for control of ships in Port Area.

3) Marine meteorology equipment, including technical assistance and training

3. Background and Justification for the Project:

Safe navigation along Somalia coast is not ensured. The last hydrographics surveys was carried out in the early 1930's and therefore all navigation costs are likely to be outdate. Light houses are overaged and partly not in operation. Not all navigational aids meet international standards. Rehabilitation of maintenance, and procurement of new ones is therefore vital for Somalia's maritime transport development.

The majority of Somali Ports experience communications difficulties with ships due to lack of appropriate communications equipment.

The existing old system entail daily problems with energy supply in the light houses. Modernisation and solar system are required especially at remote locations that are difficult to reach by land and water. At locations when lighting is non-existent, it required to establish reliable lighting to advise and warn vessels.

4. Costs and Implementation:

It is hereby requested to finance a study which would cost all the requirements at each of the Somali ports.

Costs estimates for the study = 500,000 US$.

Project No: 26

Title: Rehabilitation and Development of Somalia shipping services

Country: Somalia

1. Responsible Agency: Somali Port Authority

2. **Project Description:** Port Improvement Project

The project involves the acquisition of marine afloat craft, the construction of a marine repair facility together with the shipway and an adjacent marine workshop, complete with all the necessary equipment; and a pollution abatement, fire fighting and medical service capability package together with technical assistance to enable the authority to continue to operate the current Port Training Centre Project for a minimum of five years.

3. **Background and the Need for the project:**

Somalia is a maritime country with a coastline of more than 33 000 km which extends from Kenya in the Indian Ocean in the South to Djibouti in the Gulf of Aden in the North. Maritime Transport is a very important component of the overall transport system of the country. Somalia relies totally on its three major ports of Mogadisho, Berbera and Kissimayo for the export of its livestock, bananas, hides and skins. The improvement of those main ports to make them more efficient is therefore vital for its overseas trade as well as its overall economy and development.

4. **Project Components:**

The project has 4 components:

1) Provision of marine afloat craft (tug and pilot boats, landing craft dredger).

2) Construction of a marine Repair facility, complete with slipway, workshop and the necessary tools.

3) A capability building programme for pollution abatement, fire fighting and medical facilities, together with equipment and staff

4) Technical assistance to enable the authority to operate the on-going Training programme for 5 years.

5. **Alternatives and Recommendations:**

There is no alternative proposal to the improvement of these 3 ports, and it is recommended that a phased programme is accepted for funding by the international community.

Justification:

The project allows the Somali Port Authority to improve mechanisation of port operations, and will provide it with the capacity to handle greater volumes of traffic as well as cope with new forms of cargo handling brought about by advances in shipping technology

6. Costs and Implementation

a) Estimated Costs are as follows:

1. Marine Afloat crafts

1.	Marine Afloat crafts, 2000HP, 4 @ $1.0m	=	$4,000,000.00
	Pilot boat, 4 @ $2000 000.00		
	Loading craft, 3 @ 400 000.00	=	$800,000.00
	Dredger 1 @ 1,000,000.00	=	$1,2000,000.00
		=	$1,000,000.00
2.	Marine Repair Facility	=	$3,000,000.00
3.	Pollution, Fire and Medical Programme	=	$4,000,000.00
4.	Technical Assistance	=	$4,000,000.00
	Grand Total	=	$16,000,000.00

Project No.: 27 Negelle-Dolo-Berbera-Kissimayo Road

1. Responsible Agency: Ethiopia and Somalia

2. Project Description:

The project consists of improvement and upgrading of the Dilla-Kissimayo road which will link the southern regions of Ethiopia with South Somalia and lead to Kissimayo on the Indian Ocean. In Somalia, Kissimayo-Gelib (114 Km) is paved and Gelib Berbera (257) is under improvement. In Ethiopia, Negele-Filtu (127 km) in old asphalt built during the Second World War, and the remainder (245 km) is feeder standard in dry flat terrain. The project is to upgrade the whole road to a minimum all-weather standard.

3. Background and the Need for the Project:

The region has the potential for producing surplus food due to fertile land all along the project, and regions opening up. It would encourage the exchange of trade between the two neighbouring countries, and provide a southern port to the sea for Ethiopia.

4. Project Components:

The project would amount to improving the sections that are not now under construction and rehabilitation, i.e.

1) Negele Filtu asphalt rehabilitation

2) Filtu Dalo upgrading to all weather standard

3) Dolo-Berber upgrading to all weather standard

5. Alternatives and Recommendations:

The road should be improved to a minimum all-weather standard to provide an alternative link between Ethiopia and Somalia. Detailed economic and engineering study is on-going.

6. Costs and Implementation

The total cost of the project is US$160,000.00 over 4 years.

VOLUME III

COUNTRY REPORTS

DJIBOUTI

Introduction

1. Djibouti is located at a strategic position in the Horn of Africa, and lies on the communicative routes between the Mediterranean and the Indian Ocean, bordering with Ethiopia and Somalia. It has an area of 23,400 square km and a population of some 500 000 inhabitants. Independent since June 1977, the country has taken advantage of its convenient and strategic location, its political stability and security; and has developed an economy focussed on its port, airport and telecommunications facilities, and the railway link with Ethiopia, to serve the international as well as the national demand.

2. The Government has made determined efforts to develop agriculture and industry, but it is important to recognize that Agriculture and industrial development endeavours face formidable natural obstacles in a country that lacks an abundant natural resources base other than fishery, geothermal and some mining potential.

3. As the mainstay of Djibouti's economy is dependent on services, on its freedom of exchange and of transfer of foreign exchange and on its banking system, the country's efforts at accelerated human resources development continues to produce appreciable results.

4. The overall objective of the national development process, as well as the strategy for achieving those goals set out by Parliament include, in addition to an concomitant with human resources development as the foundation for development, the strengthening of transportation and communication services.

The Transport and Communications System

5. Telecommunications and postal services in Djibouti function satisfactorily and are considered in excellent condition financially. Djibouti's port is able to handle and store current and foreseable future traffic satisfactorily, and the capacity of berths should not pose a major problem either; especially after current port expansion and extensions are completed, including improvement being undertaken at the Free Trade Zone just outside the port.

6. However,, road connections with Ethiopia and Somalia, and the Djibouti-Addis Ababa Railway line, which is one of the oldest in Africa, need to be improved and rehabilitated. To keep up with increased demand as well as open up the hinterland of the country and facilitate the growth of economic activity, it would be desirable to improve the road network as a whole. Although over 50% of the population are said to live in urban areas, the relatively remote and sparsely populated rural hinterland accounts for the section of the population that depend on nomadic pastoralism, without

adequate access to the centres of education health and other social services.

7. According to a recent UNDP publication, Djibouti is one of the countries with the highest per capita assistance in the world, (and its needs are still far from being adequately met), and if very little portion of this massive assistance reached the rural area, it is mainly because transport and communications facilities and services have not as yet penetrated the rural hinterland.

The Vital Importance of the System

8. Because of Djibouti's geographic location, the economy of the country will continue to depend on an efficient transport and communications system. The system consists of the Port, the Road network, the Djibouti-Addis-Ababa Railway, the International Airport with a fledgling Airline, and an excellent Telecommunications system, especially for International services.

The Port

9. The Port of Djibouti (Port Autonome International de Djibouti) plays a crucial role in the economic and commercial life of the country. The port is also very important for the development of PTA trade.

10. Located at the crossroads between three continents, half-way between Europe and the Far East, and on one of the busiest international shipping routes in the world, it has modernized and improved its facilities and services so that it is not only capable to serve current traffic, but would be able to cope with any foreseable increase in traffic, as regards especially sufficiency of floor area for storage and handling purposes, and berthing capacity.

11. The Port Authority is a public enterprise with financial autonomy, and is responsible for the ports structure, channels and navigation systems. The Authority also manages and operates the container terminals and maintains the cold storage facility but cargo handling in the rest of the Harbour is undertaken by private organizations. (The Harbour master's Office provides pilotage and towing).

12. The Port has a modern container terminal which is being expanded and improved, a free trade area which is also being improved and modernized, and an exceptionally good communications system which provides the linkages with the port administration, pilots and agencies, using microwave equipment.

13. Developed primarily for transhipment traffic, the Port of Djibouti at one time handled 30% of Ethiopia's foreign trade, although nowadays that has been reduced mainly because of the development of Massawa and Assab ports in Ethiopia. However, a bilateral agreement was signed by the two countries to have 25% of Ethiopia's external trade transit through Djibouti.

14. The Port of Djibouti is capitalizing on its potential as transhipment centre for the African hinterland, and especially the PTA subregion, by developing and refining diversification plans and programmes, such as processing and packages all types of finished and unfinished goods for the region. The advantages of the port services include experienced handling, berthing and sailing at any time, minimal administrative procedures, fair container handling rates with a volume discount for transhipment lines, equipment reliability and a record of good cargo care, coupled with definite future plans for development (long-term storage, air/sea transhipment via the Djibouti International Airport). The Port of Djibouti has a recognized potential as a very important transhipment Port of the PTA Region, a potential which will open up the interior and stimulate growth and development, strengthen national cohesion, and facilitate regional security.

15. This is significant because container ports are also places of trade, and Djibouti, with its geographical advantage, water depth, unblocked open port, and liberal policy can turn out to be like Singapore and Hongkong, a training centre not only of PTA and East Africa, but also of the trading nations of Europe, the Far East, the Red Sea Area and the Gulf Region.

