P 3-ABG 775

TRANSPORT AND COMMUNICATIONS

SOUTHERN AFRICAN DEVELOPMENT COORDINATION CONFERENCE

SADCC

REPUBLICA POPULAR de ANGOLA

Luanda, People's Republic of Angola
1st – 3rd February, 1989

TRANSPORT AND COMMUNICATIONS

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PROJECT DESCRIPTIONS

The Projects are numbered in a three digit system described below.

The first digit defines the sector:

0 - Multimodal
1 - Roads
2 - Railways
3 - Ports and Water Transport
4 - Civil Aviation
5 - Telecommunications
6 - Meteorology
7 - Postal Services

The second digit indicates the country:

0 - Regional
1 - Angola
2 - Botswana
3 - Lesotho
4 - Malawi
5 - Mozambique
6 - Swaziland
7 - Tanzania
8 - Zambia
9 - Zimbabwe

The third digit is a serial number for each project.

L E G E N D

ADB	= African Development Bank
AGIP Spa	= AGIP Spa
AIDAB	= Australian International Development Aid Bureau
ANG	= Angola
AUS	= Australia
AUST	= Austria
BADEA	= Arab BAnk for Economic Development in Africa
BEL	= Belgium
BOT	= Botswana
BRA	= Brazil
CAN	= Canada
CBI	= Confederation of British Industries
CFTC	= Commonwealth Fund for Technical Cooperation
CHI	= Peoples Republic of China (China)
CITES	= Convention on International Trade in Endangered Species
DEN	= Denmark
EEC	= Commission of the European Communities
FAO	= Food and Agriculture Organisation of the United Nations
FIN	= Finland
FRA	= France
FRG	= Federal Republic of Germany
GDR	= German Democratic Republic
ICAO	= International Civil Aviation Organisation
IDA	= International Development Agency
IDRC	= International Development Research Centre
IDU	= Industrial Development Unit of the Commonwealth Secretariat
IFAD	= International Fund for Agricultural Development
ILO	= International Labour Organisation
IMPAD	= Import Promotion Office for Products from Developing Countries
IND	= India
IRE	= Ireland
ISNAR	= International Service for National Agricultural Research
ITA	= Italy
ITU	= International Telecommunications Union
JAP	= Japan
KUW	= Kuwait Fund
LES	= Lesotho
MAL	= Malawi
MF	= Massey Ferguson
MOZ	= Mozambique
NET	= Netherlands
NOR	= Norway
NORDICs	= Nordic Countries
OPEC	= Organisation of Petroleum Exporting Countries
POR	= Portugal
SADCC	= Southern African Development Coordination Conference
SAREC	= Swedish Agency for Research Cooperation with Developing Countries
SATEP	= ILO Southern African Team for Employment Promotion
SWA	= Swaziland
SWE	= Sweden
SWI	= Switzerland
TAN	= Tanzania
TAZARA	= Tanzania Zambia Railway Authority
UK	= United Kingdom
UNDP	= United Nations Development Programme
UNIDO	= United Nations Industrial Development Organisation
UNSPEC'd	= Unspecified
USA	= United States of America
USSR	= Union of the Soviet Socialist Republics
WB	= World Bank
ZAM	= Zambia
ZIM	= Zimbabwe

Section One

1. EXECUTIVE SUMMARY

One of the basic goals of SADCC, the reduction of dependence on South Africa, still remains to be achieved. The share of the region's overseas trade going through South African ports is, at present, at the same level as it was in 1981. It can be expected, however, that the efforts of the past few years in re-shaping the surface transport patterns in the region will begin to pay off in the short to medium term. The increase in activity in the Beira port is one example of this. In civil aviation and telecommunications, noticeable improvements have already been realized, although much still remains to be done.

The structure of SATCC programmes has substantially remained the same, covering the following sub-sectors :

- civil aviation
- meteorology
- ports and water transport
- postal services
- railways
- roads
- telecommunications

In all these fields, the programme includes capital investment, operational coordination and training projects.

Of the capital investment projects, by far the largest part concerns rehabilitation and upgrading of existing facilities, rather than the development of new ones. This corresponds to the established sectoral priorities which emphasise the rehabilitation of the deteriorated transport and communications infrastructure and equipment, arising from insufficient maintenance over the years; and in some cases damage from sabotage.

To prevent similar deterioration, and to ensure efficient use of the facilities in future, the programme also puts emphasis on operational coordination, maintenance and training functions in the various sub-sectors. The operational co-ordination and training programmes are a vital complement to the capital investments.

In the programme, the number of major projects is 188, and the total investment cost is estimated at USD 4630.40 million. Last year the number of projects was 194. In several cases, small closely related projects have been joined together. The overall investment cost has increased by 7.93 per cent over last year, mainly on account of better estimates of project cost, and to take account of inflation.

Some major developments during 1988 have been:

(i) A forecast of regional traffic flows has been completed. Based on that forecast, it is possible to calculate traffic figures for a number of scenarios depending on various assumptions, for instance :

(a) whether the traffic continues to flow through South Africa;

(b) number of projects completed according to the SATCC investment programme;

(c) number of transport corridors available for traffic in the Region; and

(d) the general economic development in the member States.

The forecast is closely related to the SATCC Statistics Data Base, which will be regularly up-dated.

(ii) As a consequence of the on-going rehabilitation of the Beira Port Transport system, the traffic through the port of Beira and connecting railway lines has increased considerably from 1.45 million port tonnes in 1986 to 1.95 million port tonnes in 1987 (+ 34%). Regional traffic through the Port of Dar es Salaam has also increased from 1.6 m tonnes in 1986 to 2 m tonnes in 1987 (+25%).

(iii) The rehabilitation of the Limpopo and Nacala railway lines is proceeding on schedule. The lines are expected to be re-opened during 1988 and 1989 respectively.

(iv) Preparations for the implementation of the Ten Year Development Plan for the Lobito Port Transport System are continuing.

The financing secured for the implementation of projects has increased from USD 1 687 million to USD 2 055 million, the share of secured financing remaining practically unchanged at about 40 per cent of financing needed. This signifies that the flow of financial resources to the SADCC programme in the Transport and Communications Sector has kept pace with the growth of the programme. While this cannot be considered a poor achievement, the flow of resources needs to be accelerated to ensure timely implementation of the priority projects. At the same time, restraint should be exercised, to keep the size of the programme

manageable, and in reasonable relation to the resources likely to be available for its implementation, both from regional and external sources.

2. OVERVIEW OF REGIONAL SITUATION

Figure 1 presents the transport network of the SADCC countries. The backbone of this system is formed by railways connecting hinterland areas to the regional ports, complemented by a road network. Compared with other parts of the continent, Southern Africa has a relatively extensive inter-connected railway network. However, a major part of the regional network is not at present capable of providing regular commercial traffic services. Implementation of projects to correct the situation is underway.

As elsewhere, the transport patterns in the SADCC region are shaped by geographical, historical, political and economic factors. However, the characteristics of these factors in the region are, to a great extent, unique. Some of the particular characteristics of the region are:

- of the nine SADCC countries, six are landlocked, and thus, dependent on their coastal neighbours for their overseas trade;

- of these nine, seven have a common border with South Africa, or territory occupied by South Africa, and South Africa has used its superior technological, economic and military power to preserve its historical domination of the region;

- most of the transport networks of the SADCC countries, built during the colonial period, were designed largely to serve the interior areas of the region, which were under more intensive exploitation by the colonial powers than the coastal countries (c.f. the fragmented internal railway networks of Angola and Mozambique); and

- the harsh economic, political and military situation of the past two decades has, in many cases, led to a major deterioration of the existing transport facilities due to sabotage and low levels of upkeep and maintenance.

The general economic recession, compounded by drought and destabilization, has led to a decline of the national economies of the region during most of the 1980's. In the transport sector, this has been reflected in a downward trend in the total volume of traffic to and from the SADCC countries. The share of the region's overseas trade going through South African ports is, at present, at the same level (about 21%) as it was in 1981. For the six landlocked countries the share, on average, is as high as 45%. Thus, although the dependence of the region as a whole on the South African transport system has continued, it has been

significantly reduced, mainly on account of increased traffic routed through Beira and Dar es Salaam.

The economic difficulties faced by member countries have been particularly felt in the recurrent budgets, where financial pressure has forced governments to allocate inadequate funds for the operation and maintenance of transport and communications facilities. This situation has caused deterioration of facilities and infrastructure; and hence a growing need for investment in reconstruction and rehabilitation. An illustration of this is the fact that, so far, the major part of the SATCC programme consists of infrastructural reconstruction and rehabilitation.

As regards civil aviation, efforts in operational coordination between the regional airlines have paid off. There has recently been significant improvement in the availability of regional flight connections without using Johannesburg as a transit point. Much, however, remains to be done in airline cooperation, and coordination of schedules.

In telecommunications, considerable improvement of intra-regional services, and reduction of dependence on South Africa and Europe have been achieved as a result of the implementation of telecommunications projects.

In summary, while the basic goals of SADCC cooperation are still to be fully achieved, sigrificant progress has been made in most sub-sectors of Transport and Communications. Direct and indirect acts of military and economic sabotage by South Africa, particularly in Angola and Mozambique, have continued to disrupt the region's transport systems. The efforts deployed by SATCC and its member countries, with the support of their cooperating partners, have started to pay off, and will continue to do so in the short to the medium term, in reshaping the transport and communications patterns of the region. Promising developments are at the moment taking place. However, for the goals of the SATCC programme to be realized in the shortest possible time frame, the activities now taking place in the field in several of the regional transport corridors, as well as the work in operational co-ordination and training, will have to be intensified.

3. PROGRAMME REVIEW

3.1 Objectives, Policies and Programmes

The Lusaka Declaration which established SADCC, recognised Transport and Communications as a key to the success of the regional strategy. The basic objectives of SATCC, flowing directly from those of SADCC, are:

(a) to provide coordination in overcoming transport and communications problems in the region;

(b) to provide economic and efficient means of transport and communications in the region;

(c) to achieve self-sufficiency in the maintenance of equipment and plant;

(d) to achieve self-sufficiency in technical manpower, training and development;

(e) to encourage the efficient utilization of available resources for the betterment of transport and communications within the region.

The priorities, in pursuing these objectives, have been defined as:

- rehabilitation/upgrading of existing facilities.

- establishment of adequate telecommunication links and civil aviation facilities.

- new transport facilities where proved necessary and viable.

- feasibility studies for further additions to the regional infrastructure.

The first priority is rehabilitation of existing assets, rather than provision of new ones. This is reflected in the SATCC programme of projects, of which by far the major part consists of projects aiming at rehabilitation and upgrading of existing facilities.

In line with these priorities, policies adopted by SATCC further emphasize proper maintenance and effective use of the existing facilities. These aspects have, in fact been identified as major problem areas in the region. Therefore, much emphasis is put on operational co-ordination and training.

The SATCC programme covers the following sub-sectors:

- civil aviation
- meteorology
- ports and water transport
- postal services
- railways
- roads
- telecommunications.

In all these fields, the programme includes projects for capital investments, operational co-ordination and training.

The capital investment projects in the surface transport modes, i.e. road, rail, ports and water transport, are grouped according to a corridor approach. Thus, transport links and facilities providing connections to a regional port constitute the transport system of that port.

The five regional Port Transport Systems are:

- Beira
- Dar es Salaam
- Lobito
- Maputo
- Nacala.

In civil aviation, the programme covers the improvement of the infrastructure including navigation and other handling facilities joint utilization of equipment, repairs and maintenance facilities, and the coordination of flight schedules. In telecommunications, it covers both terrestrial and satellite connections. In the meteorological field, the work is concerned with the national capability to make adequate primary observations, and with the dissemination and use of meteorological information. The postal services programme aims basically at regionalization of mail routing and speeding up the services.

3.2 SATCC Organization

A Study on the Organization, Management and Staffing of the SATCC Technical Unit has been carried out.

Based on the findings of the study, the organisational structure, and a programme for the staffing of the Technical Unit by regional experts, have been approved. The Member States will gradually take over the full responsibility for the financing of the core costs of the Technical Unit.

3.3 Operational Co-ordination

The operational co-ordination aims at:

- improvement of capabilities in the member states to manage, operate and maintain their transport and communications systems and facilities;

- elimination of institutional obstacles to the movement of traffic in the region, including harmonization of standards, rules and regulations;

- promotion of bi- and multi-lateral agreements on operations;
- actions related to routing of traffic through regional ports;
- co-operation between airlines; and
- increasing utilization of regional resources and know-how.

This work is a vital complement to the capital investment projects. While the investment programme aims at the rehabilitation and improvement of the physical infrastructure and facilities, the purpose of the operational coordination activities is to ensure an efficient operation and use of those facilities. Specific objectives and programmes have been defined for this work for each transport mode and sub-sector.

For the direction and coordination of this work, working groups consisting of representatives of all member states in the following fields have been established, and meet on a regular basis:

1) Civil Aviation Administration
2) Meteorology
3) National Airlines
4) Port Administration
5) Postal Services
6) Railway Administration
7) Road Infrastructure
8) Road Traffic and Transport
9) Shipping, Clearing and Forwarding
10) Telecommunications (SATA)

These activities constitute the SATCC Operational Coordination Programme, Project No. 0.0.2. Under the auspices of these working groups, several regional studies have been completed and others are in progress. The groups normally act as steering committees for such studies in their specific fields. The members are responsible for the follow-up of the implementation of the agreed measures and decisions in their respective countries.

3.4 Training

A major part of the SATCC work, related to training and manpower development, has so far consisted of studies and surveys on training needs. All the principal SATCC sectors are covered by such studies.

The focus of the work is now shifting to the implementation of the findings of the studies. Several training projects have

been identified and include about 17 separate projects directly related to training and manpower development in various fields ranging from specific courses and preparation of training programmes to comprehensive manpower development plans for major organizations and provision of physical facilities.

The working groups in operational co-ordination are actively involved in training, and several of them have established training sub-groups to guide and monitor the implementation of the training programmes in their specific fields.

The training activities of SATCC are carried out in cooperation with the SADCC Regional Training Council, and the funding arrangements for some of the SATCC training projects are handled through the Manpower Development Sector.

An important aspect of the development of the region's own qualified manpower resources is that capital investment projects normally comprise training components, including on-the-job training.

3.5 Surface Transport Systems

The capital investment projects in surface transport are grouped according to a corridor principle.

The tables in the Annex, Project Costs and Status, are arranged according to this principle, as far as investment projects are concerned, and show the contents of the SATCC programme by port transport system.