16. But the Port of Djibouti, apart from its international outlook, has also been the gateway for Ethiopia Traffic using the railway as the major link between the two capitals. It is of mutual interest for Djibouti and Ethiopia to establish long-term tariff agreements, pursuant to the recommendations made by the Joint Commission of the two countries. Ethiopia should take advantage of the considerable capacities of the port of Djibouti which can handle 25% of its external trade. Because of its capacity to (a) serve its neighbouring countries of Ethiopia and Somalia as a permanent basis, (b) develop as a transhipment centre for PTA countries, and (c) develop as a trading port of interest to worldwide trading nations, it is considered useful to provide a detailed description of the port and its facilities.

17. The port of Djibouti has 13 berths of 9 metres and 12 metres of draught with total length of 2700 metres. Of these, 2 are reserved exclusively for the handling of containerised goods, 5 for general cargo, 3 for liquid cargo, 1 multipurpose for oil tankers and bulk goods and 1 for coasters. A fourteenth quay is under construction for handling grain cargo. It is financed by the Government of Italy and will become operational by mid 1991. The berths are well designed for their intended use. Each of the coastal and general cargo berths has a transit shed ranging from about 1000 m^2 to about 5000m^2. The container terminal has covered storage of over 11000m^2. Open storage areas available in the port total 120 000m^2. The Port has also cold storage of about 2500m^2 capacity and private warehouses totalling 12000m^2. In addition, the Free-trade Zone outside the port proper measures 14 hectares, and has a 6000m^2 warehouse operated by the Chamber of Commerce. All berths, transit shades, warehouses and open storage areas are rail served. Except for the container berths, Djibouti's berths are not equipped with shore cranes, and cargo is loaded and discharged with the vessels' own gears, except for the two mobile cranes of 15 and 20 tons capacities with lengths of 13 and 18m capacity, and a floating crane capable of lifting 70 tons, which are available for loading and unloading cargo when required.

18. The container terminal has a Ro'Ro ramp adjacent to one of the berths thus enabling the handling of roll on-roll off vessels at the terminal as well. The stacking areas for containers totals four hectares. The berths at the container terminal are equipped with two gantry cranes with a lifting capacity of 35 tons and an outreach of 37 metres. Transfer equipment at the container terminal consists of 6 tractors, 10 trailers, 4 heavy duty fork lift trucks of 32 ton-capacity, and two fork lift trucks of 12 ton capacity.

19. To facilitate approaches to the port, the electrification, by photo-voltaic solar panels, of the light house located at the northern entrance of the Gulf of Tadjourah is considered a major improvement for safety of ships.

20. With the inland container terminals planned to be constructed at Addis Ababa and Dire Dawa in Ethiopia, the major warehouse under establishment at Dire-Dawa, (half way between Djibouti and Addis Ababa); and other on-going and planned improvements to complement the containeurization effort of Djibouti to facilitate freight movement in the area in general, there is every reason to believe that Djibouti's ample port facilities will be put to good use on a continuous basis. Based on that assumption, Djibouti's effort to further improve facilities and services at the Port, i.e. limited extension and expansion of the storage area for containers, rehabilitation of the free zone, reconstruction of berth 10 which had been damaged by earthquake, and a general improvement of the Port in phases, is considered perfectly logical and of great necessity.

Roads and road transport

21. The road network in Djibouti is not yet adequately developed, mainly because efforts have been concentrated on the streets and roads of the capital and its environs, where two thirds of the population are concentrated, and on the links with Ethiopia and Somalia. The road system totals a little under 3000 km with less than 10% paved.

22. Djibouti has about 20 000 vehicles, of which about 10% are taxis and 5% lorries and buses, which are operated by small and medium enterprises.

23. The Road system is divided into the National Network comprising of roads of international, national interest, and the District Network comprising of the remaining roads and tracks, Djibouti's road network suffers from periodical inadequate maintenance, although commendable efforts are being made by government to maintain it regularly, in collaboration with international financial institutions and friendly bilateral donors, to improve some priority sections of the system.

24. Current major activities include rehabilitation of the section of the highway linking Djibouti with Ethiopia (Djibouti-Galafi) and construction of the highway linking Djibouti with Somalia (Djibouti-Berbera), although in the latter case, the project has not as yet started pending restoration of stability of the area.

25. Djibouti-Galafi Road, on the other hand, is progressing satisfactorily, with the assistance provided by the Saudi Fund, the ADB, France and Italy for the rehabilitation of the road surface.

26. However, the Border Post at Galafi needs to be established, complete with immigration and customs services before normal truck traffic can start to use the highway. The two neighbouring countries have established a joint commission to expedite proper utilization of the facility.

27. Djibouti-Berbera Project is also funded by the EEC (Djibouti-Zeila Section) in first phase. However, progress is hampered by the instability of the area, and actual commencement of the project is delayed although the project has been let to contract and a consultant has been selected to supervise construction.

28. If the European Commission agrees, construction of the project could proceed immediately from Djibouti towards Loyada, as planned; and by the time it reaches the border in about 18 months, the area could be stable again, thereby enabling the construction of the remaining segment to Zeila.

29. The third most important road project is the link between Djibouti and Dire-Dawa, parallel to the railway. The road has been improved to "service-to-traffic" standard on the Ethiopian side (Dire-Dawa-Dawaleh), while for the section on the Djibouti side (Ali-Sabieh to Dawaleh) the road is maintained to passable standards with the exception of some parts which are under rehabilitation. The two countries should undertake negotiations to remove non-physical barriers within the framework of the PTA.

30. By mutual agreement, the road from Dire-Dawa to Ali-Sabieh is being upgraded to engineering gravel standard; however external assistance would be required for bitumization purposed, since this could now constitute a very important regional project.

31. A fourth important project which Djibouti is now planning to develop in stages is the road to Dorra and Balha (towards Northern Ethiopia) which eventually would connect Djibouti with Assab. Some improvement work has already started along this route, thereby opening up the Northern hinterland.

Communications

32. Thanks to an investment policy well suited to the needs of the market, telecommunications in Djibouti in an excellent financial position, with healthy gross operating surpluses over the years. Equipment also is in good operating condition and services are of satisfactory quality.

33. Since 15 December 1989 Djibouti uses a digital telephone exchange of 12,000 Alcatel lines with a satellite of 1,000 lines at Balbala. Since then the National Network is completely digitalised.

34. Telephone subscribers at small towns are connected to Djibouti via digital microwave links.

35. The International Switching Center in Djibouti, which was also supplied by a French firm in 1985, has 375 international circuits, and 200 national circuits.

36. Djibouti has an electronic telex exchange with a capacity of 500 terminal which was installed in 1987, and provides national and international services.

37. Since 1987, a "Djipac" transmission switching centre which is also linked to the French Minitel-Vidéotex is in use.

38. Since January 1989, a land mobile radio system covering the whole country is in use.

39. Transmission facilities include, on one hand, the national network of digital microwave links (capacity of 480 channels) with Arta, and 120 channels each for the network interconnecting Arta and Djibouti with the remaining major centres of Obock, Tadjourah, Dikhil and Ali Sabieh. On the other side, the international transmission system of analogue microwave links originate in Djibouti city towards Ethiopia, Yemen and Somalia, with capacities of 960 channels plus one TV channel each towards Assab in Ethiopia and Hargeisa in Somalia; and 300 channels plus one TV channel towards Yemen.

40. In addition, Radio Maritime Service provides telephone, telegraph and telex communications to ships.

41. STID, (Société des Télécommunications Internationales de Djibouti), which was created in 1977, is in charge of the international telecommunication activities including INTELSAT and ARABSAT earth stations, and the SEA-ME-WE submarine cable system.

Telematic Trade Information System

42. Djibouti, with the assistance of the PTA, has set up a trade information network, TINET, which would improve knowledge among the various member states about trade exchange possibilities.

43. Djibouti, has a reliable and performing network with competitive and harmonized tariff structure, with smoothly functioning links.

44. The advantages to the other PTA States, (of urgently setting up the network) is Djibouti's relationship with, and ready access to external trade data banks. These include the data bank of the International Trade Center (ITC) which is promoting the effort, the data bank of the Arab World which is being created, and other associated data banks and those of private concerns.

Civil Aviation

45. The air transport system of Djibouti is in the early stages of development but plays an important role both for international and domestic linkages. Currently the Civil Aviation Sector is made up of the Airline (Air

Djibouti) providing international air links with Addis Ababa, Dire Dawa, Hargeisa, Djibouti and Nairobi in the PTA subregion, and also with important centres in the interior of the country (Obock, Tadjourah), and one international Airport; which is capable of handling all equipment in use by the international airlines serving the city. Air Djibouti provides air links with Middle East Asian countries.

46. Currently Kuwait Fund, Saudi Fund and Abou Dhabi Fund are providing credit for the improvement and rehabilitation of the terminal building and air field. Components of the project include rehabilitation and widening of the runway, which has already gone to tender; repair and restoration work of the terminal building, for which prequalification is in progress; and installation of modern telecommunications facilities which has also been tendered.

47. The French Government has financed the study for the improvement of the lighting system of the runway and aprons, but the Civil Aviation Authorities are not looking for loans to implement the lighting project, since it would increase the debt servicing burden. Instead Government is looking for grant funds for the project.