Several calculations have been made concerning the capacity of the various port transport systems. The overseas trade of the land-locked SADCC member states and Zaire is currently estimated at 4.9 million tonnes; and, including coastal states, 8.2 million tonnes per annum (1987).

Once the on-going projects have been implemented the railway and port capacities in SADCC member states will be adequate to handle that traffic in the future.

At present, a number of the routes to the main SADCC ports are practically closed to international traffic. The projects in the SATCC programme aim at re-opening these routes. Comprehensive development plans for all the corridors have been prepared. The implementation of the Nacala route projects is well advanced, and that of the Limpopo route is in progress. These lines are expected to be re-opened for regular traffic during 1988 and 1989 respectively.

Apart from physical deterioration, the main problem areas affecting the operations of railways are shortages of motive power, rolling stock and skilled manpower. Projects aiming at the elimination of these problems are of highest priority.

The railways carry the bulk of the regional traffic, and the roads generally play a supporting role. Hence, the problems of insufficient physical capacity of the road infrastructure in relation to traffic demand are exceptional.

In line with the corridor principle, SATCC has adopted an approach whereby a comprehensive development plan is prepared for each Port Transport System; including the various components and aspects in need of corrective action, and showing the inter-linkages and relative priorities of the various projects. These plans are then presented and discussed at special conferences with the co-operating partners. So far, four such Technical Coordination Conferences have been held as follows:

- 10-year Development Plan for TAZARA, Arusha, Tanzania- April 1985;
- 10-year Development Plan for the Beira Port Transport System, Beira, Mozambique - May 1986;
- 10-year Development Plan for Telecommunications, Lusaka, Zambia - April 1987; and
- Rehabilitation of the Limpopo Railway Line - Maputo, Mozambique, July 1988.

Similarly, a Ten Year Development Plan has been prepared for the Lobito Port Transport System, and a Technical Co-ordination Conference for this corridor is scheduled to be convened in conjunction with the SADCC Annual Consultative Conference in 1989. In addition a Ten Year Development Plan for Zambia Railways is being prepared.

The surface transport system projects are presented in Figure 2.

In addition to the projects in the regular programme of SATCC, the SADCC Council of Ministers approved a "Special Assistance Programme for Angola" in January 1988, in response to the special situation in Angola.

3.6 Civil Aviation

A number of new major airport developments, such as Dar es Salaam, Gaborone, Kilimanjaro, Lilongwe, Maseru and Matsapa, have in recent years been carried out in the region. Some of the remaining principal regional/international airports of originally good standard, are now in need of modernisation and/or expansion. These include Beira, Harare, Lusaka and Maputo.

The number of flight connections between the member states have increased during the last year due to the co-ordination of airline schedules. See Figure 3.

Further activities within civil aviation aim at regional airline co-operation, co-ordinated utilisation of aircraft maintenance facilities and co-operation between airlines in the utilisation of wide-body aircraft.

With the expected increase in air traffic in the region, the highest priority, from a flight safety point of view, has to be given to the rehabilitation of aeronautical telecommunications, to bring air navigation standards up to acceptable international levels.

3.7 Telecommunications

Considering that telecommunications are one of the basic requirements for economic development and effective cooperation, the SATCC programme focuses on the promotion of projects with specific regional significance, such as the PANAFTEL terrestrial radio microwave systems, earth stations, international telephone and telex transit switching centres and telecommunications services related with the other areas of transport and communications. See Figure 4.

SATCC objectives are to promote maximum connectivity within the region in order to facilitate full diversity on as many routes as possible. Presently connectivity is limited by the fact that the region's earth satellite stations are spread between the Atlantic Ocean and Indian Ocean satellites, using various modulation techniques such as FDM, CFDM and SCPC.

It is envisaged that full international subscriber dialling will be realised among SADCC countries when the satellite connectivity, PANAFTEL radio microwave systems and international gateways are fully implemented by the end of 1992.

One of the main objectives of the programme is to reduce dependence on South African transit facilities for SADCC intra-regional traffic. Lesotho and Swaziland still depend, to a large extent, on the transit facilities of South Africa for non-satellite intra-regional traffic.

Angola and Mozambique will continue to have no, or only limited PANAFTEL connections to the other SADCC countries, until the relevant projects are fully implemented in the early 1990's.

3.8 Meteorology

All meteorological activities depend on the availability of information or observations, in the case of long range weather forecasting, from the whole world. The meteorological process thus gradually develops from a single weather observation at a remote site to a worldwide system.

The primary aim of the SATCC Meteorological Programme is to improve the capabilities in the region to:

- make correct and timely meteorological observations;
- maintain the measuring equipment;
- collect and disseminate observed data; and
- prepare and issue more user-oriented meteorological information.

Therefore, the programme consists of projects that cover all these items, including the manpower development and training aspect.

Since telecommunications play an important role in the meteorological process, two out of ten capital investment projects in this sub-sector, are directed towards the upgrading and development of the regional and national telecommunications facilities.

3.9 Postal Services

Postal Services provide an important means of communication among the Member States, and between the SADCC area and the rest of the world. Initially the work in this sub-sector has concentrated on the identification of problems, and the development of projects to address these problems.

These activities include:

(i) efforts for routing surface mail through the regional ports, and upgrading the postal terminals to that effect;

(ii) improving the capacity of the Postal Administrations especially with respect to improved sorting and speedier handling of mail to provide better services;

(iii) giving highest priority to mail conveyance by transport enterprises; and

(iv) introduction of Express Mail Services, EMS, in all Member States.

The main emphasis at the moment is, on the efforts to route the mail through regional channels. Therefore, projects serving that purpose have high priority, especially the development of a Regional Sorting Centre in Harare, and the Beira Postal Terminal.

4. NEW PROJECTS

The following new projects have been added to the SATCC programme.

0.0.3 Local Network (External Plant) Planning Course

Regional Training project in the field of telecommunications, cost estimate US$0.5 million.

0.0.8 Regional Transport Operations Plan

Cost estimate US$0.25 million. To be financed under the CIDA/SATCC Technical Services Fund.

1.9.3 Upgrading of Eastern End of Harare - Mutare-Mozambique Border Road, Zimbabwe

Construction of Mutare by-pass road and upgrading some existing sections in Mutare area. Cost estimate US$15 million.

2.4.2 Rehabilitation and Acquisition of Locomotives, Rolling Stock and Maintenance Equipment, Malawi Railways. Cost estimate US$16 million

4.8.6 Lusaka International Airport Development, Zambia Cost estimate US$44.1 million

4.9.4 Improvement and Expansion of Radar Coverage, Zimbabwe

Project aims at improvement of operational and safety conditions in civil aviation in Zimbabwe. Cost estimate US$ 8.0 million.

5.1.6 Expansion of Telecommunications Training Centre/Angola

Upgrading and expansion of national telecommunications training centre. Cost estimate US$1.5 million.

6.0.8 Data Rescue Project

Regional project to ensure proper conservation and storage of meteorological data for long-term weather forecasting purposes. Cost estimate US$0.5 million.

7.0.2 Feasibility Study on Introduction of Postal Giro System in SADCC Countries. Cost estimate US$0.2 million.

Lobito Port Transport System 10-Year Development Plan

The 10-Year Development Plan was completed in January 1988, and includes projects in the various transport sectors as follows:

- General projects	US$ 86.4	million
- roads and road transport	US$ 19.2	"
- railways	US$340.2	"
- port and water transport	US$ 82.5	"
- Civil Aviation	US$ 10.1	"
- telecommunications	US$ 33.6	"
Total	US$572.0 million	

5. STATUS OF PROJECTS

5.1 Summary of Status of Funding

Between September 1987 and September 1988, the aggregate estimated cost of the SATCC programme of projects has grown from USD 4 290 million to USD 4 630 million, or by 7.93 per cent. During the same period, the total funding secured has risen from USD 1 680 million or 39 per cent, to USD 1 942 million or 15 per cent. Of the secured funding, USD 454 million consist of local components of project costs.

The following sections of this chapter, list the projects in the programme sub-divided into the following categories:

a) projects with funding fully secured
b) projects requiring additional external funding
c) projects with no external funding so far secured.

5.2 Operational Co-ordination Projects

The present programme comprises 25 projects with a total cost of USD 82.7 million, of which USD 31.0 million or 37 per cent is secured (Table 2A of Annex).

a) **Projects with full funding secured:**

0.0.1	Technical Assistance to SATCC (1981-89)
0.0.4	Transit Transport Project
0.0.5	SATCC Technical Services Fund
0.0.6	SATCC Statistics Data System
0.0.8	Regional Transport Operations Plan
2.0.7	Seminar on Marketing for Port and Railway Administrations
3.0.1	Regional Cooperation in Shipping
5.0.5	Study on Harmonization of Telephone and Telex Tariffs in the Region
5.0.7	Model Study on Maintenance Procedure and Schedules for PANAFTEL Terrestrial Microwave Radio Systems

b) **Projects requiring additional external funding:**

0.0.2	Operational Co-ordination Development Programme

c) **Projects with no secured external funding:**

0.0.7	SATCC Housing in Maputo
1.0.1	Package of Road Safety Programmes
1.0.2	Package of Weighbridge Programmes
1.0.3	Implementation of Harmonized Road Maintenance Management System in SADCC Countries
2.0.8	Study on Rail Wagon Standardization and Wagon Spare Parts
3.0.3	Marine Safety Development Programme for SADCC Coastal States
4.0.01(2)	Expansion of DCA Flight Calibration Unit
4.0.03	Study on Coordinated Use of Aircraft Maintenance Facilities
4.0.07	Up-dating of Aeronautical Information Services
4.0.10	Study on Joint Use of Wide-body Aircraft and Sub-regional Airline Cooperation
5.0.3	Study on AXE 10 Repair Centre
5.0.4	Implementation Plan for Regional Earth Station Connectivity Project
5.0.6	Study on Development of Regional Manufacturing Strategy
5.0.8	Regional Data Communication Strategy Study.

5.3 Training Projects

The training programme comprises 17 separate projects, the combined cost of which is USD 68.9 million. USD 40.3 million or 58 per cent is secured (Table 2B).

a) **Projects with full funding secured:**

2.5.13	Development of Railway Training for Portuguese speaking Personnel
2.6.3	Provision of Technical Assistance and Management Training to Swaziland Railways
3.5.5	Port Staff Training Institute, Mozambique
4.0.06	Civil Aviation Manpower and Training Requirements Survey

b) **Projects requiring additional external funding:**

0.0.3	Training Development Programme (several sub-projects)
2.0.6	Development of Railway Training, Regional
6.0.1	Meteorological Expert Services and Fellowships
7.0.1	Postal Training Development Programmes

c) **Projects with no secured external funding:**

1.0.4	Task Group for the Road Transport Training Plan
3.1.1 (P-TA-2)	Port School at Lobito
4.5.4	SADCC Boeing 737 Flight Training Centre
4.8.5	Extension of Zambia Air Services Training Institute (ZASTI)
5.1.6	Expansion of Telecommunications Training Centre, Angola
7.1.2	Development of Postal Training in Angola
7.4.2	Upgrading of Postal Wing of the MCTC in Blantyre
7.5.2	Development of Postal Training in Mozambique

5.4 **Maputo Port Transport System**

The total cost of the 18 main projects constituting the Maputo Port Transport System is estimated at USD 900.4 million, of which USD 305.9 (34 per cent) is secured (Table 2C).

a) **Projects with full funding secured:**

2.2.2	Rehabilitation of Railway Telecommunication Facilities, Botswana
2.2.4	Renewal of Train Working System, Botswana
2.2.6	Procurement of Railway Rolling Stock, Botswana

b) **Projects requiring additional external funding:**

1.3.1	Upgrading of Road Mohale's Hoek-Quthing-Qachas Nek, Lesotho
1.3.5	Upgrading of the Road Mokhotlong-Oxbow, Lesotho
1.5.4	Rehabilitation of the Road Maputo-Swaziland Border
1.6.1	Rehabilitation and Upgrading of the Road Mozambique Border at Lomahasha - Siteki - Big Bend, Swaziland

2.2.1 Rehabilitation of the Main Railway Line, Botswana
2.5.6 Railways in Southern Mozambique
3.5.1 Maputo Port

c) Projects with no secured external funding:

1.6.2 Improvement of Mbabane - Manzini Road, Swaziland
2.2.8 Exchange Yard at Rakhuna, Botswana Railways
2.5.1 Rehabilitation of the Mozambique - Swaziland Railway

5.5 Beira Port Transport System

The programme includes 7 main projects constituting the Beira Port Transport System. Most of these are divided into several sub-projects (for details see Table 2D of Annex). The total cost of the projects is USD 676.5 million, of which USD 337.6 (50 per cent) is secured.

a) Projects with full funding secured:

1.8.4 Rehabilitation of the Road Kafue - Chirundu, Zambia

b) Projects requiring additional external funding:

0.5.1 Multi-modal Projects
1.5.1 Road Projects
2.5.3 Railway Projects
3.5.2 Port Projects

c) Projects with no secured external funding:

1.9.1 Rehabilitation of Harare - Chirundu Road, Zimbabwe
1.9.3 Upgrading of Eastern end of Harare - Mutare-Mozambique Border Road

5.6 Nacala Port Transport System

The cost of the 5 projects in the Nacala Port Transport System is estimated at USD 293.9 million, of which 261.1 million (89 per cent) is secured (Table 2E).

a) Projects with full funding secured:

2.5.5 Rehabilitation of the Nacala - Cuamba Railway, Mozambique
3.5.3 Design and Construction of Container Terminal for the Port of Nacala, Mozambique

b) **Projects requiring additional external funding:**

None

c) **Projects with no secured external funding:**

1.8.6 Rehabilitation of the Lusaka - Chipata Road, Zambia
2.4.2 Rehabilitation and Acquisition of Locomotives, Rolling Stock and Maintenance Equipment, Malawi Railways

5.7 Dar es Salaam Port Transport System

The 6 main projects in the Dar es Salaam Port Transport System are estimated to cost a total of USD 612.8 million, of which USD 426.5 million or 70 per cent is secured (Table 2F).

a) **Projects with full funding secured:**

3.7.1 Development of Navigation on Lake Niassa/Nyasa/Malawi

b) **Projects requiring additional external funding:**

1.4.3 Road Link Balaka - Salima - Karonga - Uyole, Malawi/Tanzania
1.7.3 Rehabilitation/Strengthening of the Tanzam Highway in Tanzania
2.7.1 TAZARA 10-year Development Plan Projects
3.7.2 Development of Port of Dar es Salaam

c) **Projects with no secured external funding:**

1.8.8 Rehabilitation of the TANZAM Highway, Zambia

5.8 Lobito Port Transport System

The programme comprises 6 main projects which consist of numerous sub-projects. The projects in the Luanda port are also included in this system. The total estimated cost is USD 580.4 million, of which only USD 30.1 million (5 per cent) is so far secured (Table 2G).