48. For a country dependent on the service sector, the airport constitutes an important component of the economy.

The Railway

49. The Djibouti-Ethiopian Railway (CDE) provides freight and passenger service between Djibouti and Addis Ababa, serving intermediate locations as well. The CDE's single track is 781 kilometres in length and one meter in gage. The CDE is a binational organization, jointly owned by the Governments of Ethiopia and Djibouti.

50. The CDE's track extends in a South-westerly direction from Port of Djibouti to the city of Dire Dawa in Ethiopia, and from there to Addis Ababa, which is located in the center of the country at an altitude of 8 000 feet. Dire Dawa is situated at the midpoint of the railway and, after Addis Ababa and Djibouti, represents the most significant origin-destination location.

51. While some considerable traffic moves by truck between Addis Ababa and the Ethiopian port of Assab, the CDE provides Addis Ababa's only rail connection to the Red Sea. The vehicular route between Dire Dawa and Djibouti is improved considerably; but the railway still represents the principal means of transportation between Addis Ababa and the Port of Djibouti.

52. Construction of the railway started at Djibouti in 1897. By 1902, the track reached Dire Dawa. However, it was not extended to Addis Ababa until 1917. The railway was originally built by the French, who were involved with its management for many years. In 1981, a treaty between the Governments of Ethiopia and Djibouti replaced the previously existing organizations, the Compagnie du Chemin de Fer Franco-éthiopien de Djibouti à Addis Abeba, with the present binational organization: the Chemin de Fer Djibouti-éthiopien (CDE).

53. The CDE's track consists of light rail, predominantly 20 to 25 kilograms per meter in weight, with some thermit-welded rail of 30 kilograms per metre for short segments. Ties are metalbloc with clip and bolt fastenings. Maintenance is satisfactory only for the relatively small tonnage presently carried.

54. The track contains a number of sharp curves combined with steep gradients. There are some 1,920 culverts and bridges of various types, and a tunnel of 548 feet in length. The minimum track radius is 492 feet. The longest continuous adverse grade is 2,5 percent and extends for about 20 kilometres. Continuous tractive effort by locomotives is required to overcome this gradient.

55. The maximum permitted speed for autorail passenger trains is 85 kilometres per hour. For freight trains and for standard passenger trains, it is 50 kilometres per hour. The maximum axle loading on 20 kilogram per meter rail is 14 metric tons. Eighteen metric tons is permitted on rails of 30 kilograms per metre. The maximum bridge loading is 17 tons.

56. Most mechanical maintenance is undertaken at Dire Dawa, where there are locomotive and car shops with substantial numbers of personnel for heavy and light maintenance. Running repair and service facilities exist at Addis Ababa and Djibouti, but have relatively modest equipment and staffing. Fueling stations are located at crew change points and other locations.

Railway Rehabilitation

57. Djibouti and Ethiopia, joint owners of the Djibouti-Addis Ababa Railway Line, have taken decisive measures to improve the management and operation of their joint railway, a railway old and deteriorated but nevertheless so crucial to the economy of both nations that everything possible need to be done to maintain, improve and ensure its existence.

58. Based on the recommendation of the Joint Ethiopia-Djibouti Commission, a new management team has been brought in, and an investment programme has been set up to acquire new locomotives and wagons, renew the worst part of the rail, and improve the training facilities at Dire Dawa.

59. What is more, the Railway has embarked upon a short-term rehabilitation programme financed by the Italian Government. The urgent rehabilitation measures, when effected, would enable the railway line to function in a proper manner and ensure an adequate level of safety of lives and property. Improvement would involve upgrading the standards of the track, introducing mechanized maintenance, and providing a telecommunications system with an acceptable degree of reliability.

60. The state of maintenance of the formation having deteriorated due to rain water collecting under the track and the ballast sinking into the formation, the result has been that the ballast laye is extremely reduced and

does not permit the utilization of tamping machines. Earth moving equipment is urgently required for rehabilitation works.

61. The ballast layer is also generally very poor due to lack of replenishment and the poor state of the formation. A new medium size crusher together with the supplementary equipment such a loads, dump trucks and wagon drills, etc would be required to produce ballast.

62. The proposed emergency measures would also include, in addition to rehabilitation of the track and formation, standardization of turnouts, recovery of derailed stock and revision of existing telecommunications facilities, as well as procurement of new and modern systems to ensure the safety and reliability of train traffic in the immediate and short-term.

ETHIOPIA COUNTRY REPORT

63. With an area of 1 223 600 sq km, Ethiopia has a population of about 51 million. More than 85% of the people are involved in either arable or pastoral agriculture and over 90% live in the highlands. Urbanization except in Addis Ababa and Asmara areas is less than 10%. Most farming is on a subsistence level and there is only limited production for cash. Efforts are being made to increase the production of cash crops such as coffee, oil seeds, sugar cane, cotton, fruit and vegetables; and this could lead to industrial development.

64. Ethiopia is currently a net exporter of primary agricultural products and importer of manufactured goods and mineral oils.

65. Agriculture accounts for about 50% of GDP and manufacturing accounts for 5% of which principal products are leather goods, refined sugar and textiles. Tourism is as yet undeveloped although this untapped source has high potential.

The Transport System

66. Ethiopia's transport system comprises approximately 35000 km of roads of which about 4 000 kms are paved, two parts, one railway line linking Addis Ababa with the Port of Djibouti, growing maritime and coastal shipping operations some river and lake transport, 3 international airports and over 30 scattered internal airfields; and a national airline. The roads, ports and rail face serious problems, including inadequate infrastructure and insufficient maintenance performance. Air transport is the best performing mode.

67. The bulk of freight and passenger transport is carried on the Addis Ababa Red Sea corridor, which constitutes the backbone of the country's transport system and is essential to Ethiopia's economy. Efficiency of its operations has thus a major impact on the costs of imports and on the pricing of exports. The Addis Ababa-Assab highway and the Addis Ababa-Djibouti Railway handle about 85% of the country's foreign trade. The chain of activities in the corridor, including port, freight forwarding, customs and road transport, which are mostly public sector operations, face a number of common problems including shortages of foreign exchange, lack of spare parts, insufficient funds for replacement of vehicles, shortages of qualified and experienced staff, shortcomings in management, and inadequate coordination of activities among various transport entities.

68. Ethiopia has, as a whole, a very poor transport infrastructure which hampers development. Inefficient transportation systems remain obstacles to the growth of agriculture and the import-export business. The persistent drought in Ethiopia brought worldwide attention to many of its transport weaknesses: Congested ports due to limited berthing and storage capacity, old and inadequate cargo handling equipment, excessive customs requirements and paperwork delays, poor utilization and long turn around times of vehicles used to get goods move inland from the port of Assab due to an old and limited trucking fleet, insufficient rail carrying capacity due to the old, deteriorated and previously inefficiently run railway, limited

resources for new vehicles, spare parts; costly petroleum imports, and a striking lack of roads throughout the country. The Government is of course making every effort to improve, on priority basis, access to the port of Assab, and is interested in providing an optimal intermodal mix, including the construction of a new railway and/or pipeline as well as upgrading and expanding, if necessary, the existing road and railway. Ways to improve road transport operations and to better organize and manage government entities charged with overseeing operation and investment in the transport sector are also being studied.

Roads and Road Transport

69. Roads are the dominant form of transportation but the coverage is inadequate, with a density of less than 1 km per 1000 people, virtually the lowest on the continent. Density per 1000 sq.km is only 31 km, well below the continental mean of 58 km. The primary network consists of radial extensions from Addis, and the circular pattern that is not as yet well developed. There are a few interstate links with neighbouring countries, but large parts of Ethiopia remain isolated and dependent upon pack animals. Coverage is particularly minimal in the agriculturally rich West.

70. The Ethiopian Transport Construction Authority (ETCA) is responsible for administration, including maintenance, traffic counts, training of sub-professionals and force-account construction of rural roads. ETCA is an autonomous entity.

71. Commercial road transport on the main corridors and throughout the country is closely regulated and controlled by the Road Transport Authority (RTA), which sets tariffs, determines routing, licenses, promulgates safety and axle load standard and generally controls road transport, while freight and passenger transport operations are conducted and controlled by the Ethiopian Freight Transport Corporation (EFTC), and the Ethiopian Public Transport Corporation (EPTC) respectvely.

72. Much of Ethiopia's existing primary network needs rehabilitation and upgrading. The most important highway in Ethiopia, which is running from Addis Ababa to the Port of Assab, particularly needs upgrading and strengthening on 336 km long from the Assab. Moreover since about 80 per cent of Ethiopia's total exports and imports and over 40 per cent of all road transport freight in the entire country moves over this road, the Government is anxiously anticipating any potential capacity limitations over the long-term and overcome them via expansion or via construction of alternative roads if necessary.

73. Since the Assab road is the backbone of the country, the Government intends to improve the road infrastructure to remove any bottlenecks to efficient freight movement.

74. Another very important project is the road link between Dire Dawa in Ethiopia and Ali-Sabieh in Djibouti whose alignment is parallel to the Addis Ababa-Djibouti Railway. The road has been improved to feeder standards on the Ethiopian side (Dire Dawa to Dawaleh), while the section on the Djibouti side (Ali-Sabieh to Dawaleh) is a short spur of the asphalted

Djibouti-Ali-Sabieh-Galafi highway leading to Addis Ababa. By mutual agreement between Djibouti and Ethiopia, this road is being upgraded to engineered gravel standard. However, external assistance would be required for bituminization purposes, since this project would now constitute a very important regional project.