a) **Projects with full funding secured:**

1.8.1 Study on Angola - Zambia Road Link

b) **Projects requiring additional external funding:**

0.1.1 Multi-modal Projects in the 10-year Development Plan

c) **Projects with no external funding secured:**

1.1.3 Roads and Road Transport Projects
2.1.1 Benguela Railway Projects
3.1.1 Port and Water Transport Projects

5.9 Intra-Regional Surface Transport Projects

Altogether 32 projects are included in this category, with a total cost estimate of USD 715.9 million, of which USD 231.4 million (32 per cent) are secured (Table 2H).

a) **Projects with full funding secured:**

1.2.2 Study on Jwaneng - Mamuno Road, Botswana
1.5.2 Rehabilitation of the Zimbabwe - Tete - Malawi Road
2.9.1 Track Repair and Wagon Maintenance Equipment, NRZ

b) **Projects requiring additional external funding:**

1.2.1 Partial Reconstruction of Nata - Kazungula Road, Botswana
1.8.3 Rehabilitation of the Lusaka - Kafue - Livingstone-Kazungula Road, Zambia
2.2.7 Establishment of Dry Ports/ICD's in Botswana
2.4.3 Establishment of Dry Ports/ICD's in Malawi
2.5.11 Computerized Wagon Control CFM, Mozambique
2.5.12 Rehabilitation and Acquisition of Locomotives for CFM, Mozambique
2.5.8 Rehabilitation and Maintnenace of Wagons CFM, Mozambique
2.8.2 Acquisition and Refurbishment of Locomotives and Wagons, Zambia Railways
2.8.5 Track Rehabilitation and Maintenance, Zambia Railways
3.5.4 Navigational Aids, Mozambique

c) **Projects with no secured external funding:**

1.1.1 Study of the Road N'Zeto - Soyo, Angola
1.1.2 Studies of Four Roads in Angola
1.4.2 Study on the Up-grading of the Road Blantyre - Mulanje - Mocuba, Malawi/Mozambique
1.8.5 Rehabilitation of the Road Lusaka - Kapiri - Zaire border
2.3.1 Establishment of Dry Port/ICD in Lesotho
2.4.4 Improvement of Communications Systems, Malawi Railways

2.6.2 Establishment of Dry Port/ICD in Swaziland
2.8.4 Establishment of Dry Ports/ICD's in Zambia
2.8.6 Telecommunications and Database Management System, Zambia Railways
2.8.7 Motive Power, Rolling Stock and Operation Plan for Zambia Railways
2.9.2 Equipment for Central Electrical Workshops, National Railways of Zimbabwe
2.9.3 Telecommunications, Signalling and Wagon Control, NRZ
3.7.3 Coastal Navigational Aids, Tanzania
3.8.1 Study of Navigability of the Zambezi and Shire Rivers

5.10 Civil Aviation

The total estimated cost of the 19 civil aviation projects in the programme is USD 260.6 million, of which USD 45.9 million or 18 per cent is secured (Table 2I).

a) Projects with full funding secured:

4.9.2 Study of the New Harare Airport Terminal

b) Projects requiring additional external funding:

4.2.2 Improvement to Gaborone Airport, Botswana
4.6.1 Development of Matsapha Airport, Swaziland

c) Projects with no secured external funding:

4.0.8(1) Rehabilitation of Aeronautical Telecoms in the Region
4.1.1 Civil Aviation Projects in the Ten Year Development Plan for the Lobito Port Transport System
4.2.1 Acquisition of new Aircraft for Air Botswana
4.2.3 Flight Information Region for Botswana
4.3.3 Acquisition of New Aircraft for Air Lesotho
4.3.4 Rehabilitation of Aeronautical Telecommunications, Lesotho
4.5.3 Civil Aviation Projects in Beira Port Transport System Development Plan
4.5.5 Development of Maputo Airport, Mozambique
4.8.6 Lusaka International Airport Development
4.9.3 Modernization of AFTN Message Switching Centre at Harare International Airport
4.9.4 Improvement and Expansion of Radar Coverage, Zimbabwe

5.11 Telecommunications

The 34 telecommunication projects included in the programme are estimated to cost a total of USD 688.6 million, of which USD 329.5 million (48 per cent) is secured (Table 2J).

a) **Projects with full funding secured:**

5.1.2 Expansion of the International Telecommunication Services, Angola
5.2.5 Rural Telecommunications Development Study, Botswana
5.4.2 Digitalization of the Trunk Network, Malawi
5.6.2 Combined National and International Telephone Switching Centre (Gateway Exchange) at Ntondosi, Swaziland
5.6.3 Expansion of the National Microwave Trunk Network, Swaziland
5.6.4 Provision of Group and channel Translating Equipment for 20 Supergroups at Ntondosi for the Combined National and International Telephone Switching Centre (ITSC), Swaziland
5.7.2 Extension of the International Transit Switching Centre Capacity, Dar es Salaam
5.7.3 Standard A Earth Satellite Station at Dar es Salaam
5.8.6 Microwave Link Kariba (Zimbabwe) - Siavonga (Zambia)-Lusaka
5.8.8 Livingstone - Kasane Microwave Link, Zambia/Botswana
5.9.7 Supply of Digital Telephone Exchanges, Zimbabwe

b) **Projects requiring additional external funding:**

5.2.3 Expansion of the Microwave Trunk Network, Botswana
5.3.2 Rural Communications System, Lesotho
5.5.1 National/Regional Satellite Communications System, Mozambique
5.5.3 National Telecommunications Development Project with connections to neighbouring countries, Mozambique
5.5.5 Telecommunications Projects in Beira Port Transport System Development Plan
5.5.6 Maritime Radio Communications Project, Mozambique
5.8.2 Expansion of the Earth Station at Mwembeshi (Lusaka)

c) **Projects with no secured external funding:**

5.1.1 Telecommunications Projects in 10-year Development Plan for Lobito Port Transport system
5.1.6 Expansion of Telecommunications Training Centre, Angola
5.1.7 Expansion of Circuit Capacities for Transmission Routes South of Luanda, Angola
5.3.3 Rural Automatic Telephone Exchanges, Lesotho
5.4.3 Supply of Digital Equipment for the Expansion of Telecoms Exchanges in Blantyre - Lilongwe - Zomba, Malawi
5.7.4 New Transit Digital Telephopne and Telex Exchange for Dodoma, Tanzania
5.7.5 Digital Microwave Link Dar es Salaam - Dodoma-Zanzibar and Expansion of multiplex equipment at Dodoma, Tanzania

5.7.7 Provision of Digital Microwave Link Dar es Salaam-Mtwara - Songea and Exchange at Songea, Tanzania
5.8.1 Extension of the International Transit Switching Centre (ITSC) in Lusaka
5.8.3 Microwave Terminal at Chingola to complete the link Zambia - Zaire
5.8.4 Microwave link Zambezi (Zambia) Luena (Angola)
5.8.7 Zambia Message Switching System in Lusaka
5.8.9 Master Plan Study and Fundamental Planning Unit for Zambia
5.9.6 Provision of Packet Switching for Data Network, Zimbabwe
5.9.8 Expansion of the Earth Station at Mazowe, Zimbabwe

5.12 Meteorology

The number of meteorology projects in the programme is 10. The total cost is estimated at USD 17.3 million and USD 2.8 million (16 per cent) is secured. Another USD 10 million has been pledged, and the details of utilization of this pledge are being worked out (Table 2K).

a) Projects with full funding secured:

None

b) Projects requiring additional external funding:

6.0.5 Data Processing in Meteorological Services
6.0.6 Meteorological Observing Networks
6.0.7 Meteorological Telecommunications

c) Projects with no secured external funding:

6.0.2 Regional Drought Monitoring Centre, Harare
6.0.3 Regional Meteorological Telecommunications HUB and Data Exchange, Lusaka
6.0.4 Regional Maintenance Support of Meteorological Services
6.0.8 Data Rescue Project
6.5.1 Meteorological Buoys for Mozambique
6.5.2 Aeronautical Equipment for airports in Mozambique
6.7.1 Meteorological Buoys for Tanzania

5.13 Postal Services

The programme comprises 4 projects with a total cost of USD 31.6 million. Of this, USD 12.6 million or 40 per cent is secured (Table 2L).

a) **Projects with full funding secured:**

None

b) **Projects requiring additional external funding:**

7.0.3 Technical Assistance to Postal Services
7.0.4 Regional Programme for the Development of Postal Terminals
7.5.1 Sorting Centre and Stamp Printing Facilities in Maputo, Mozambique

c) **Projects with no secured external funding:**

7.0.2 Feasibility Study on the Introduction of a Postal Giro System in the SADCC Countries

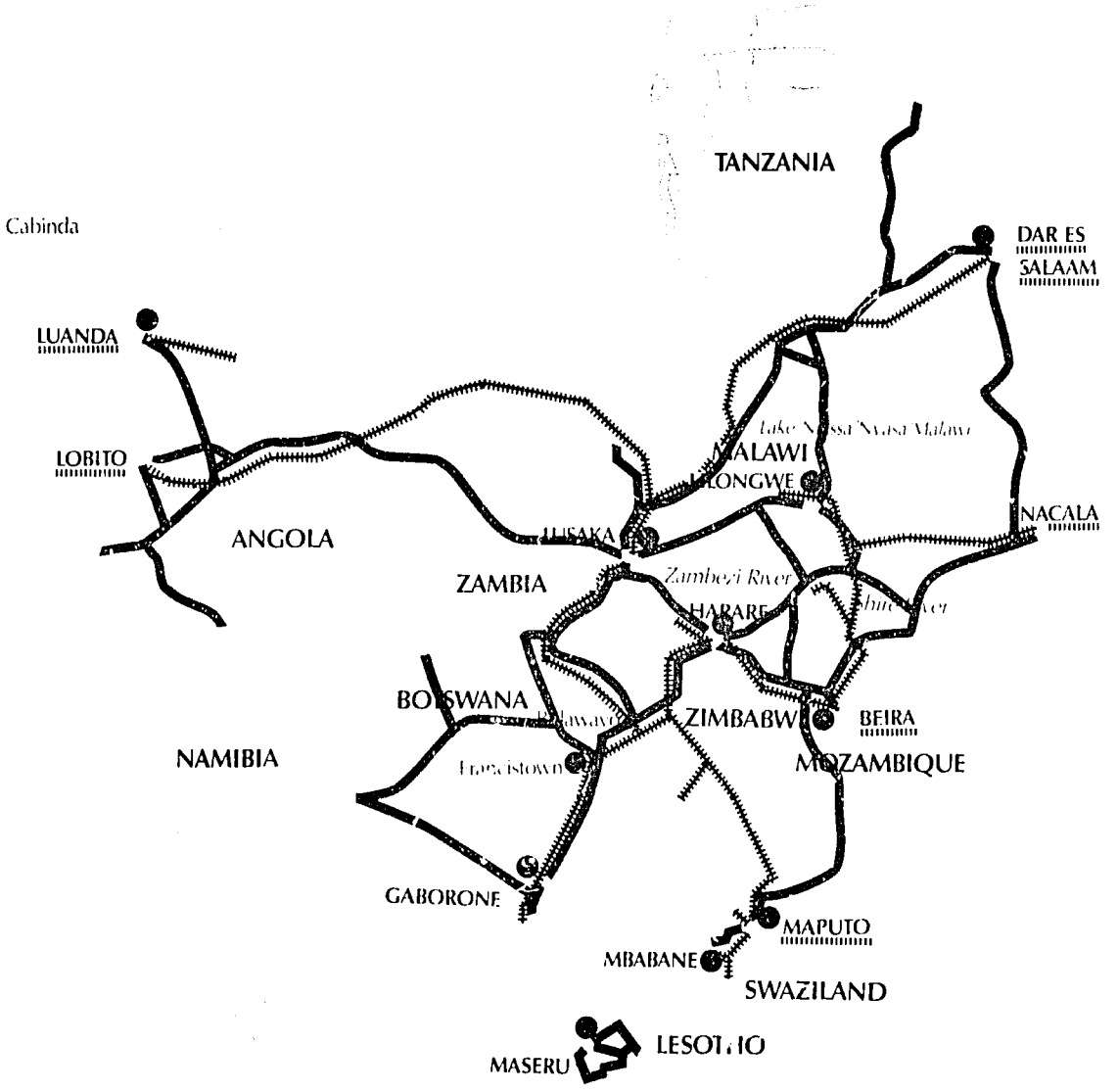
5.14 **Projects Under Review**

The following projects are being reviewed

1.1.1 Study on N'zeto - Soyo Road, Angola
1.1.2 Studies in Six Roads, Angola
1.3.2 Upgrading and Reconstruction of the Road Taung-Mokhotlong - Sani Top, Lesotho
1.3.3 Upgrading of the Road Thaba Tseka - Taung - Mpiti, Lesotho
1.3.4 Construction of a New Road Ramabanta - Semonkong-Sekake, Lesotho
1.4.1 Study on Up-grading Mangoche - Mitande Road, Malawi/Mozambique
1.5.5 Study on Unity Bridge, Mozambique/Tanzania
1.5.6 Road Linking Southern Zimbabwe with Maputo Area
1.7.1 Rehabilitation of Mtwara - Mbamba Bay Raod, Tanzania
1.8.1 Study on Angola - Zanbia Road Link, Zambia
1.8.7 Improvement of Lusaka - Mongu Road, Zambia
2.6.1 Modification of Wagons and Wagon Maintenance, Swazi Railway
2.8.1 Feasibility Study on New Rail Link Zambia - Malawi-Mozambique
2.8.3 Railway Bridges, Zambia
3.1.2 Development of Luanda Port
4.0.5 Study on General Aviation
4.0.7 Up-dating of Aeronautical Information Services
4.4.1 New Airport at Mzuzu, Malawi
4.5.6 Development of Inhamabane Airport, Mozambique
4.5.7 Development of Vilanculos Airport, Mozambique
4.8.1 Study on Improvement of Three Airports, Zambia
4.8.4 Study on New Hangar, Lusaka

Figures

Figure 1 Regional Surface Transport Networks and Airports



Scale 1:20 000 000

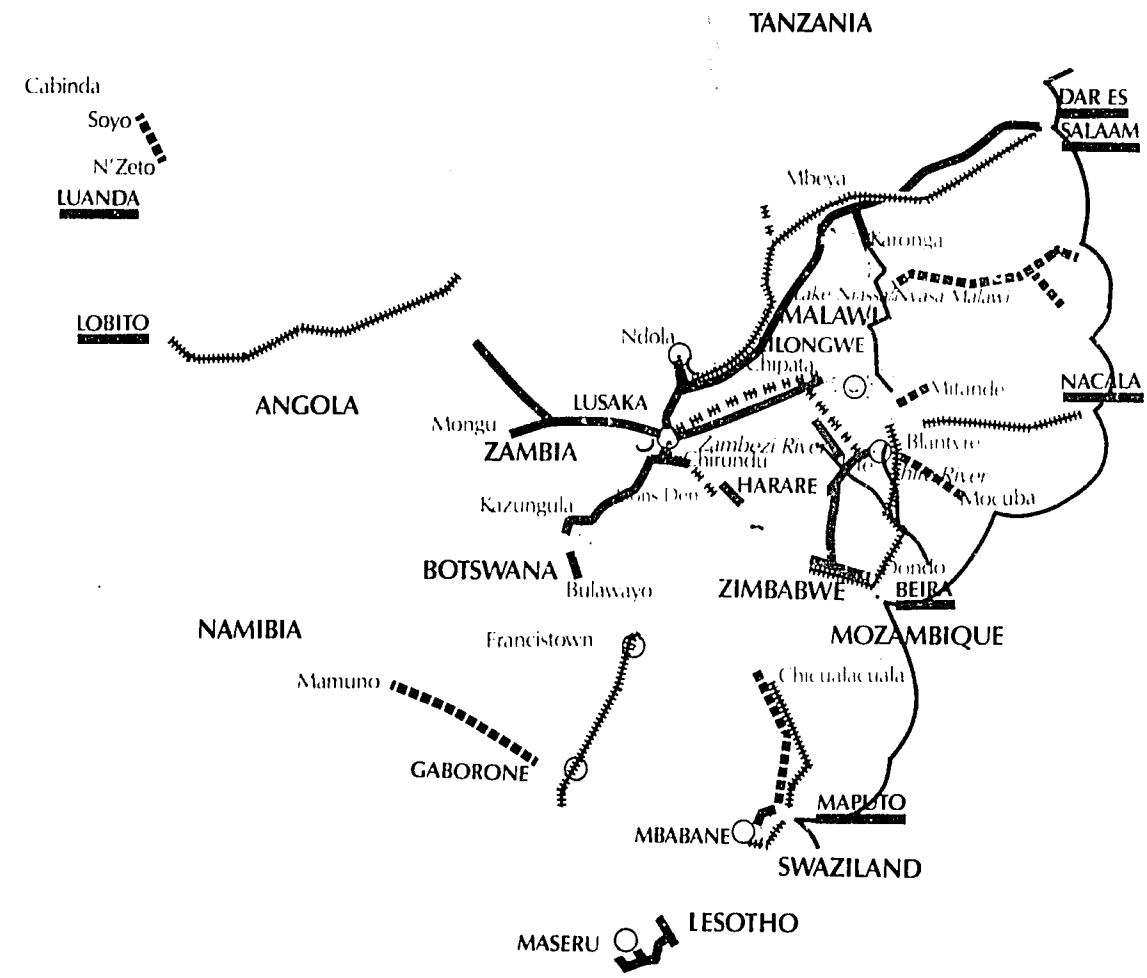
Regional Railway Network

Regional Trunk Road Network

Airport with Regional Traffic

NACALA Regional Port

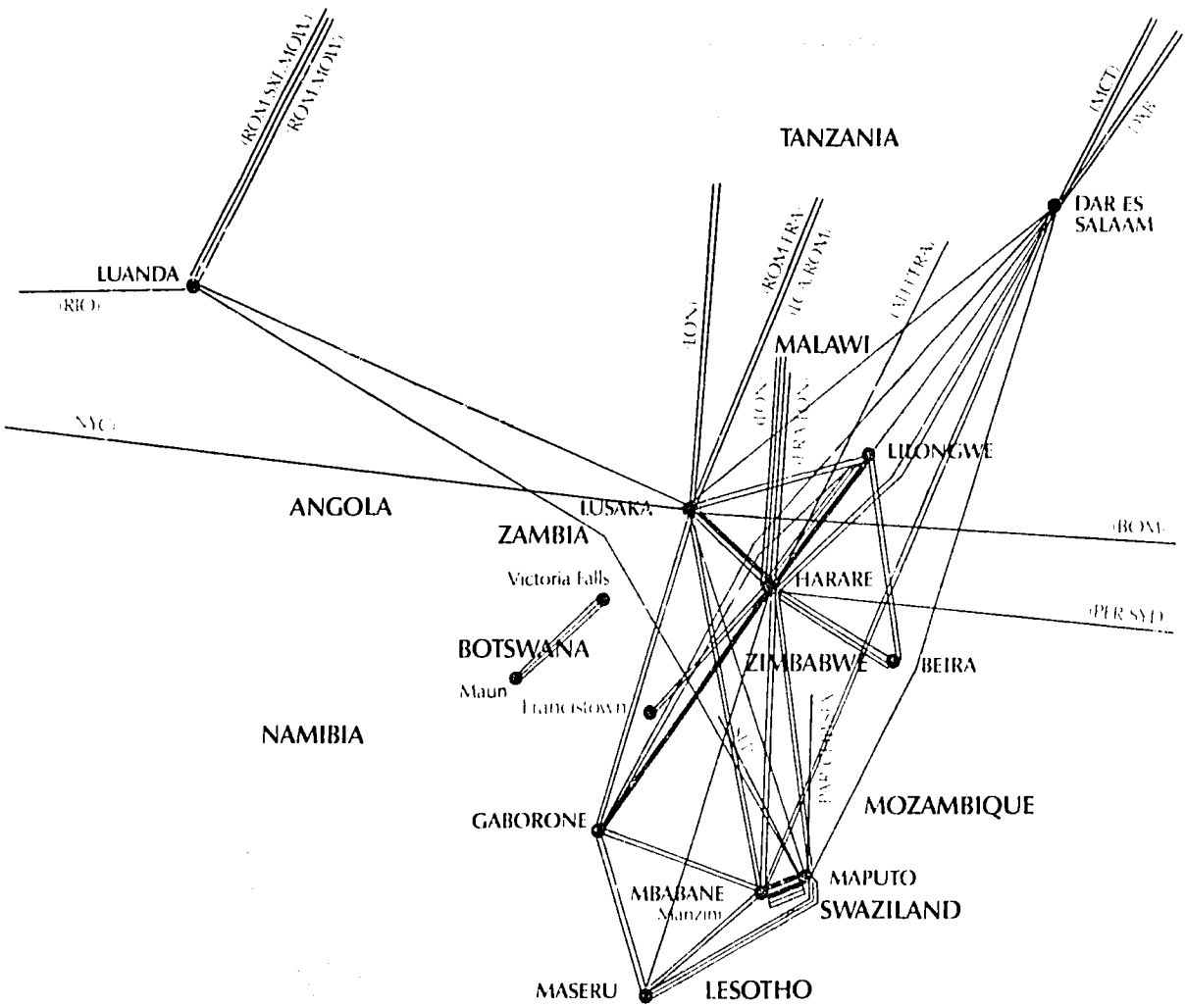
Figure 2 Railway, Road, Port and Water Transport Projects



Railway Project
Railway Study
Railway Bridge Project
Dry Port
Road Study
Road Project
Coastal Navigational Aids and Inland Water Transport Project
Regional Port Project

Scale 1:20 000 000

Figure 3 Regional and Overseas Flights by SADCC National Airlines



Weekly Regional connections

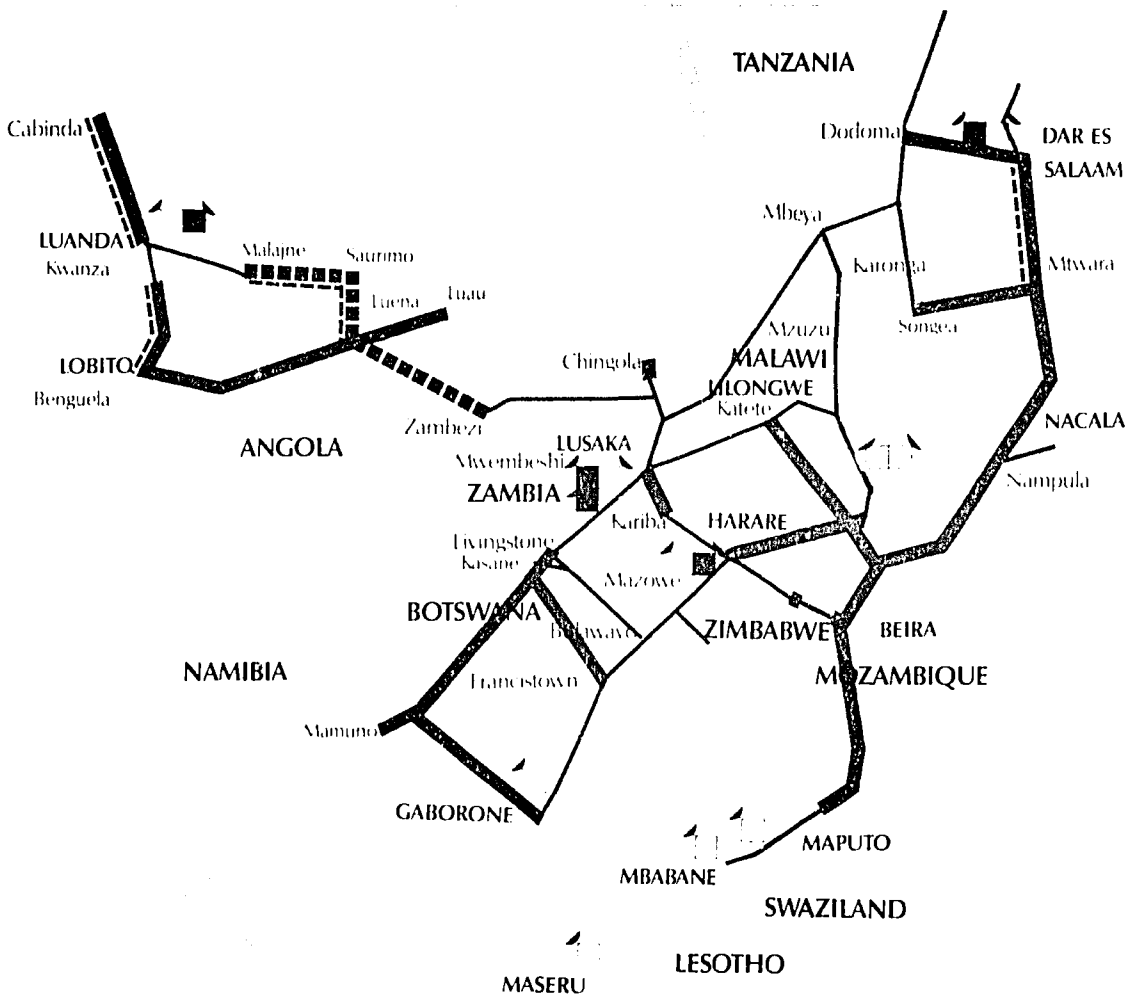
5 pairs of connections

1 pair of connections

Weekly Overseas connections

1 pair of connections

Figure 4 Telecommunications System Projects



Section Two

Project Descriptions

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Multi-Modal/Operational Coordination

0.0.2 Operational Coordination Development Programme

Estimated Costs
Total : USD 3.8 million
Foreign : USD 3.8 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 3.2 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.6 million

Executing Agency:
SATCC

Start : 1983
Duration: To 1990

Objectives : Promotion of regional operational co-ordination within all sectors. The programme encompasses eleven identified sub-sectors and aims at harmonization, standardization or more general co-operation between the Member States in the identified fields.

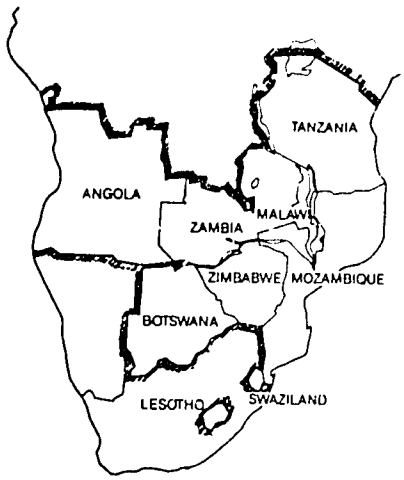
Description: Operational co-ordination has high priority in the SATCC work. The Technical Unit of SATCC is directly involved in the initiation of these activities. There is, however, a need for supplementary technical assistance concerning preparation of meetings and follow-up work in order to secure timely implementation of the work programmes. Due to this outside financing is needed for each activity.
Eleven sub-sectors / activities have been identified so far :

(1) Road Infrastructure
(2) Road Traffic and Transport
(3) Railway Administrations
(4) Civil Aviation
(5) National Airlines
(6) Port Administrations
(7) Shipping Development
(8) Telecommunications
(9) Meteorology
(10) Postal Services
(11) Survey for Regional Frequency Management and Radio Monitoring

In 1982-1983 the work was initiated and meetings were convened for the first six activities. Operational co-ordination of port administrations was initiated in 1984 and that of postal services and meteorlogy in 1985. Australia has financed operational coordination related to civil aviation and national airlines up to June, 1985. DANIDA provides technical assistance to activities related to railways and road infrastructure and NORAD to road traffic and transport and port administration.

Status : Additional funds are sought to finance operational co-ordination after 1985 up to 1990.

0.0.2(11) Survey for Regional Frequency Management and Radio Monitoring



Estimated Costs
Total : USD 0.3 million
Foreign : USD 0.3 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.3 million

Executing Agency:
SADCC

Start : 1988
Duration: 2 Years

Objectives : To determine the needs and requirements for frequency management and radio monitoring stations in the region to assist in the assignment, co-ordination, and monitoring of radio frequencies.

Description : The project consists of survey for the following parts in order to co-ordinate the usage of the radio spectrum :

- survey of staff needs and requirements for Radio frequency management for the SADCC Administrations;
- determine the requirements for computer aided Frequency Management techniques to be used in connection with the selection and co-ordination of regional frequencies;
- survey and determine frequency range, geographical positions, size, tasks and number of fixed and mobile monitoring stations in each SADCC member country with detailed list of type of equipment to be used;
- devise systematic frequency selection procedures in the region to allow for ease of frequency co-ordination among adjacent countries; determination of principles for establishing SADCC agreements on co-ordination of frequency assignments in border areas; and determination of procedures and functions of the Interference Investigation Service; and
- determine appropriate training programme and seminar.