75. Road transport is kept under a unified state controlled and dispatched system, organized around two public corporations under the institutional responsibility of the Ministry of Transport and Communications, one for freight (EFTC) and the other for passengers (EPTC). Under the broad control of both corporations, the private sector complements the state owned transport capacity.

76. The vehicle fleet in the country is considered inadequate. Vehicles are generally old and fuel pricing, although occasionally adjusted are not subsidized. In view of the persistent drought in the country, there is constant pressure on road freight transport, although the size of the trucking fleet is inadequate to meet the growing road transport demand. The shortage in trucking capacity can be attributed in part to lack of adequate maintenance and shortage of spare parts.

77. The Road Transport Authority (RTA), as indicated above is empowered to register and control vehicles using the road network: determines vehicle operations, dimension, load and number of passengers on the public highway, register and licence drivers and transport vehicles, and determine the conditions under which goods and passengers may be transported. RTA is also empowered to upgrade traffic signs and markings, develop experimental rest areas and vehicle maintenance depots for trucks, establish vehicle inspection centres including weighbridges, and provide technical assistance and training.

78. Road traffic control needs to be strengthened through improved training of drivers and mechanics. At present traffic accidents costs are high in terms of human lives and damage to property, mainly due to lack of road safety equipment, training equipment, vehicle inspection equipment and workshop equipment.

Telecommunications

79. Ethiopia attaches great importance to the development of its telecommunications sector. The conditions prevailing in the country to achieve harmonious development of the sector along with the other sectors of the economy are quite favourable, and there are economic, geographical, political and socio-demographic factors which support telecommunications development in Ethiopia. Ethiopia has tourism potential due to its good climate, scenic beauty, historical relics, and proximity to the East African tourist flow centres. A dependable telecommunications services would thus enhance tourist development. Ethiopia is also the centre of African and United Nations activities which need adequate and efficient services. The country's current emphasis is to develop rural telecommunications. Telecommunications development and service in Ethiopia is the sole responsibility of the Ethiopian Telecommunications Authority (ETA) which reports to the Minister of Transport and Communications. It is an

autonomous organization with the exclusive right to engage in the construction, operation and maintenance of telecommunications facilities other than military facilities. It rehabilitates, extends, repairs and maintains telecommunications facilities, and engages in telecommunications business for profit. It also acts as the agent of the Government in telecommunications matters, and trains and retrains its personnel. ETA also regulates and licences the operation of telecommunications facilities and provides all national and international services with an acceptable grade at reasonable costs.

80. Existing telecommunications facilities include:

- 405 public exchange, of which 25 are automatic, and the remainder are manual
- 105,985 direct lines, of which 75,000 are automatic direct lines
- 135,413 telephones, of which 116,598 are automatic
- an exchange capacity of 125,665 of which 100,400 are automatic lines

81. There is a 45 per cent unsatisfied demand in the country. However, these and additional requests are expected to be provided with adequate services in the near future, with the Seventh Development programme which is to be completely implemented by 1994, by replacing obsolete equipment and expansion of the network with digital exchanges and remote subscriber switches. This change will affect mainly the capital Addis Ababa, and some of the major cities including Asmara, Dire Dawa, Nazareth and Jimma, which together account over 80 per cent of affected customers.

82. Existing electro-mechanical telephone exchanges would be expanded using recovered equipment so that existing lines between Addis Ababa and Shashemene, Awasa, Makale, Dessie, Assab and Massawa would be approximately doubled, from around 1000 lines to about 2000 lines.

83. The main backbone network of the transmission system is realized by analogue microwave radio relay links in a 1 + 1 configuration, with 960 channels each from Addis Ababa to Asmara, Jigjiga, Moyale, Gondar, Jimma, Assab and Goba. The secondary routes consist of VHF and UHF radio links and the open wire carrier system.

84. International service is mainly routed via the two satellite earth stations working with the Atlantic and Indian Ocean Satellites of the Intelsat System. Traffic to Kenya and Djibouti is carried over microwave radio links.

85. A 4000 line stored programme controlled (SPC) exchange in Addis Ababa serves the whole country to switch national and international telex, teletex and data traffic. The service is extended to towns outside Addis Ababa using time diversion multiples (TDM) technique. The exchange has been upgraded to handle data traffic up to 9.6 kbits/second.

86. The rural telecommunications network of Ethiopia is mainly of manual service utilizing open-wire networks, single channel VHF, HF radio call service, and magneto manual exchange.

87. There are 500 localities with facilities in the country. Currently telephone service is available at only 356 of the 596 Woreda (district) capitals. All of the Awraja (Provincial) capitals have telephone facilities while none of the 18,039 peasant villages have telephone service. In fact the majority of the rural population are not within easy reach of the

telephone service. The immediate aim of the Government is therefore to increase the penetration of telecommunications in the rural sector (accelerate integrated rural development) as well as decrease the growing waiting list in urban areas.

88. As regards international service, terrestrial (microwave) PANAFTEL links are operational to Djibouti and Kenya directly connected to Tanzania through Kenya. It is planned to extend the link to Somalia and Sudan as appropriate and as feasible. This would be supplemented by Satellite linkages to these North PTA countries.

89. For the improvement of the quality and reduction of operational cost in the international service, the traffic streams with relatively heavy traffic, (Ethiopia - UK/USA/Italy/France/Sweden) will be converted from FDM/FM to IDR/DCME. Existing and additional routes will be catered for by expanding the channel capacities of the FDM/FM and SCPC circuits.

90. Telex service is expected to grow by 30 per cent annually for the next few years, and the authority will endeavour to meet the demand. Fax services is also expected to grow, particularly as terminal costs are progressively reducing. Terminals are supplied exclusively by ETA on rental basis as this helps in maintaining common operational standards. The authority intends to purchase additional terminals to meet the demand.

91. Mobile telephone service has a good potential for growth, and the authority is prepared to study the feasibility of its introduction in Addis Ababa to start with and then extend to the other major cities. Certain closed radio networks and point-to-point radio service are in existence, and this could perhaps be induced to flow through the public networks.

92. In general terms, the authority is committed to provide nation wide automatic service (including mobile telephones), eliminate the waiting lists and upgrade service standards.

93. ETA development plans call for the improvements and upgrading of existing plants and facilities, expanding its domestic network and the international services. In-house, the Authority intends to computerize stores accounting, budgetary control, subscribers accounts, personnel data, traffic and financial statistics, as well as to intensify manpower development and training.

Civil Aviation

94. Air transportation understandably plays a very important role in supplementing the insufficient land transport system. Ethiopia has International airports at Addis Ababa, Asmara and Dire Dawa, which accommodate commercial jets. In addition, the airports at Jimma, Bahr Dar and Assab have paved runways. About 30 other civil airfields and airstrips have unpaved runways without landing lights. Some of them have to be closed during part of the rainy season.

95. The Civil Aviation Authority (CAA), an autonomous public authority under the Ministry of Transport and Communications, manages the civil airports as part of its responsibility as a regulating agency, and is also in charge of landing rights, licensing air worthiness and related matters.

96. Ethiopia airlines, the national carrier, and one of the better run airlines in Africa, provides 70 per cent of international air transport and all scheduled domestic services. The airline has had favourable financial results for the last ten years.

Port and shipping

97. Ethiopia has two ports, Assab and Massawa, (in addition to the traditional use of the Port of Djibouti).

98. Massawa port is located in a good natural harbour and has five berths for breakbulk dry cargo, all originally constructed for ocean going vessels averaging 150 metres in length and a shallow draft berth of 175 metres. Only two of the berths are operational due to lack of maintenance dredging and reconstruction and restoration needs. There are three other berths with bulk handling facilities for petroleum products, salt and cement. The port has six electric portable cranes. The port is connected with Asmara by a 116 km asphalt highway, but the railway line linking the two cities is not operational. Massawa generally serves the northern part of the country, and accounts for about 15 per cent of foreign trade.

99. The port of Massawa and Assab are managed by the Marine Transport Authority (MTA) which has a legal personality, operates with administrative autonomy and reports to the Ministry of Transport and Communications.

100. MTA's financial management is good, and the authority earned a substantial profit in the last few years, with an operating ratio of about 65 per cent MTA's revenues have increased three-fold in five years, although revenue growth is due to volume rather than price increases since tariffs were not increased during the period. Overall, MTA's returns on fixed assets is high and accounts receivable are within an acceptable range.

101. The port of Assab serves the western and central parts of the country, and is by far the country's major port.

102. Assab's revenues are generally from cargo handling charges and storage, followed by charges for equipment rentals.

103. Cargo handling charges are split among stevedoring, shore handling and loading and unloading. Stevedoring charges reflect labour costs of on-board workers and are to be paid by the shipowner in foreign currency. Storage earnings come primarily from open areas.

104. Tariff changes have been introduced recently reflecting mainly the incorporation of all charges for landing, handling on quay, transport, storage and loading of cargo upon delivery into a flat rate. The flat rate vastly simplifies bill preparation and enables importers and shipowners to more easily estimate cargo handling charges.

105. About 50 per cent of imports, excluding fuel are cereals associated with food relief.

106. Port berthing facilities currently available in Assab consist of two jetties which extend south-bound east from the shore forming a relatively sheltered basin 300 metres wide. The jetties house seven berths with a total length of 1,020 m, and depths alongside range from 5.8 m to 11 m. Six of these berths are currently used for commercial shipping, while the seventh is used to berth tugs and harbour craft.