Status : Financing is sought for the study survey and implementation of projects emanating from the study.

September 1988

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0.0.3 Training Development Programme

Estimated Costs
Total : USD 2.0 million
Foreign : USD 2.0 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.8 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.3 million

Financing Gap:
Total : USD 0.9 million

Executing Agency:
SATCC

Start : 1987
Duration:

Objectives : To promote the development of training within the transport and communications sector in the Member States. The project includes four separate regional training activities.

Progress : The project includes those training activities which at this stage are considered urgently needed and which have not yet been defined as separate projects. Training has high priority and the Technical Unit of SATCC will be closely involved in the initiation/development of the above activities. There is, however, a need for supplementary technical assistance and outside financing.

The activities included in the project are listed below.

Preliminary costs are indicated in brackets:

(1) Road traffic and transport training, study and establishment of a Task Group (US dollars 595 000) Duration 2 years

(4) Training course in national telecommunications network planning (US dollars 500,000) Duration 2 years

(5) Satellite communications technology course (USD 250,000) (see separate brief)

(7) Workshop/Seminar on Telecommunications Switching Signalling System in the Sub-region (new project, see Separate brief 0.0.3(7) (USD 50 000)
ITU is financing the provision of lecturers and fellowships for the seminar (see separate brief)

(8) Local Network (External Plant) Planning Course (see separate brief 0.0.3(8)).

(9) Telecommunications Training Needs Survey (USD 150 000). Duration 1 year
Financing is required for this activity to assess the needs and requirements for training in telecommunications which will provide proposals and future training programmes.

(10) Telecommunications course in Traffic, Tariffs and Accounting procedures (USD 200,000)

The study for the first activity has been completed. Based on an analysis of the needs, proposals on future programmes and their regional organization will be prepared by a Task Group.

Status : Financing for the study (USD 295 000) (1) and (5) has been secured under the CIDA/SATCC Technical Services Fund. Satellite Communications technology first course was completed end August, 1987; Financing is required for the follow-up course in Satellite Communication. (4) is to be financed by Sweden and SWEDTEL has undertaken a regional survey to define the final content of the course for implementation. The first course is to be held in May/June 1989. (8) Italy has financed the first course, June 1988; financing is required for the follow-up course. Financing is sought for (9) and (10).

September 1988

0.0.3(05) Satellite Communications Technology Course

Estimated Costs
Total : USD 0.2 million
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.2 million

Executing Agency:
SATCC

Start : 1989
Duration: 8 weeks

Objective : To provide detailed and complete understanding of communications by satellite technology to operations and maintenance staff presently working or intending to work at the Satellite Earth Stations in SATCC Member Countries.

Progress : Satellite Earth Station facilities are present in all SATCC Counties and an important plan of expansion will be implemented in the second part of the eighties. In two years time, a network of direct satellite links besides other international links will be established between SADCC countries. Lack of competent local operations and maintenance personnel is one of the major problems of concern affecting operation of Satellite Earth Stations in SATCC Member Countries. Hence, this type of training is initiated in order to ensure total localization and therefore minimizing operational costs, without degradating performance efficiency.

The syllabus of the course was prepared by the Telecommunications Administration of Malawi, as training co-ordinator in SATA.

The first course was held in Malawi in 1987 and attended by two trainees from each of the nine Member Countries.

It is required to run a similar course as a follow-up in 1989 to meet the manpower requirements for satellite comunications technicians and engineers in the sub-region.

Status : Financing for the present programme was secured under the CIDA/SATCC Technical services Fund.

- Financing is required to run a follow up course.

September 1988

0.0.3(07) Workshop/Seminar on Telecoms Switching Signalling Systems in the Sub-Region

Estimated Costs
Total : USD 0.1 million
Foreign : USD 0.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.1 million

Executing Agency:
SATCC

Start : 1987
Duration: 1 Week

Objectives : To promote in co-operation with manufacturers the detailed and complete Understanding of the signalling systems to telecommunications operations and planning staff in SADCC Member Countries.

Progress : The Signalling systems in use in the SADCC countries concerning service features for world wide international semi automatic and automatic telephone traffic are met by the following recommendations :

- CCITT (Red Book Fascicle VI.4)
- CCITT No. 5 (Red Book Fascicle VI 2)

Also PANAFTEL R2 is used for traffic through the national switching centres between adjacent countries or local exchanges in the case of frontier relations.

No plans have been forumlated up to now to make CCITT No. 7 for regional use.

The seminar will be held to harmonize the interpretation of the above signalling formats and features. It will be attended by two participatns from each admini stration; the manufacturers and ITU; and will be held in Blantyre.

Status : ITU is financing the provision of lecturers; financing is requested for the provision of two fellowships for the administrations participants. The course is programmed to be held by March 1989.

September 1988

0.0.3(08) Local Network (External Plant) Planning Course

Estimated Costs
Total : USD 0.2 million
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.2 million

Executing Agency:
SADCC

Start : 1989
Duration: 8 weeks

Objectives : The course is aimed at providing a complete understanding, comprehension and capability of Local Network telecommunications external plant, planning techniques.

Progress : Current telephone population in all SADCC countries is 400,000 accounting for an average penetration of less than 1 per 100 population with a potential waiting list of more than 100,000 subscribers who are unable to obtain service due mainly to lack of external plant planners and construction personnel which is on of the major problems retarding the growth and extension of telephone service. Hence, this type of training is initiated in order to ensure and improve increased telephone penetration in the SADCC countries.

The first course for 36 trainees was held in Zimbabwe in June/July 1988 financed by Italy. A follow up course with revised syllabus is necessary in 1989.

Status : Financing is required both for the preparation of the syllabus and running of the follow-up course in 1989.

September 1988

0.0.3(09) Telecommunications Training Needs Survey

Estimated Costs
Total : USD 0.1 million
Foreign : USD 0.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.1 million

Executing Agency:
SATCC

Start : 1988
Duration: 1 year

Objectives : To determine the medium and advanced level training requirements taking into account as far as possible all national telecommunications training facilities in order to provide a co-ordinated training programme over the next 5 to 10 years.

Description: The project is to undertake a telecommunications training needs survey to make recommendations for a co-ordinated programme of training rather than in a piecemeal fashion. The project is required to:

- assess the performance capabilities of existing national and regional training centres and draw conslusions as to what type and level of training courses should be developed for implementation in order to meet the identified needs.

- provide participating co-operating partners and agencies with an estimate of the physical, manpower, and financial resources which would be needed to support a recommended implementation programme.

Status : Financing is required to carry out the study survey.

September 1988

0.0.3(10) Telecommunications Course in traffic, tariffs and Accounting procedures

Estimated Costs
Total : USD 0.3 million
Foreign : USD 0.3 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.3 million

Executing Agency:
SATCC

Start : 1989
Duration: 8 weeks

Objective : The course is aimed at comprehension and understanding of basic principles of teletraffic and calculations for accounting rates, collection charges and accounting revenue division procedures for the international circuit used for telephony, telex and private leases.

Description: Most Administrations in SADCC countries are experiencing difficulties in qualitatively quantifying traffic and dimensioning their networks for interworking with national, regional and international relations.
Further there are disparities in the region of charges collected by Administrations for public use of the international telephone service and accounting rate per traffic unit agreed between Administrations for the establishment of international accounts.
The course will initially be for two fellowships from each SADCC Telecommunication Administration.

The course will cover the following:

- teletraffic engineering, traffic measurement procedures and computerisation of traffic database (It is envisaged that provision of computer facilities to Administrations will form part of the programme);
- accounting rate and collection charges;
- various procedures for remunerating Administrations;
- determination of accounting rate shares and collection charges; etc.

Status : Financing is required to develop and run the course and provision of the necessary computer facilities to the national Administrations.

September 1988

0.0.4 Transit Transport Project

Estimated Costs
Total : USD 4.8 million
Foreign : USD 4.8 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 4.8 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
UNDP/UNCTAD/SATCC

Start : 1984
Duration: Til 1991

Objectives : Improvement of the performance and utilization of existing transit transport facilities in the region in order to achieve lower cost and more efficient service for the landlocked countries concerned.

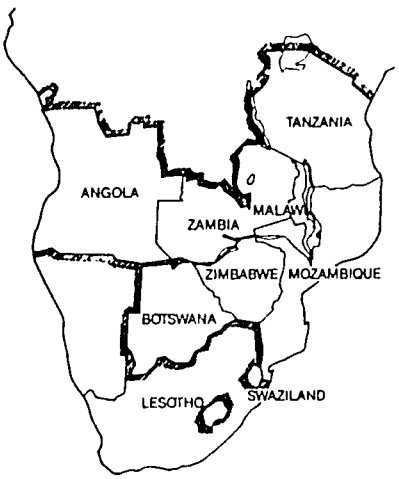
Progress : The first phase of the Project was focused on identifying and analysing the problems and bottlenecks in the regional transit transport system and on suggesting means for overcoming these. In 1983 the Project entered an operation oriented second phase.

The extension from 1984 onwards is geared to assist SATCC on a perational and organizational matters in the regional transport system. The Project is assisting SATCC at the level of the Groups of Experts established for operational co-ordination, in particular those dealing with ports and shipping, railways and road traffic and transport.

Status : An Evaluation mission was carried out in July - August 1987, by UNDP/UNCTAD. On that basis the project has been extended until 1991 to complete the ongoing activities.

September 1988

40



Estimated Costs
Total : USD 11.4 million
Foreign : USD 11.4 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 11.4 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
SATCC

Start : 1985
Duration: 6 Years

Objectives : To contribute within the SATCC Member States for the identification, analysis and resolution of current and potential bottlenecks in the regional transportation and communications systems.

Progress : The Funds have been and are being used for the following types of activities and studies:

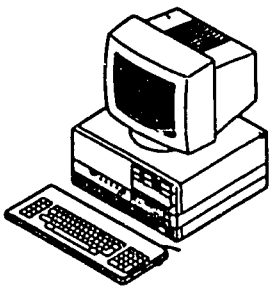
- Activities related to the work of the Groups of Experts on operational co-ordination;
- Training and courses;
- Project identification and preparation;
- Studies;
- General tasks of regional importance beyond the capacity of the SATCC Technical Unit.

Status : A Memorandum of Understanding has been signed with CIDA on Canadian Dollars 6 million (USD 4.6) for a three years period (1985-87). Two Canadian consultancy firms have been engaged, one for Telecommunications and one for Surface Transport and Civil Aviation. The Memorandum of Understanding for the period 1988-1991 is for CAD 8.4 million (USD 6.4 million).

An agreement has been signed with NORAD on NOK 3 million (USD 0.4 million) for the same purposes.

Several studies financed under the Funds are in progress.

0.0.6 SATCC Statistics Data System



Estimated Costs
Total : USD 0.1 million
Foreign : USD 0.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.1 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
SATCC

Start : 1987
Duration: 1 Year

Objectives : The objectives of this project are to:

(a) To develop and place into operation a computerized, multimodal transport statistics data system for use by the SATCC.

(b) To train SATCC staff in the use of the data system and in the procedures for updating the information contained.

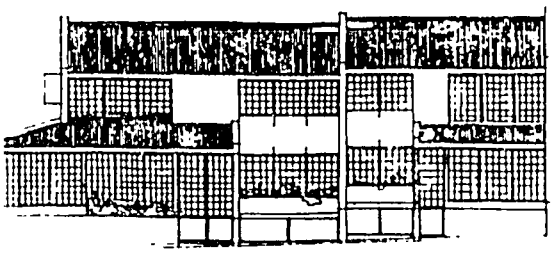
(c) To establish procedures by which the data base can be updated periodically.

Progress : The study phase is about to be completed. The system is gradually being introduced.

Status : Financing for this project has been secured under the CIDA/SATCC Technical Services Fund.

September 1988

0.0.7 SATCC Housing in Maputo



Estimated Costs
Total : USD 2.2 million
Foreign : USD 2.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 2.2 million

Executing Agency:
SATCC

Start : 1988
Duration: 18 months

Objectives : Construction of 20 houses for the use of SATCC expert staff.

Description: The SATCC Technical Unit is currently accomodated in 9 flats in Bairro Coop in Maputo.

A number of additional experts Regional as well as UN-Agencies Advisers will start to work within the Technical Unit in 1987/88.

It is expected that there will be between 15 and 20 experts in need of family houses within one years time.

Since there is a serious lack of housing in Maputo the fastest and best way of solving the housing problem for SATCC staff is construction of new houses.

An area, suitable for the construction of the 20 houses, has been allocated in Maputo. The whole area should preferably be constructed as one project including water supply, sewerage, electricity, landscaping and other external work.

Status : A detailed plan has been prepared for the site and preliminary design of the hosues has been made in scale 1:100.

Financing to be secured.

September 1988

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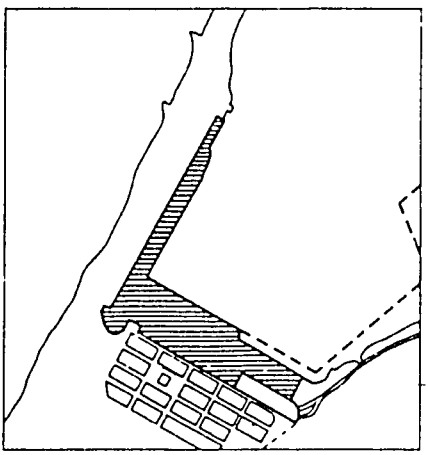
0.1.1 Multimodal Projects in the 10- Year Plan for Lobito Port Transport System



Estimated Costs
Total : USD 86.4 million
Foreign : USD 86.4 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 13.8 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 72.6 million

Executing Agency:
Lobito Port Authority and
Benguela Railway
Start : 1988
Duration: 5 years

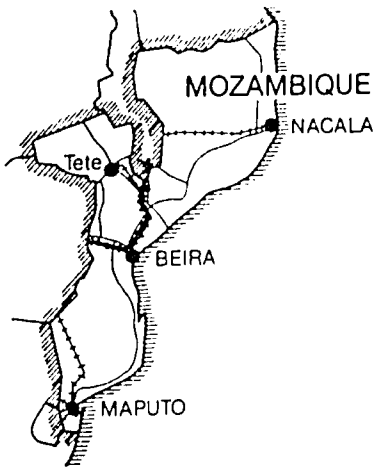
Objectives : General support for the implementation of the Ten Year Development Plan for the Lobito Port Transport System.