107. Assab's operational productivity amounts to about 80 per cent of the optimum handling capacity, and for a port operating at this capacity, berthing facilities expansion is called for, especially given expected traffic growth in the coming years.

108. Vessel performance in the port has been improving and the volume of cargo handled per shift per hour has shown substantial increased in recent years. Furthermore, average time alongside has also been declining. Labour productivity is comparable to other PTA ports.

109. The port is fairly well equipped with cargo-handling equipment although much of it is old. Most of the equipment is designed to handle break bulk general cargo. The berths are equipped with 18 modern quay cranes with capacities ranging from 6-20 tons. Other cargo handling equipment include seven mobile cranes, (3-150 tons), 65 fork lifts (3-25 tons) and 65 tractors, 130 trailers and some bulk handling equipment for cereals such as mobile conveyors units, bagging plant, and front end loaders. The port still needs additional equipment for handling containers and to replace old equipment.

110. Cargo storage facility in the port is limited, but given the cargo mix that is being handled in Assab, it is considered that, efficiency rather than expansion of storage capacity appear to be the solution.

111. To the south of the port is the Assab Oil Refinery and a number of oil terminal facilities which can accommodate up to 35,000 dwt.

112. The port master plan, partially under implementation with local and international funding, includes construction of a tug berth, a ro-ro berth, acquisition of cargo handling equipment, and paving of the port area in the first instance; and eventually provision of multipurpose terminal with the accompanying appropriate cargo handling equipment.

113. Freight forwarding is the sole responsibility of another public agency, (MTSC), which has exclusive responsibility for shipping and transit. MTSC serves all ships using Ethiopian ports, and collects service charges in foreign exchange, handles imports and exports, thereby also arranging termin[illegible] export side, it arranges for goods to be stored and subsequently loaded onto ships for exports. It furthermore deals with all related intermodal movement documentation, which means MTSC acts for the client (importer, exporter) in its dealings with port authority customs and freight transport.

114. Ethiopia has the largest mercantile marine fleet in comparison with other countries of the subregion under reference. The fleet comprises of six multi-purpose, three RO-RO, two general cargo vessels and one oil tanker. They are all ocean-going ships. The total GRT amounts to 65,700 tons while the total dead-weight is 93,746 tons. Most of these ships are in liner service from the Ethiopian ports on the Red Sea, with an average of three weekly service to Northern Europe, two weekly services to the Mediterranean, and what is most interesting for PTA countries a monthly coastal maritime shipping service to East Africa (and on to the Far East). Apart from the coastal service, the ships also serve most of the Red Sea ports and those in the Gulf of Aden. The ships are owned and operated by the Ethiopian shipping Lines (ESL), a public enterprise under the Ministry of Transport and Communications. ESL operates a total of 20 ships, eight of which are chartered-in ESL's share of lifting in recent years is about 12 per cent of import cargo and about 22 per cent of export cargo of Ethiopia handled through the two national ports, and with new and coastal shipping activities in the PTA Ports and Far East business, the share of lifting is expected to rise appreciably. The share ESL holds in the Nation's external trade is still far below the 40 per cent share that UNCTAD's code of conduct provides for Liner Shipping.

115. ESL has been performing profitably and has been able to maintain a sound financial position.

116. ESL places great emphasis on training nationals as a step towards self reliance. To accomplish those objectives, selected young Ethiopians have been and are being sent to nautical and marine engineering colleges in England, India, Greece, Italy and Bulgaria to acquire the required education and certification of competency. Present ESL ships are manned by Ethiopian and expatriate Captains, Chief Engineers and Senior Officers. Junior officers and all other sea-faring personnel are Ethiopians. As a result of the effective training programme, ESL vessels are to be fully manned by Ethiopian Officers and crew within the next few years. ESL also provides orientation, on the job training and training abroad for its shore-based members.

Railways

117. The jointly owned chemin de Fer Djibouti-Ethiopian was established by treaty in 1981, following the demission of the former franco-Ethiopian Railway. The single line metre-railway is 781 km long, and was built in 1917 to serve Ethiopian Transportation needs. The route from Djibouti town to Addis Ababa is distinguished by short curves, steep gradients of up to 2.2 per cent and low embankments. Major structures are relatively moderate in size as the alignment generally rides the ridges of drainage lines, and there is only a single tunnel. The system includes 35 stations with a border control at Dawale 107 km inland from Djibouti. There are no branch lines although several industrial and service sidings exist.

118. The railway is old and deteriorated. Track and bridges are generally in serviceable condition but ballast is scant and the formation top width is deficient throughout. The steel girder bridge, of which there are quite a number, need painting and the bearings need to be greased. Masonary structures are in good condition although some may need waterproofing to prevent deterioration. Parts of the line are prone to flooding during heavy rains mainly due to lack of rip-rap protection on embankment slopes. Rolling stock is generally old, with an increasing build up of areas of motive power and rolling stock overhaul schedules. Lifting gear is short in both the general engineering and wagon workshops, and machine tools are overaged. Although capacities of other workshops may be considered generally adequate for present needs, recurrent lack of spare parts are chronic menace to efficient production.

119. The railway, although not financially strong has an obvious recovery potential if and when ballast can be replaced, tracks are repaired, bridges are painted, and radio communications and workshops are improved.

KENYA COUNTRY REPORT

I. Introduction

120. Kenya is situated at the Equator between 4 degrees north and degrees south. It has an area of 582 646 sq km. The climate is tropical but less tense at higher levels. The weather at the coast is humid and hot with temperatures over 30° centigrade.

121. Kenya has attracted tourism and industry because of its natural endowments and fairly well developed infrastructure.

122. Commercial agriculture is based mainly on coffee and tea production, although sisal, wheat, sugar pineapples and cotton are also produced.

123. Industry consists mainly of processing domestic food products, chemicals, vehicles assembly, textile, machine and electrical industries, as well as oil refining and steel in the coast area.

124. Oil, fertilizers, iron and steel, vehicle parts, agricultural equipment, machines, and coal are imported mainly from Britain, Germany, Japan, the U.S.A. and India; while coffee, tea, cement, potash, canned fruit, vegetables and juice are major export items.

The transport system

125. Kenya has a well developed transport system based on about 35 000 km of roads, 2100 km railway, an extensive network of air transport, and the Mombasa-Nairobi corridor of rail, road and pipeline system, which serves not only Kenya but also landlocked Uganda, Rwanda, Burundi and semi-landlocked Eastern Zaire and Southern Sudan. The Road Transport Industry is largely in private hands and has performed well in meeting transport needs although roads which carry more than 50% of total freight traffic are not properly maintained. Rail carries about 35% of freight; and air transport, which has a 5% share, has continued to expand. The Port of Mombasa, plays a major role in the transport system of Kenya.

126. The Ministry of Transport and Communications has overall responsibility for the development, utilization and maintenance of transport infrastructure. Kenya Railways Corporation, Kenya Ports Authority, Kenya Pipelines Company, Kenya Airways, are the autonomous public sector corporations responsible for their respective modes of transport. All except Kenya Pipelines Company are under the overall responsibility of the Ministry of Transport and Communications while the responsibility for road maintenance, construction and planning is under the Ministry of Public Works. The private sector is involved in road transport and air chartering. Inland water transport and coastal maritime shipping are of little significance. For external transport, shipping is predominant for freight, and civil aviation for passengers.

127. The heaviest concentration of transport facilities comprising road, rail, pipeline, and air services, is along the 1000 km corridor from Mombasa on

the coast to the Ugandan border, via Nairobi. This is because it is the most densely populated area of major economic importance, containing over half of Kenya's population. The corridor is also a major transport route for goods to and from Uganda, Rwanda, Burundi, and parts of Eastern Zaire.

128. Some 80 per cent of the budgetary resources devoted to the transport sector are accounted for by the expenditure on roads, with two-thirds of these expenditures being of an investment nature, reflecting the priority given to the upgrading and construction of new roads.

129. The principal parastatals in the transport sector are Kenya Railways Corporation (KRC) Kenya Port Authority and Kenya Airways. Kenya Railways corporation is quantitatively the most important of these entities in terms of revenues, employment, and impact on the Central Government Budget. A Corporation Plan and short-term action Programme, approved by Cabinet, provides the framework for an improvement in KRC's competitiveness and for a turnaround in its operating and financial performance.

Roads and Road Transport

130. The road network in Kenya generally follows area of economic development with a heavy concentration of roads along the Mombasa-Malaba Corridor. Road networks would need reconstruction, strengthening and drainage works; and overloading is a major contributor to road deterioration; funds are never sufficient to maintain all the roads to an adequate standard, and hence effective maintenance is carried out only on selected priority road sections.

131. Due to continual increase in vehicle fleet and high traffic growth rate, the state of roads under maintenance continues to deteriorate. The country is also faced with an increasingly high rate of road accidents.

132. The Ministry of Public Works has full responsibility for the administration, construction and maintenance of the classified highway system and for training of staff at all levels.

Railways

133. The Rail Network covers about 2 100 kms, comprising one main line extending 1095 km from Mombasa to the Uganda border, where it links with the Uganda Railway; and 1000 km branch lines. The network is managed by Kenya Railways Corporation, a parastatal entity established in 1977 following the breakup of the East African Railway Corporation. KRC earnings usually cover all working expenses and about half of the estimated depreciation, without interest.