Description : The Plan includes the following general support projects :

Project		Cost USD, Million
G-M-1,	Project Co-ordination Unit	5.0
G-M-2,	Support to Workers and their Families	7.0
G-M-3,	Housing for Technical Assistance Staff in Lobito and Huambo	9.4
G-M-4,	Rehabilitation of Hotel Terminus	3.5
G-E-1,	Repair and Extension of Lamaum Hydroelectric Power Plant	42.0
G-CE-1,	Development of the Town of Lobito	13.5
G-CE-2,	Rehabilitation of Cement Factory	6.0
	Total	86.4

Status : Repairs to the dam, Project G-E-1, and installation and (repairs of equipment, will start in 1988 financed by Portugal (USD 10.8 million) and Federal Republic of Germany (USD 3.0 million).

0.5.1 Multimodal Projects in the Beira Port Transport System Development Plan



Estimated Costs
Total : USD 33.7 million
Foreign : USD 33.7 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 26.5 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 7.2 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Beira Corridor Authority

Start : 1986
Duration: 5 years

Objectives : Support to CFM(C) organization and manpower, development of the town of Beira and project co-ordination.

Description : The Beira Port Transport Development Plan includes the following general support projects.

Project		Estimated Cost USD million Total	Foreign	Pledged
(PR-M-01)	Organization and Manpower Development Plan	1.1	1.1	1.1
(PR-M-02)	Support to Workers and their Families	8.4	8.4	8.4
(PR-M-03)	Study of the Development of the Town of Beira	0.9	0.9	0.9
(PR-M-04)	Project Co-ordination	6.0	6.0	6.0
(PR-M-05)	Basic Services for the Town of Beira	17.3	17.3	17.3
	Total	35.7	35.4	24.5

Status : Organisation and Manpower Development Plan is expected to be finalized in 1988 and a related Financial and Tariff Development Plan and Management Information System Study in March, 1989 (PR-M-1). Under PR-M-2 acquisition of 5 buses has been secured from SIDA. Negotiations are going on, with DANIDA for fishing cooperatives and with FINNIDA for workers housing. Beira Town Study has been completed. Under PR-M-5 housing for expatriate personnel is financed by Nordic Countries and Netherlands (being implemented), emergency power supply by SIDA and emergency procurement fund by FINNIDA.

Roads

1.0.1 Package of Road Safety Programmes

Estimated Costs
Total : USD 14.0 million
Foreign : USD 14.0 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 14.0 million

Executing Agency:
Road Safety Authority in each member state.
Start : 1989
Duration: 3 Years

Objectives : Implementation of road safety programmes in SADCC Member States.

Description : Regional cooperation on matters related to road safety has taken place since 1983. Recommendations have been approved for Organisation of road safety work, accident recording systems, actions against drunken driving, motor vehicle testing, control of overloading, driver training and licensing and harmonization of road traffic legislation. For the implementation of recommendations related to road safety the following country programmes have been prepared :

		USD, million
(1)	Angola Road Safety Project	2.00
(2)	Lesotho Road Safety Project	2.00
(3)	Malawi Road Safety Project	1.96
(4)	Mozambique Road Safety Project	2.00
(5)	Swaziland Road Safety Project	1.78
(6)	Tanzania Road Safety Project	1.56
(7)	Zambia Road Safety Project	1.79
(8)	Zimbabwe Road Safety Project	0.91
		14.00

Status : A road safety programme in Botswana is already being implemented, financed by SIDA. Detailed project descriptions have been prepared for Lesotho, Malawi, Swaziland, Tanzania and Zambia. Cost estimates for Angola, Mozambique and Zimbabwe, as given above, are rough estimates, subject to corrections when detailed descriptions have been finalized for those countries.

Financing is being sought.

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1.0.2 Package of Weighbridge Programmes

Estimated Costs
Total : USD 2.1 million
Foreign : USD 1.8 million
Local : USD 0.3 million

Funding Secured
Foreign : USD 0.3 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.8 million

Executing Agency:
Road Authorities in Member States
Start : 1989
Duration: 3 years

Objectives : Introduction of ways and means to control overloading of motor vehicles in order to prevent the deterioration of the road network due to that factor and on commercial and safety grounds.

Description : The project includes establishment of fixed weighbridge stations, provision of portable weighbridges, organizational improvements, technical assistance and training of personnel.

The project consists of the following subprojects :

		USD, million Foreign	Local
(1)	Angola Weighbridge Project	0.30	0.10
(2)	Botswana Weighbridge Project	0.14	0.00
(3)	Lesotho Weighbridge Project	0.11	0.00
(4)	Malawi Weighbridge Project	0.18	0.02
(5)	Mozambique Weighbridge Project	0.18	0.03
(6)	Swaziland Weighbridge Project	0.20	0.11
(7)	Tanzania Weighbridge Project	0.21	0.05
(8)	Zambia Weighbridge Project	0.19	0.13
(9)	Zimbabwe Neighbouring Project	0.18	0.09
	Subtotal	1.69	0.43
	Total	2.12	

It is estimated that once efficient control of overloading has been introduced, the costs of the project will be covered within a year by reduced road maintenance costs.

Status : Project descriptions have been prepared. Financing is being sought.

1.0.3 Implementation of Harmonized Road Maintenance Management System in SADCC Countries

Estimated Costs
Total : USD 2.6 million
Foreign : USD 2.4 million
Local : USD 0.2 million

Funding Secured
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 2.4 million

Executing Agency:
Road Authorities in Member States
Start : 1989
Duration: 4 years

Objectives : Strengthening the capacity of the road authorities in the member states for road maintenance planning and management through the implementation of a harmonized Road Maintenance Management System - RMMS.

Description: Deficient maintenance is one of the main problems in the road infrastructure sector in the SADCC Region today. This is due to both insufficient budget allocations and inadequate planning and management capacity to use the available resources efficiently in an optimal way. The implementation of a Road Maintenance Management System, harmonized regionally to the extent feasible, has been identified by the road authorities in the member states as a major step forward in helping to improve the situation.

The preparatory work for the project has been undertaken under the auspices of the SADCC Working Group on Road Infrastruture which has agreed on the principles of the contents and implementation of a harmonized RMMS in the Region.

The RMMS will enhance the medium to long-term planning of strategies and actions on the road network, both at project and network level based on economic evaluation of alternative options and lines of action. The system to be implemented will use the Highway Design and Maintenance Standard Model (HDM III), developed by the World Bank, for pavement performance prediction and economic evaluation.

The RMMS to be implemented will have the following features and capabilities:

- road data bank including road inventory and traffic data;
- data management with user-friendly input and reporting facilities;
- data evaluation through on-screen graphical presentation of data and sectioning;
- on-screen assignment of maintenance options;
- automatic input of the formatted data to HDM III model.

The project includes acquisition of equipment (PC computers, trip metres, pavement roughness metres), training of personnel in the use and maintenance of

the system, and technical assistance in initiating the RMS and in calibration of the pavement performance prediction models to local conditions. The system will be implemented stage wise starting with the main trunk roads and expanding the coverage to the whole road network in the course of the implementation period (4 years).

Status : Background documentation, including implementation and training programme, has been prepared.
Denmark has been approached for funding.

September 1988

1.0.4 Task Group for the Road Transport Training Plan

Estimated Costs
Total : USD 0.3 million
Foreign : USD 0.3 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.3 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
SATCC

Start : 1989
Duration: 9 months

Objectives : The project provides for the establishment of a Task Group which, in support of the SATCC Group of Experts on Road Infrastructure and Road Traffic and Transport, will fully develop the Road Transport Training Plan called for in SATCC Project 0.0.3 (1) for implementation.

Description: The Task Group will :

(i) Refine the Plan structure and implementation schedule developed under Project 0.0.3 (1).

(ii) Develop the organization and administrative structure needed to implement the Plan.

(iii) Develop curricula, trainer and facility requirements for specified training programmes within the Plan.

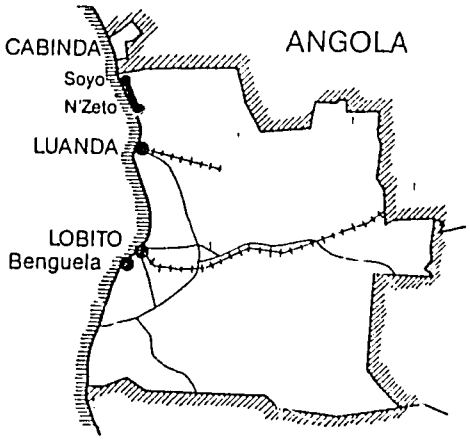
(iv) Produce Project Packages with sufficient detail to permit member states to approach prospective financiers for implementation support.

The Plan covers three important aspects of the road transport sector including mechanical trades, transport service operations and management and transport service regulation.

Status : Project 0.0.3 (1), which produced the broad Training Plan for the road transport sector, was carried out through the Canadian Technical Services Fund (CIDA). CIDA has also been asked to fund the work of this Task Group through the Technical Services Fund.

September 1988

1.1.1 Study on the Road N'Zeto – Soyo



Estimated Costs
Total : USD 1.1 million
Foreign : USD 1.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.1 million

Executing Agency:
Ministry of Construction, Angola
Start : 1989
Duration: 1.5 years

Objectives : Feasibility and engineering studies concerning the road N'Zeto – Soyo (160 km) in northwestern Angola.

Description : The existing road between N'Zeto and Soyo is a poor earth road with difficulties of passage and maintenance.

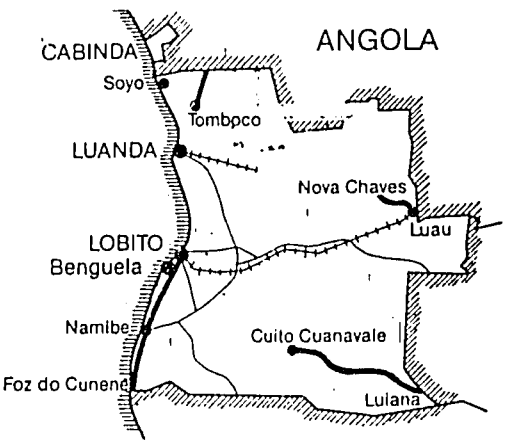
The construction of a new road of adequate standard is a high priority for the Government. This is justified by the economic importance of the area of influence of the road, including existing oil storage and loading facilities, ongoing off-shore oil exploitation and the imminent start of exploitation of the phosphate deposits in the area, as well as projects for agricultural development.

Status : The project is included in the programme of the United Nations Transport and Communications Decade for Africa 1978-1988. Terms of Reference for the studies have been prepared. The African Development Bank has been approached for financing of the studies.

Follow-up of financing.

September 1988

1.1.2 Studies of Four Roads in Angola



Estimated Costs
Total : USD 1.6 million
Foreign : USD 1.6 million
Local : USD 0 0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.6 million

Executing Agency:
Ministry of Construction, Angola
Start :
Duration:

Objectives : Feasibility studies of the following four roads :

Ombaca - Lucira - Foz do Cunene (Namibian border), 400 km;

Tombocco - Noqui (Zaire border), 180 km;

Nova Chaves - Luau (Zaire border), 120 km;

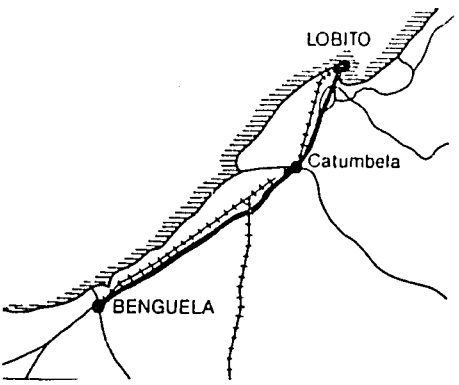
Cuito Cuanavale - Luiana (Zambian border), 650 km.

Description: These projects aim at providing links with the neighbouring countries as well as feeders to the Benguela Railway. Earlier studies exist in some sections.

Status : The projects have been included in the programme of the United Nations Transport and Communications Decade for Africa 1978 - 1988. Preliminary programmes for studies and implementation have been prepared.

September 1988

1.1.3 Roads & Road Tranport Projects in the 10 Year Develop Plan - Lobito Port Transport System



Estimated Costs
Total : USD 19.2 million
Foreign : USD 19.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 19.2 million

Executing Agency:
Ministry of Construction,
Roads Department
Start : 1988
Duration: 5 years

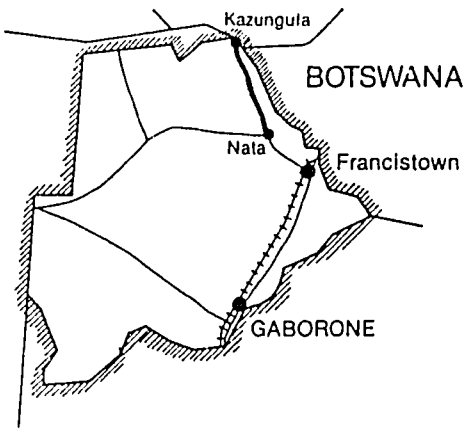
Objectives : Improvement of access roads to serve the Lobito port and strengthening of road haulage capacity.

Description : The Ten Year Development Plan for the Lobito Port Transport System includes the following road and road transport subprojects :

Project		Costs USD, million
RD-CE-1,	Benguela - Lobito Road and Access Roads to the Port and Railway in Lobito	12.2
RD-TR-1,	Reinforcement of the Capacity of the Road Transport Company	7.0
	Total	19.2

Status : A Technical Co-ordination Conference to discuss the 10-year Plan is scheduled for early 1989.

1.2.1 Partial Reconstruction of Nata - Kazungula Road



Estimated Costs
Total : USD 8.9 million
Foreign : USD 7.1 million
Local : USD 1.8 million

Funding Secured
Foreign : USD 3.3 million
Local : USD 1.8 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 3.8 million

Executing Agency:
Ministry of Works, Transport and Communications, Botswana
Start : 1988
Duration: 2 years

Objectives : Reconstruction of 86 Kms of the road Nata-Kazungula.

Description: The 300 km Nata-Kazungula road connects Botswana to neighbouring countries of Zambia and Zimbabwe and has proven to be an important transportation link for countries north of Botswana including Malawi.