134. Most long distance bulk cargo between Mombasa and the Ugandan border is transported by rail although an increasing number is also transported by road especially since road transport regulations were relaxed in the late 1960's. With improved economy in Kenya and to a lesser extent

in Uganda, rail traffic of both passengers and goods has been on the rise again in the 80's.

135. The performance of KRC has been affected by the decline of transit traffic coupled with high unit costs. Freight traffic has declined by an average of around four per cent per annum since the beginning of the 1980's. Despite the fact that railway tariffs have been generally lower than the tariffs charged by the truckers, the quicker and more reliable service of the latter has led to a number of shippers shifting to trucks for their transportation needs.

Ports

136. Mombasa, Kenya's principal port handles most of the country's imports and exports as well as transit traffic for Uganda, Rwanda, Burundi, Eastern Zaire and Southern Sudan.

137. Port management is generally competent and the port earns net surpluses after depreciation and interest.

138. The port of Mombasa, one of the largest in East Africa is also a major container port. Dry cargo traffic through the Mombasa port peaked in 1985, then fell back in 1986. But the portion of the dry cargo traffic moving in containers increased up to 1986 by an appreciable percentage. Leaving out dry bulk and bagged commodities that rarely move in containers, containeurized exports amount to over 90% of the remaining general dry cargo export tonnage, and containeurized imports account for over 50% of the remaining dry general cargo traffic will grow general cargo import tonnage. This implies that container traffic will grow generally in proportion to the growth of dry general cargo exports. It is logical therefore that the container handling rate should increase, as existing facilities will be physically unable to accommodate projected traffic. The precise timing and composition of the phased development programme would of course be determined on the basis of comparing costs of the added facilities against costs of delaying their installation.

139. Kenya Port Authority has acquired additional land to expand container facilities with adequate dredged depths for second generation and larger container ships, and to accommodate projected traffic without experiencing excessive ship waiting time due to high berth utilization factors.

140. Container depots are also being developed in the hinterland of Kenya, at Nairobi (Embakassi), Kisumu, Eldoret and Malaba on the Uganda Border, to provide services for the receipt, storage, and dispatch of both import and export containers and at the same time provide facilities for security and customs clearance activities. These "extensions" of the Mombasa port activities are meant to bring about improved terminal performance and eliminate port congestion and inefficiences which could otherwise lead to claims for loss and damage of cargo.

141. The rate of growth of container transport through the port of Mombasa has been very rapid, traffic volume having increased forty (40) times in the last half of the seventies and the eighties.

142. Mombasa port, which handles more than 90% of imports and exports traffic is well equipped to meet the changing traffic demand. Although a modern container terminal at the Port, and a large inland container depot at Nairobi have been built, some essential elements of the container transport chain, such as the container freight station at Mombasa are as yet to be established. Effective coordination among the major actors, i.e. the port, the railways, the customs administration, the private sector and the MOTC need to be streamlined.

Civil Aviation

143. Nairobi is one of the principal aviation centres of Africa. International Air Transport Services are provided to Nairobi by almost all the major airlines of the World, on the basis of both scheduled and non-scheduled services.

144. Nairobi and Mombasa have international airports, while scheduled domestic services are provided to several airports and game parks. Until 1977, one of the principal international carriers serving Kenya was the East African Airways, the multinationally owned airline of the East African Community with the breakup of the Community, Kenya Airways was established as a national carrier, for domestic, regional and international services. Kenya Airways currently flies to Europe, Asia and a number of African and Middle East countries.

145. Air Transport is a major importance to the tourist industry since the majority of tourists travel to Kenya by air, and many are transported within Kenya by chartered air services. Air transport is also important for Kenya's rapidly expanding export of perishable horticultural and farm products which go principally to Europe.

146. Although the objective of providing reliable air connections with the tourist generation centres has largely been achieved, the objective of making Kenya Airways a financially viable enterprise is yet to be concretely ascertained. Fleet modernization, one of the important prerequisite, requires a sizable investment, and involves a cautious approach.

147. The Government, however, recognized that successfully financial viability would depend, to a large measure, on the managerial and technical competence of the airline's staff, and on the strengthening of the accounting, financial and planning functions. An IATA co-ordinated project team had reviewed Kenya Airways' operations to help determine suitable options and policies, and had reported that, inter-alia, for Kenya Airways to operate profitably, it must benefit from: (a) an integrated route structure; (b) renewal of aircraft and ground facilities; (c) more effective efforts to promote the country's tourist industry and (d) a regulatory environment which would ensure for Kenya Airways an adequate share of the tourist market.

148. As regards North PTA services, Kenya Airways operates scheduled services to Addis Ababa and Mogadisho, and cargo charters (fruits and vegetables) to Djibouti, although return cargo is yet to be developed. Both

Kenya and Somalia are in agreement in principle to provide Air Djibouti Fifth freedom rights to operate the Djibouti-Mogadisho-Nairobi route, although these agreements have as yet to be formally concluded.

Communications

149. The Kenya Government's objective for the telecommunications sector is the provision of efficient services throughout the country, which requires expansion, diversification and modernization of its facilities. In addition, Kenya Posts and Telecommunications Corporation (KPTC) aims to improve the quality of service and revenue generation of its assets and expand its training programme.

150. The KPTC is an autonomous public entity established in 1977, and is responsible for the provision of all domestic and international postal and telecommunications services in Kenya. In addition to the public services, dedicated telecommunication network exists to meet the specialized requirements of the police, military and civil aviation services. Private users also operate radio-link services in areas inadequately covered by the public network after obtaining a licence issued annually by KPTC. Kenya has established a manufacturing complex for the assembly/manufacture of telecommunications equipment. Currently telephones and private branch exchanges are assembled and cable forms are manufactured for export. Arrangements are under way for the assembly for other telecommunications equipment such as concentrators and radio systems.

151. With an installed capacity of over 230,000 lines Kenya's average telephone density is just below one telephone per 100 inhabitants. The KPTC has embarked on a major rural automation programme in which over 200 small digital exchanges are to be installed in the smaller towns and market centres. Over 50 of these exchanges have been commissioned thus availing IDD and STD facilities to the areas. Access to the international networks is through two earth stations and the PANAFTEL microwave radio links. Subscriber trunk dialling facilities for long distance calls are available for those connected to automatic exchanges. Access to international service is available through two earth satellite stations, and through microwave radio links to Tanzania and Uganda.

152. A programme to expand the national trunk network is underway, with digital transit exchanges in the large towns, digital microwave radio systems and PCM cable systems under installation. Projects to provide data communications services and mobile telecommunications are in progress. Government plans call on KPTC to be financially self-sufficient and improve its technical and financial management. The Corporation therefore endeavours to optimize capacity utilization, improve the quality of service and revenue generation as well as emphasize human resources development.

153. Specifically, KPTC intends to continue to improve the quality of local, long distance and international telephone service through better network balance, improve maintenance of installed plant as well as rehabilitate and replace old assets. It also would continue to improve institutional capabilities pertaining to programme planning and implementation, procurement, operational efficiency including maintenance procedures and financial management. KPTC is also improving access to telephone service to meet unsatisfied demand in both urban and rural areas including provision modern telecommunications services to the business community. Revenue generation would continue to be enhanced through the elimination of critical bottlenecks and the application of appropriate tariff levels.

Major Missing Links

154. The Isiolo Moyale road link with Ethiopia, which the EEC is interested in, and the Garisa-Liboy road link with Somalia which has as yet to attract any definitive commitment from donors, are the two outstanding missing land connections with neighbouring PTA Member countries in the context of the N-PTA network. The significance of these two projects is that they are also the road sole links of the remaining N-PTA countries Djibouti, Ethiopia and Somalia with the rest of the PTA subregion.

155. While the EEC has shown keen interest in the Isiolo-Moyale project, the Garisa-Liboy Kissimayo project, due to a 1983 study which indicated a very low economic rate of return, has not been able to attract financial support for its upgrading.

156. The consultants have actually pointed out numerous non-qualifiable benefits which they could not describe in purely economic terms, but which are significant in any decision on investment in the project. Social benefits that accrue from the implementation of the project include increased food production which would provide increased agricultural employment resource conservation, poverty alleviation, tourism and wildlife resources development and livestock development.

157. With the growing intra-PTA exchanges, particularly between Kenya and all neighbouring countries, Garisa-Liboy-Kissimayo road is to play an important role in regional and international trade.

SOMALIA COUNTRY REPORT

Introduction

158. Somalia is located in the strategic horn of Africa. The Somali people enjoy a unique common language, culture, faith and life style. Somalia has one of the longest coastline in Africa of over 3300 km, and proven fishery potential, (as yet not fully developed), and hence also great potential for the development of coastal maritime transport. Because of its geographical location Somalia is at the cross roads of the most important courses between Africa, Asia and Europe.

159. Most of Somalia's 638657 km^2 of land is between arid and semi-arid climate, with about 13% of land potentially cultivable, while another 45% is suitable for grazing. For lack of physical and social infrastructure, however, only a small proportion of the arable land is cultivated. The country has three distinct climate regions: the hilly north and north west with the highest rainfall, cool weather, and semi-arid climate; the hot and arid central and northern sea coast; and finally the high precipitation equatorial south.

160. Over half of the population of about 9 million are nomadic and semi-nomadic pastoralists; while of the remaining population, about a quarter are settled in rural communities combining farming with live stock production, and the rest live in urban areas, engaged in non-agricultural occupation.