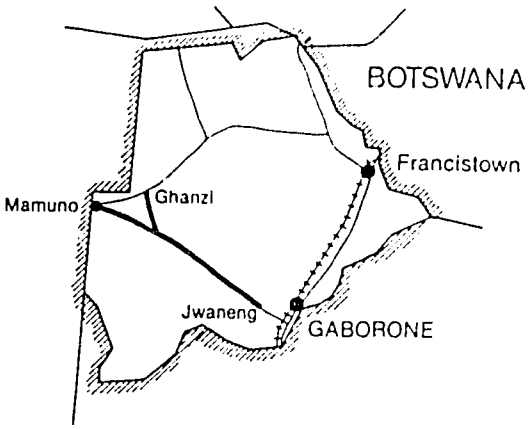
This road was upgraded from gravel to bitumen standard in 1983 but has suffered premature failures due to unforeseen material problems. Comprehensive investigations by the roads department indicate that progressive failures are likely to continue. High maintenance costs are therefore anticipated and reconstruction of the 86 Km towards Kazungula will be necessary within the next year.

Status : The road was removed from the SATCC programme in 1984 as a completed project. Upon proposal by the Government of Botswana it was re-introduced in the programme due to the observed failures.

Financing of USD 3.3 million has been secured from Sweden. The remainder of required financing is being sought.

September 1988

1.2.2 Study on Jwaneng - Mamuno Road Link, Botswana



Estimated Costs
Total : USD 1.4 million
Foreign : USD 1.4 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 1.4 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Ministry of Works, Transport and Communications, Botswana
Start : 1988
Duration: 1 year

Objectives : Feasibility Study and preliminary design for the construction of a new all weather heavy traffic road between Jwaneng and the Namibia border at Mamuno, with a spur to Ghanzi, about 620 Km.

Progress : At present the section Jwaneng - Lobatse is complete to paved standard.

A temporary gravel road has been constructed between Jwaneng and Sekoma Pan (approx. 80 Km).

The proposed road Jwaneng - border post at Mamuno will be the main road link between Botswana and Namibia, including the Namibian Atlantic ports.

A spur road (130 Km long) to connect the road with Ghanzi, the main administrative centre and highly productive cattle area in western Botswana, is included in the project.

The route is selected on the basis of surveys carried out both in the field and on Landsat imagery and on the basis of availability of sufficient quantities of suitable gravel of the pavement.

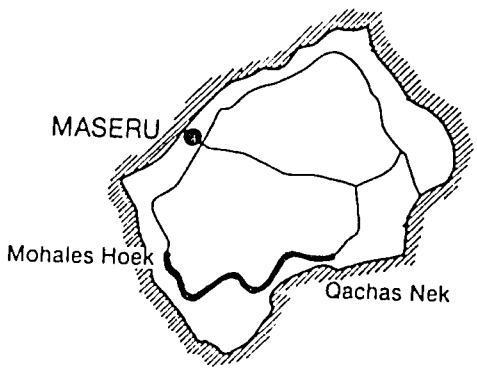
A materials survey has been carried out between Jwaneng and Ghanzi by the T.R.R.L (UK) and reasonable quantities of gravel (mainly calcrete) have been found along the proposed alignement.

A comprehensive experiment is being monitored on the road between Kanye and Jwaneng. The trial sections (22 in all) will give answers to the special problems related to road building in Kalahari desert conditions (soils, pavement, design etc.) Also a surfacing experiment (about 2 km) with low cost materials has been completed in June 1984.

The construction cost is estimated to USD 80 million in 1983 prices. Project will be split up into several contracts.

Status : Funding for the study has been secured from Swedish funds made available through ADB. Study has started in July 1988.

1.3.1 Upgrading of the Road Mohales Hoek-Quthing-Qachas Nek, Lesotho



Estimated Costs
Total : USD 89.0 million
Foreign : USD 81.0 million
Local : USD 8.0 million

Funding Secured
Foreign : USD 62.0 million
Local : USD 8.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 19.0 million

Executing Agency:
Ministry of Works, Lesotho

Start : 1981
Duration: 8 years

Objectives : The upgrading of the Southern Perimeter Road to decrease Lesotho's dependence on the South African transport network. The Southern Perimeter road will also be important for the development of the southern and south-eastern parts of Lesotho.

Progress : The project has a top priority for the Government.

On Mohale's Hoek -Quthing section work has started in January 1985 from Mohale's Hoek to Mekaling (28.5 Km) section on EEC financing.
On the section from Mekaling to Quthing redesign started in April 1986. On Quthing - Mt. Moorosi section construction to bitumen standard commenced in June 1986. Bitumenization of Mt. Moorosi-Mphaki section is being carried out. On Mphaki-Qacha's Nek section construction of 13.6 Km to gravel standard completed.

Status : Financing for section Mekaling-Quthing (USD 10 million) secured from EEC. DANIDA has agreed to finance construction of Seaka bridge on the same section (USD 5 million).

Financing of the remaining portion of the road to Qachas Nek to be sought.

September 1988

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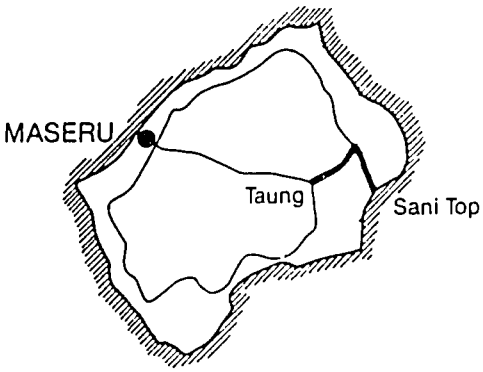
1.3.2 Upgrading and Reconstruction of the Road Taung-Mokhotlong- Sani Top, Lesotho

LESOTHO



Estimated Costs
Total : USD 50.0 million
Foreign : USD 41.0 million
Local : USD 9.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 9.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 41.0 million

Executing Agency:
Ministry of Works, Lesotho

Start : 1988
Duration: 3 years

Objectives : To reconstruct the existing track, 118km, to classified bitumen road standard, in order to connect the eastern part of the country with the district headquarters at Thaba Tseka and with the road to Maseru. A priority project for the Government.

Description: Planned standard is bitumen surfacing with mainly 8m wide formation (6m carriageway and 2 x 1m shoulders), except 7.2m on rocky sections.

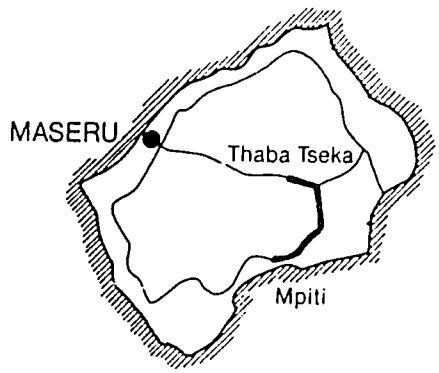
Some spot improvement works have been carried out on the road section Thabang-Sani Pass in order to upgrade the road to all weather standard. These works have been financed by the World Bank under the Third Highway Project. As a result the traffic on this road section has increased from about 10 to 50 vehicles per day, demonstrating the potential importance of the road.

Status : Despite of the above mentioned spot improvements the road section needs more extensive upgrading. A feasibility study and engineering design have been completed, financed by UK.
Financing for the implementation of the works is being sought.

September 1988

1.3.3 Upgrading of the Road Thaba Tseka-Taung-Mpiti, Lesotho

LESOTHO



Estimated Costs
Total : USD 35.7 million
Foreign : USD 28.5 million
Local : USD 7.2 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 7.2 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 28.5 million

Executing Agency:
Ministry of Works, Lesotho

Start : 1989
Duration: 3 years

Objectives : To upgrade to an all weather standard the road Thaba Tseka - Taung - Mpiti (145 km). The project is part of a scheme to reduce the dependence on the South African transport system.

Description: The section is part of the north-south connection in eastern Lesotho. Extensive agricultural projects are in progress in Thaba - Tseka area with support from Ireland and Canada. The road is important for this scheme.

The existing road is a simple track in bad condition. A low-level bridge is not passable during the rainy season. Stream crossings and drainage have to be reconstructed. Planned standard is Gravel 3, which means 6.0m formation.

The feasibility study (1979), which was financed by Canada, shows a low viability of the project. However, in view of the recent floods in September 1987, it is considered necessary to realize and reconstruct the road. The Government of Lesotho proposes the implementation in two stages:

1. Temporary improvement to be carried out soonest, cost estimate USD 13.85 million.

2. Final upgrading works to be implemented starting 1993, cost estimate USD 21.85 million.

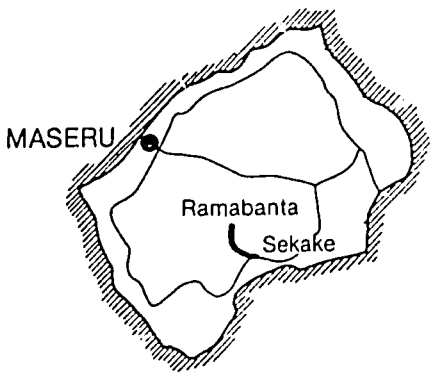
The cost of engineering design is estimated at USD 1.5 million.

Status : Financing is being sought now for the design of the road and the implementation of the temporary improvement (1st stage). ADB has been approached for financing of the studies in the first instance.

September 1988

1.3.4 Construction of a New Road Ramabanta-Semonkong-Sekake, Lesotho

LESOTHO



Estimated Costs
Total : USD 36.8 million
Foreign : USD 29.4 million
Local : USD 7.4 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 7.4 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 29.4 million

Executing Agency:
Ministry of Works, Lesotho

Start : 1990
Duration: 3 years

Objectives : Upgrading to classified gravel road standard of the existing road Ramabanta - Semonkong, approx. 50 Km, and construction of a new road Semonkong - Sekake, approx. 60 Km.

Description: The road connects the south-eastern part of the Lesotho Perimeter Road directly to Maseru, thus integrating this part of the country with the capital. The connection will reduce the dependence on the South African transport system.

The existing road Ramabanta - Semonkong is in need of improvement. Between Semonkong and Sekake there is no road at all.

The feasibility study completed in 1979 shows a low viability for the construction to bitumen standard of the road section Semonkong-Sekake. Updating of the study is required in view of the changed situation.

All the road passes through mountainous terrain with rough conditions.

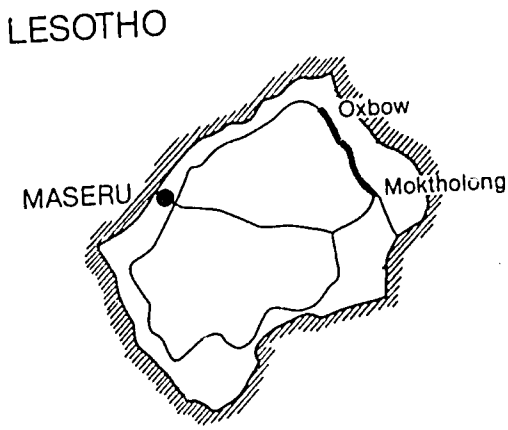
Design of section Ramabanta - Semonkong is completed financed by F. R. Germany (0.3 million USD). The implementation of this section is estimated to cost USD 18.0 million and the design and implementation of the section Semonkong - Sekake USD 18.8 million.

However, in view of the development of the Semonkong area it is now deemed necessary to revirew the studies of the section Ramabanta-Semonkong, as the traffic demand might now justify a higher (bitumenized) standard.

Status : Government has approached F.R. Germany for financing of the section Ramabanta - Semonkong, which is more urgent of the two section. Financing to be followed up.

September 1988

1.3.5 Upgrading of the Road Mokhotlong-Oxbow, Lesotho



Estimated Costs
Total : USD 51.3 million
Foreign : USD 44.0 million
Local : USD 7.3 million

Funding Secured
Foreign : USD 34.0 million
Local : USD 7.3 million

Funding Under Negotiation
Total : USD 10.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Ministry of Works, Lesotho

Start : 1989
Duration: 3 years

Objectives : Upgrading to bitumen standard of the road section Mokthotlong - Oxbow, 110 Km.

Description: The section between Mokhotlong and Oxbow is part of the main northern route linking Maseru through Butha-Buthe to the eastern and southeastern parts of Lesotho. At present, the section is a track through mountainous terrain, in places negotiable only by four-wheel drive vehicles in dry season.

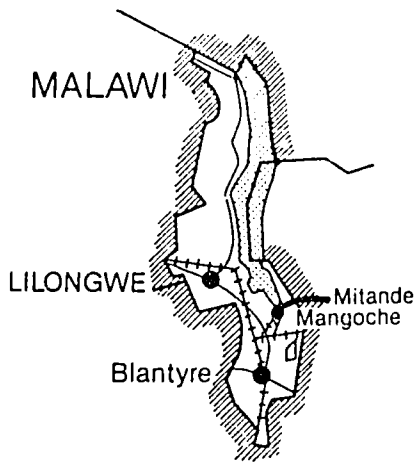
The project includes upgrading of the road to bitumen standard.

Status : The engineering design has been completed under the World Bank Third Highway Project. Review of the design is needed.

ADB has made an appraisal of the project. Financing secured from ADB (USD 22 million), BADEA (USD 10 million) and OPEC Fund (USD 2 million), and being negotiated with Kuwait Fund (USD 10 million).

September 1988

1.4.1 Study on Upgrading of the Road Mangochi-Mandimba-Mitande, Malawi/Mozambique



Estimated Costs
Total : USD 0.2 million
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.2 million

Executing Agency:
Min.of Works/Supplies,Malawi
Min.Const./Water,Mozambique
Start : 1989
Duration: 6 months

Objectives : Feasibility Study on the upgrading of 51 Km of the main road M3 in Malawi and of 51 Km of the EN8 in Mozambique, with the objective to open up a link from the central part of Malawi to Mozambique and the nearest ports, Pemba and Nacala.

The road link is also expected to serve as a through-pass between various provinces of Mozambique, i.e. Niassa east of Malawi and Tete west of Malawi. The road will be of importance in accelerating agricultural development in the area.

Description: The existing road has been realigned and improved on one section near Mangoche and one section above the escarpment to Manwera. The section up to the escarpment has a very low standard with narrow hairpin bends, damaged surface and dangerous bridges. The section between Manwera and Chiponde is an earth road in a bad condition. The pass across the border is a track usable only by four wheel drive vehicles.

The route in Mozambique is an earth road which is expensive to maintain. The topography traverses easy gently undulating terrain.

Status : Terms of Reference for feasibility and engineering studies have been prepared. The Malawi section is on the World Bank 5th Highway Project Rehabilitation Programme.

Action : Financing of the feasibility study to be sought.