161. Somalia has over 40 million herd of cattle, and one of the highest camel head of the world, the most prized form of wealth in the country.

162. Somalia's industrial base is relatively small, both in terms of its contribution to the GDP, and in relation to foreign exchange earnings. The manufacturing sector contributes less than 5% to the Gross National Product, and is dominated by about 25 large public establishments.

The Transport System

163. The transport infrastructure of Somalia is limited, and is composed of about 25 000 km of roads, consisting mainly of dry-weather roads with about 10% or 2500 km of bituminus paved roads, four principal ports, and about 15 airports, four of which have paved runways. There are no railways, waterways, pipelines. Coastal shipping, which was once important is now of little significance.

164. Road transport is by far the principal means of internal transport. However, camels and to a lesser extent other domestic animals also constitute important means of transport. An estimated 3 million camels are capable of carrying 100 kgs of loads for an average distance of 30 km/day, and are capable of functioning effectively in areas of limited water and forage, ideal for arid areas like the Somali interior.

165. Somalia's 3300 km of coastline is perhaps the longest in Africa, although coastal shipping is not as yet developed to its full potential.

166. Internal air transport is provided by Somali Airlines, using light aircraft. Domestic air transport remains the means of communications with remote rural areas, where it is subsidized by profits Somali Airlines makes in the international air transport.

167. Responsibility for transport policies is shared with three ministries: The Ministry of Air and Land Transport which supervises Somali Airlines through its Civil Aviation Department, and the National Transport agency for the road transport; the Ministry of Fisheries and maritime Transport, which supervises the Somali Port Authority and the National Shipping Agencies; and the Ministry of Public Works and Housing, which controls the newly reformed Directorate of Highways. A fourth Ministry, that of national Planning and Coordination is responsible for the overall coordination of the various transport activities and prepares and monitors the development plans.

168. In addition, there are 33 Transport Corporations responsible for commercial vehicle registration and route assignment, as well as assistance with tariff designation/reviews, fuel allocation and spare parts provision.

169. The Government recognizes the vital role that adequate transport facilities and services play in the development of the country's economy, and its objectives in transport are to insure the regular availability of fuel, spare parts and vehicles. It seeks to provide reliable transport services and uphold efficient maintenance performance to reduce transport costs and protect its assets. The transport sector, in general terms, aims at maximizing the provision of transport services within the governments financial and particularly foreign exchange constraints. This could be accomplished by means of improved maintenance to reduce costly reconstruction, a more efficient use of the road vehicle through improved maintenance of equipment and greater private sector involvement, improving the efficiency of posts, and through the promotion of expanded coastal shipping activities.

Ports and Shipping

170. Somalia has four major ports: Mogadishu, Berbera, Kissimayo and Bosaso. The Somali Port Authority, created in 1962 as an autonomous government entity under the authority of the Ministry of Fisheries and Marine Transport, is responsible for the operation and maintenance of these and a number of smaller ports.

171. Mogadishu, Berbera and Kissimayo ports have sheltered deep sea facilities, but rely mainly on ships gear for general cargo loading and unloading. Mogadishu is the main port, handling most of Somalia's export and import traffic. The ports of Berbera and Kissimayo are mainly for export of livestock and bananas respectively.

172. Traffic in Mogadishu Port exceeds its capacity of about 750,000 tons of general cargo. In the late 1970s traffic in Mogadishu increased by about 15% annually due to the rapid increase in imports of dry cargo and of petrol, while Berbera port had only moderate annual growth of less than 5%, and

Kissimayo, the third largest, experienced an annual traffic decline of about 5%.

173. The Ports of Mogadishu and Berbera require expansion and accordingly a general cargo berth is under construction at Mogadishu, while at Berbera, 2 new berths are expected to be added. Berthing facilities at Kissimayo are considered adequate for current demand, although rehabilitation is urgently needed.

174. Somali Port Authority is better organized when compared with other agencies in the sector; a number of nationals are trained abroad for such vital professionals as naval/shipping engineers, navigators, etc; and financial operations are sound, total net income quadrupling in the last 5 years.

175. While foreign vessels handle most of Somalia's international trade, about ten per cent is carried by Somalia Shipping Agency and other semi-public concern vessels.

176. Somalia's mainstay has been nomadic, pastoralism. Earnings from livestock accounts for up to 80% of exports through its three major ports of Mogadishu, Berbera and Kissimayo. The improvement and modernization of port infrastructure is therefore considered very important for the country's economy. Port performance, however, is hampered by lack of skilled and semi-skilled labour, old and poorly maintained equipment, insufficient capacity, and lack of proper incentives. Management level also needs strengthening as regards, for instance, planning, information systems, accounting and financial management. New techniques and practices need to be injected on a continuous basis, to improve controls and operation.

Civil Aviation

177. Due to the long distance to travel in a large country like Somalia, and due to the absence of well developed land transport systems, civil aviation has a good potential for development, as evidenced by the strong growth pattern. In the late seventies internal transport growth was over 20% per year for passengers and about 30% per year for freight. However, the country recognizes that air transport development involves traffic control, obtaining routes, establishing the necessary infrastructure, providing the required skilled manpower, environmental considerations, and the question of compatibility with the existing system.

178. There are 15 airfields in the country, 8 served by Somali airlines with scheduled domestic flights. Mogadishu and Hergeisa have international airports while those at Berbera and Kissimayo have paved runways. The Mogadishu airport international passenger traffic grew by about 25% annually in the latter part of the seventies reaching 70,000 passengers in 1980.

179. As air transportation is considered the most practical and vital means of communication and commercial exchange and the government has given it a high priority, the Somalia Civil Aviation system needs a through study including complete review of the airfields, communications and navigational

aid system. Somali Airlines, established in 1964, operates a number of flights internationally, in addition to the domestic routes, using jet aircraft. Somalia airlines is operating with one new airbus A310-300, but plans are made to increase the Somali Airlines fleet with a new wide-bodied aircraft and some smaller aircraft for domestic and international operations in the near future. The airlines international connections include Rome, Frankfurt, Cairo, Nairobi, Djibouti, Seychelles, and several other points on the Arab penninsula. A few foreign airlines link Somalia with cities in Africa, the Near East and Europe. Somali Airline is an autonomous parastatal company under the Department of Civil Aviation of the Ministry of Air and Land Transport.

180. Mogadishu International Airport, with its location in the capital, serves as the main gateway of the country. Together with the other domestic airports, it also forms a vital link for the socio-economic development of the nation. The airport serves scheduled and non-scheduled air carriers, and bilateral agreements have been signed with 9 more countries Aircraft landing at Mogadishu are more and more of the wide bodied types.

181. The facilities and equipment at Somalia's airports are experiencing technical problems due to lack of spare parts, tools and maintenance workshop facilities, which are turn is adversely affecting the operation and maintenance of the equipment for navigation aids, communication and the Airport Lighting System. Fire services also need to be improved, particularly with regard to the availability and utilisation of fire fighting equipment and chemicals, and the training of personnel. The staffing situation in all departments of civil aviation, including local air traffic controllers, presents a special problem because it is extremely difficult to retain trained staff in Africa in general, and Somalia in particular due to the lucratives jobs available in the Gulf area.

182. Autonomy of the Civil Aviation agency could perhaps solve some of these difficulties. The Government also has taken up an ambitious plan to modernize and expand the building and technical facilities at Mogadishu Airport, and is in the process of rectifying the equipment problem. Improvement plans and programmes would include completion of the modernization project of the International airport at Mogadishu, development and extension of the Hergeisa and Berbera airports in the North and Kissimayo in the South, and the other domestic airports on a phased programme of civil aviation development. Somalia has allocated 50 million shillings for the procurement of essential spare parts and, with UNDP and EEC assistance has allocated US$3 million for the development of Kissimayo International airport. Other budgetary allocations for air transport improvement include a supplementary contribution of 45 million shillings to the ICAO project of technical assistance and training, 35 million shillings to supplement the Italian terminal building construction project at the Mogadishu airport and 25 million shillings for the Hargeisa airport. OPEC is planning to fund a new Civil Aviation Training Centre, a new fire fighting equipment she has been constructed at Mogadishu.

183. Somali airlines is also considering the introduction of computerized reservation system in the near future.

Road and Road Transport

184. The Road network totals about 25 000 km of which about 2500 km (10%) are paved, 750 km (3%) are gravelled and the remaining 87% are earth roads and tracks. In terms of classification, there are 5000 km of primary highways, 1000 km of secondary roads and 19000 km of feeder roads in the country.

185. The coverage of the network is considered broadly adequate for the country's present needs, although access to many areas remains difficult, partly because of the unsatisfactory standard and conditions of the roads, where over 80% of the network is considered substandard, entailing high vehicle operating costs.

186. The backbone of the country's road system is the north-south link between Mogadishu and Berbera via Galkayo, Garoe and Burao (almost 2000 km) leading on to Jigjiga in Ethiopia via Togo Wujale on the Ethiopian border and Iaos to Djibouti via Loyada on the border with the Republic of Djibouti.

187. The other most important roads are the coastal road from Mogadishu to Kissimayo leading on to Liboi on the Kenya Border (about 700 km) and the road from Mogadishu to Dolo on the Ethiopian Border via Afgoi and Baidoa (about 600 km).

188. Road construction and maintenance is relatively costly, due to long distances to carry water and crushed stone material for construction. In the case of gravel roads, the surface deterioration is faster than normal in certain parts of the country, due to the harsh winds and extremely dry conditions. All public roads in the country are suffering from lack of proper maintenance. This is mainly due to shortage of skilled and semi-skilled staff, lack of adequate equipment, shortage of forex for spare parts and supplies and organizational problems, although certain changes have recently been affected in the organizational set up of the highway agency which should enable the government to improve the quality of operation and maintenance of the road network.

189. The road transport industry is dominated by the private sector which handles, with over 4000 trucks, over 75% of the demand for the internal movement of goods, the National Transport Agency (NTA) meeting the remaining balance of the demand with less than 300 trucks. However, NTA has incurred losses since its inception in 1978, and is dependent on Government subsidies for fleet expansion and replacement.

190. The existing road transport fleet comprises of about 16000 privately owned vehicles, and 3000 government owned civilian vehicles of which 25% are medium to heavy trucks, 40% are pickups and 35% are passenger vehicles. Although road vehicles carry most freight animal portage in remote areas make important contribution to transport of goods, while livestock are normally moved to markets on the hoof.

Current road projects

191. With the assistance of donor agencies like the World bank, the African Development Bank and the EEC, Somalia is implementing the following major road infrastructure projects, to meet increasing demand for an efficient road system and realize its short term and long-run socio-economic development:

	Project	Funding Agency	Status
1.	Afgoi-Golueu, 117 kms (Reconstruction)	Italy	on-going
2.	Gohan-Gelib (257 km) (Maint/Rehabilitation)	EEC/GOS	"
3.	Jilib-Berbera (230 km) Imminent (Construction)	EEC	Commencement
4.	Afgoi-Baidoa (137 km) (Rehabilitation)	WB/IDA	Going to tender
5.	Jowhar-Galkaio (626 km) Completed (Rehabilitation)	WB/IDA	Eng Design

Communications

192. The Telecommunications services in Somalia are provided by the Ministry of Posts and Telecommunications, which is fully responsible for the management and operations of the services as well as for policy formulation in the telecommunications sector.

193. The existing Telecommunications network consists of 8 Automatic Telephone exchanges and 20 battery powered exchanges. The total exchange capacity is 18000 lines almost fully utilized.

194. Practically all trunk calls are H.F links through Mogadishu, with the exception of the Jowhar-Mogadishu-Kissimayo trop-scatter link (6000 km). The working capacity of the Trop-scatter link is only 12 channels. There is a standard B type earth station at Karan, near Mogadishu, with a capacity of 32 SCPC circuits connected to Rome.

195. Overseas Economic Cooperation Fund of Japan funded the installation of an 8000 lines digital local telephone exchange and a 100 national/international telex exchange.

196. The Arab Fund for Social and Economic Development is funding the Medarabtel network between Hargeisa and Djibouti which is temporarily out of action. This project in the Panaftel route had the following components:

a) An international microwave link between Hargeisa and Berbera

b) Extension of the above link to connect Hargeisa with Burco and Berbera, both regional capitals

c) International manual switch board at Hargeisa

197. The African Development bank has extended a loan for the PANAFTEL link with Kenya, the digital microwave link between Kissimayo and Liboy on the Kenya border. The project should be completed in 1991.

198. Most of the equipment of the existing telecommunications network are in need of renovation. The Italian Government has assistance scheme to cover the following renovations works costing 30 million USD:

a) Expansion and renovation of the microwave links Jowar-Mogadishu-Oryoley and Jilib-Kissimayo

b) Replacement of the Qoryoley trop-scatter link by a digital Radio link (an analogue multiplex will be used temporarily)

c) Renovation of power plants at the automatic exchange and associated equipment, and procurement of an additional diesel generator

d) Replacement of all 16 manual exchanges at the regional capitals

e) Replacement of all H.F. links and telegraph circuits

f) Renovation of the external plant at Mogadishu and other important towns like Hargeisa and Kissimayo

g) Renovation of the earth station.

199. In addition to the above, the EEC is funding the international exchange at Mogadishu studied by an Italian Consulting firm, Arab fund is financing the Arabstat Earth Station, while Japan is funding the second phase of the expansion of the rural telecommunications.

200. Rural telecommunications in fact is still to be developed in Somalia. There are many communities which are isolated from the main stream of national life due to lack of communications facilities.

201. Another requirement of the country in this subsector is a suitable designed and independent building for the National Telecommunications Training Institute since under the current arrangement available facilities are shared with civil aviation, marine transport, information, fisheries and the sports sector.

Telecommunications link with Kenya:

202. Funds have been secured to connect Somalia and Kenya with a microwave link along the PANAFTEL network. The project will bridge the gap in the network from Kissimayo to Liboy on the border with Kenya, and is made up of a digital microwave system. The project is expected to be completed in 1991.

Telecommunications links with Ethiopia and Djibouti

203. The link to Ethiopia and Djibouti is through Hargeisa. Due to the instability in that area, communication was disrupted. An on-the-spot assessment of the situation is required to determine the extent of damage and rehabilitation requirements.

Missing links in Transport and communications

204. Somalia is neither connected by the PANAFTEL microwave network, not by good roads to any of its neighbouring countries. Air transport connections are to date only with Nairobi and Djibouti, although agreements have been signed to open an air link with Addis Ababa as well. Coastal shipping links are also not well developed, although more than 3000 km of coastline of Somalia offers the potential for maritime activity.

205. Somalia does not have rail, inland water and pipeline transport connections. The missing links projects in Somalia can be described as follows:

a) Somalia-Djibouti Road Link

206. The Berbera-Djibouti road is the substantial segment of the Mogadishu-Djibouti connection. The EEC has agreed to finance the first phase of this project, from Djibouti to Zeila (in Somalia), on the alignment agreed upon by both countries. From Zeila to Berbera there have been various alternative alignments one along the coast, and several alignments along the Somalia-Ethiopia border. The coastal alignments has been finally agreed upon, but finance is still to be sought primarily from the EEC.

207. Funding for the Djibouti-Zeila phase has been temporarily suspended by EEC due to the civil strife in the area. However, Djibouti would like the project to ...with the construction of the section inside its territory without any more delay.

b) Somalia-Ethiopia Road Links

208. There are several possible road connections between the two countries, requiring different amounts of investment to realize. These are:

(i) Awash-Harar-Togowa jale-Nabadeed (743 km)
(ii) Jigjiga-Ferfer-Beletwein-Mogadishu link
(iii) Negele-Dolo-Lughanane-Bardere-Kissimayo

209. The financial implications on the Somali side for the first two projects are minimal, but on the Ethiopia side, heavy investment and commitment would be required.

210. The third alternative which would offer a southern outlet to the sea for Ethiopia when completed, is currently of feeder standard on the Ethiopian side and is being improved and upgraded on the Somali side, with EEC assistance.

c) Somalia-Kenya Road Link: Kissimayo-G. sa, 324 km

211. The missing road link between Nairobi in Kenya and Mogadishu in Somalia is the Kissimayo-Liboy-Garisa. It is a seasonal earth track at present, and difficult to negotiate during rainy weather. A fresh pre-feasibility study is required to ascertain the viability of this road.

d) Mogadishu-Hargeisa-Djibouti and Mogadishu-Hargeisa-Jigjiga Telecommunications Links

212. Somalia's communications link with Ethiopia and Djibouti is disrupted due to the non-serviceability of the infrastructure at Hargeisa. A damage assessment project is required to determine the precise requirement for restoring the facility to working conditions again.

e) Coastal Maritime Shipping

213. Somalia has one of the longest, if not the longest coastline in Africa. Coastal shipping activities once very important, are not currently very significant. Nevertheless the country is trying to improve its major ports in an effort to provide effective support to maritime activity and coastal shipping. Somalia's ports, including Mogadishu Berbera, Kissimayo, Bossaso, Brave, Merca, Lasqorey, Elayo, Mait and Heis, could contribute to the development of coastal shipping if the following list of prioritized programmes could be financed to assist the ports in meeting the objectives of coastal shipping development:

i) The acquisition of marine afloat crafts

Type	Quantity	Estimated cost
Tug Boats (2,000 HP)	4	US$1,000,000 each
Pilot Boats	4	US$200,000 each
Landing Craft	3	US$1,000,000 each
Dredger	1	US$1,000,000 each

ii) The construction of a Marine Repair Facility: At least the facility should contain a slipway and adjacent marine workshop with all the necessary equipment for effecting repairs to vessels. The estimated cost of this facility is US$3,000,000.

iii) The initiation of programmes for all ports to include:

- A pollution abatement programme
- Fire fighting programmes and supporting equipment
- Medical facilities with professional staff.

The total cost for these programmes would depend on the size of each port and the level of support considered appropriate. Total estimated cost is US$2,000,000.

iv) With the near completion of the Ports Training Centre Project, on going Training Programme should continue and be reinforced because it is considered to be essential to the overall development of all Ports activities.

A technical assistance Project for the running of the Port Training Centre (PTC) during the Coming five years is proposed for financing.

The cost of this Project is estimated to be US$8000,000 per year. 800,000 x 5 = US$4,000,000.

(v) Coastal shipping development would require up-to-date navigational charts. As the last hydrographic survey was carried out over 50 years ago, it would be absolutely necessary to carry out surveys to update the navigational charts, because lack of reliable charts would also affect adversely the fisheries development efforts.