September 1988

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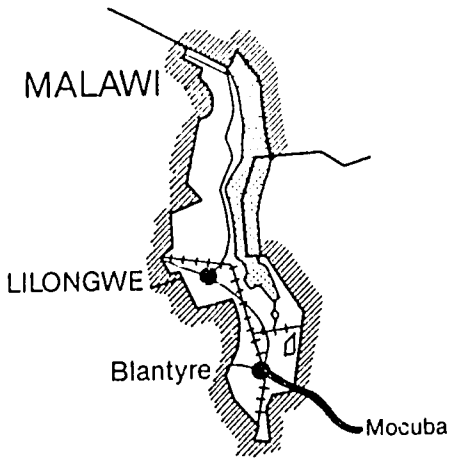
1.4.2 Study on the Upgrading of the Road Blantyre-Milanje-Mocuba, Malawi/Mozambique



Estimated Costs
Total : USD 0.5 million
Foreign : USD 0.5 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.2 million

Financing Gap:
Total : USD 0.3 million

Executing Agency:
SATCC (Feasibility Study)

Start :
Duration: 6 months

Objectives : Feasibility and engineering studies on the rehabilitation and upgrading of the existing road connection to bituminized standard.The total length of the road is 270 - 290 Km depending on route in Malawi. The Mozambican section is 185 Km.

The aim of the project is to provide an all weather road connection between Malawi and Mozambique constructed to class 1 bitumen standard. The road link will serve the trade between two countries and provide a link between Malawi and the ports of Mozambique. The road passes in both countries through rich agricultural areas which are under development for local consumption and export. The road is also of touristic interest.

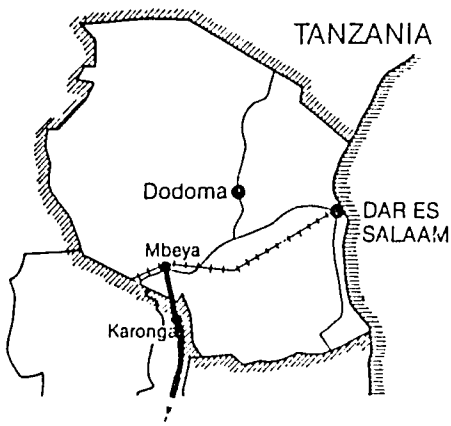
Description: The existing road in Malawi (103 Km) is on most of the section bituminized to a single lane width which is not sufficient for the existing traffic. The load bearing capacity is insufficient, the drainage cannot cope with the heavy rainfalls and the alignment is poor. Thus, the maintenance costs are high.

In Mozambique the existing road is a 6 m road of mainly earth standard, the alignment generally following the terrain. Existing condition is poor.

The traffic density on the Malawi section varies from more than 600 to less than 50 vehicles per day.

Status : Terms of Reference have been prepared for the studies. Engineering designs made for about 100 Km of the Mozambique section. Feasibility of the Malawi section studied in connection with other road projects in Malawi.
Project feasibility study included in tentative programme to be financed by CIDA/SATCC Technical Services Fund.

1.4.3 Road Link Balaka - Salima - Karonga - Uyole, Malawi / Tanzania



Estimated Costs
Total : USD 52.8 million
Foreign : USD 52.8 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 34.8 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 18.0 million

Executing Agency:
Min.of Works/Supplies,Malawi
Min.Communic/Works, Tanzania
Start : 1988
Duration: 3 years

Objectives : The linking of the Malawi road network to the Tanzam Highway and TAZARA, thus providing Malawi with a permanent outlet via the port of Dar es Salaam through the provision of an adequate bitumen standard road between Malawi and Mbeya in Tanzania.

Progress : The link is part of the Regional Trunk Road Network and, as a part of the Malawi-Dar es Salaam Corridor projects, will assist in easing the import and export problems of Malawi and also promote agriculture and tourism. Furthermore, the link will give better access to the Ngana coal field in northern Malawi.

About 50 km of new road and three bridges are needed to link Karonga with Ibanda on the existing bitumen road between Itungi and Mbeya in Tanzania (cost estimate USD 22.8 million). The existing road in Tanzania between Ibanda and Uyole (98 km) is in need of improvement/strengthening (cost estimate USD 18.0 million).

The project also includes upgrading of the 145 km Balaka - Salima section of the main south - north road in Malawi, costed at USD 12 million.

Status : Emergency improvement works on the section Karonga-Ibanda have been completed earlier financed by UK (USD 1.3 million) to allow a temporary use of the link. Design of both sections Karonga-Ibanda and Ibanda-Uyole completed, USD 22.8 million secured by EEC under Lome III for section Karonga-Ibanda. Works on this section started in 1988.

Financing of section Balaka - Salima has been secured by Federal Republic of Germany and The World Bank, and works contract was awarded in May, 1988.

September 1988

1.5.1 Road Projects in the Beira Port Transport System Development Plan

Estimated Costs
Total : USD 37.3 million
Foreign : USD 34.6 million
Local : USD 2.7 million

Funding Secured
Foreign : USD 8.4 million
Local : USD 2.7 million

Funding Under Negotiation
Total : USD 16.5 million

Financing Gap:
Total : USD 9.7 million

Executing Agency:
Beira Corridor Authority, Min. of Const. and Water, Mozambique
Start : 1988
Duration: 3 years

Objectives : To rehabilitate the road sections included in the Beira Port Transport System 10-Year Development Plan.

Progress : The Beira System Development Plan includes the following road projects:

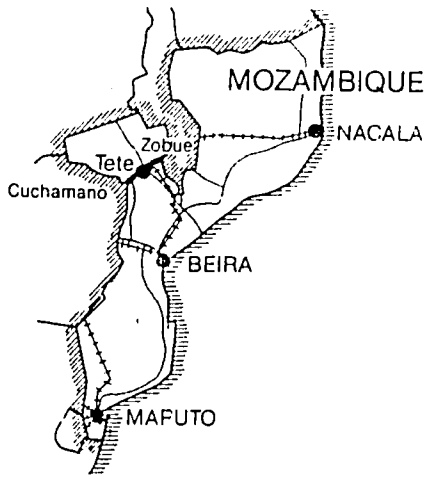
	Project	Estimated cost in USD million		
		Total	Foreign	Local
RD-CE-1	Road rehabilitation Beira-Machipanda	27.8	26.6	1.2
RD-CE-2	Road rehabilitation Lusaka-Kafue junction	Included in project 1.6.3 (Lusaka-Kafue-Kazungula)		
RD-CE-3	Road rehabilitation Chimoio-Changara	3.0	3.0	-
RD-CE-4	Road rehabilitation Matundo - Chiuta	6.5	5.0	1.5
	Total	37.3	34.6	2.7

For details, see Beira System Development Plan.

Status : Beira-Machipanda road: financing secured for emergency repairs by Sweden in Sofala province (3.4 million), and Mozambique. EEC expected to finance emergency repairs in Manica province (USD 3.5 million). Works started early 1988. ADB financing design of rehabilitation works and establishment of maintenance organization (USD 5 million). Japan expected to provide additional USD 2.5 million for equipment for the 2nd phase of projects.

Other roads : Funding to be sought.

1.5.2 Rehabilitation of the Zimbabwe -Tete-Malawi Road, Mozambique



Estimated Costs
Total : USD 18.6 million
Foreign : USD 12.6 million
Local : USD 6.0 million

Funding Secured
Foreign : USD 12.6 million
Local : USD 6.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Ministry of Construction and Water, Mozambique
Start : 1985
Duration: 3,5 years

Objectives : Reinforcement and rehabilitation of the road Zimbabwe border at Cuchamano-Tete-Moatize-Zobue at the Malawi border, 273 Km, and reparation of the Tete bridge over River Zambezi. The aim of the project is to provide a road link of suitable standard for traffic Zimbabwe-Malawi, Mozambique-Zambia and Mozambique-Malawi. It is also part of the main road link to the Province of Tete.

Progress : The road is asphalt-paved with a width of about 6 m and shoulders 2 m. Sections of the road are broken down and the road needs reinforcement.

Erosion at culverts and other drainage are in urgent need of repairs.

In connection with these works the road will be widened to 6.5 m carriage way, with two 1.0 m surfaced shoulders.

The bridge at Tete had been partly damaged due to flood.

The traffic varies between 80 vehicles per day at the borders and 600 vehicles per day in the vicinity of Tete. Of the international traffic a major part consists of heavy vehicles.

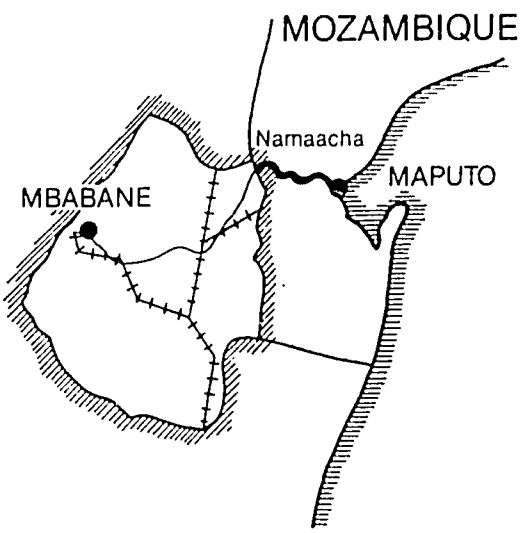
For the connecting road within Malawi between the border and Blantyre, reconstruction work is in progress.

Status : Financing of the project has been secured from the Kwait Fund for Arab Economic Development.

The bridgeworks commenced in April 1983, and were completed November 1984. Contract for road works concluded in December 1984, works are in progress.

September 1988

1.5.4 Rehabilitation of the Road Maputo - Swaziland Border, Mozambique



Estimated Costs
Total : USD 21.0 million
Foreign : USD 17.0 million
Local : USD 4.0 million

Funding Secured
Foreign : USD 0.8 million
Local : USD 4.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 16.2 million

Executing Agency:
Ministry of Construction and Water, Mozambique
Start : 1988
Duration: 4 years

Objectives : Rehabilitation and upgrading of the road Maputo-Boane-Namaacha-Border to Swaziland, 75 Km. The project aims at providing a road connection of adequate standard between Swaziland and Maputo, primarily with its port facilities (see Project 1.6.1). The 33 Km stretch between Maputo and Boane is also part of the road connection between Maputo and South Africa.

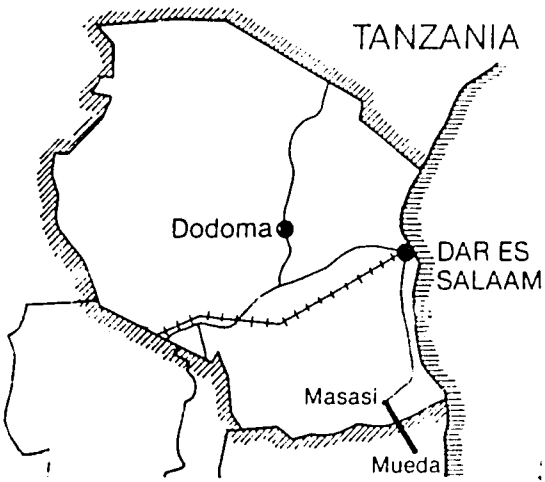
Progress : The existing road is asphalt-paved, mostly in poor condition. A section of about 62 Km of the total 75 Km has a heavily damaged surface, broken down along the edges and very bumpy. The width is less than 6 m along most of the section and does not provide room for overtaking and passing on the damaged sections. Some spot repairs are being made by local funding.

The project includes rehabilitation, reinforcement and upgrading of the road and rehabilitation of the Matola bridge.

Status : A feasibility study has been completed. Engineering design for the road to be made. Financing has been secured from Sweden for the Matola bridge works, which have started in January 1988, and for equipment and materials for the resealing of the section km 35 - 75.

September 1988

1.5.5 Study on Unity Bridge and Access Roads, Mozambique/ Tanzania



Estimated Costs
Total : USD 0.9 million
Foreign : USD 0.9 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD [illegible] million

Executing Agency:
The Governments of Mozambique and Tanzania
Start : 1989
Duration: 10 months

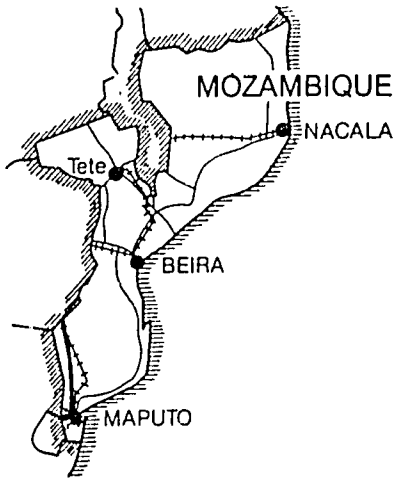
Objectives : Technical and economic feasibility study, including preliminary design, for the construction of a new road link between Mozambique and Tanzania.

Description: The Governments of Mozambique and Tanzania have agreed upon the construction of the Unity Bridge across the river Rovuma at the border between the two countries. The proposed location of the bridge is in the area between Mocimboa do Rovuma in Mozambique and Maparawe in Tanzania. The project includes the upgrading/construction of the bridge access roads between the river and Mueda in Mozambique (90 Km) and between the river and Masasi in Tanzania (55 Km). Estimated cost of construction of the bridge and access roads is about 40 million USD. The proposed new link is part of the National Trunk Road Network. Upgrading work is in progress on the [illegible] portion of the onward connection in Tanzania.

Status : Terms of Reference for the study have been prepared. ADB and P.R. China have been approached for financing of the studies.

September 1988

1.5.6 Road Linking Southern Zimbabwe with the Maputo Area, Mozambique



Estimated Costs
Total : USD 20.0 million
Foreign : USD 16.0 million
Local : USD 4.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 4.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 16.0 million

Executing Agency:
Ministry of Construction and Water, Mozambique
Start : 1989
Duration: 3 years

Objectives : To upgrade the earth track running parallel to the Limpopo railway line between Chicualacuala at the Mozambique/Zimbabwe border and Chokwe, and further to Manhica (approx. 410 Km altogether), to provide a service road for the railway rehabilitation and operation. In the second instance, to study the feasibility of a higher standard road transport link between Maputo and Zimbabwe.

Description: The first phase of the Limpopo railway rehabilitation is in progress. The requirements of the second phase have been studied, and the works are expected to continue into that phase upon completion of the first phase. An improved road running parallel to the railway is essential for the rehabilitation, maintenance and rescue operations of the railway line. The road should preferably be constructed to a minimum 3 m asphalted standard at this stage.

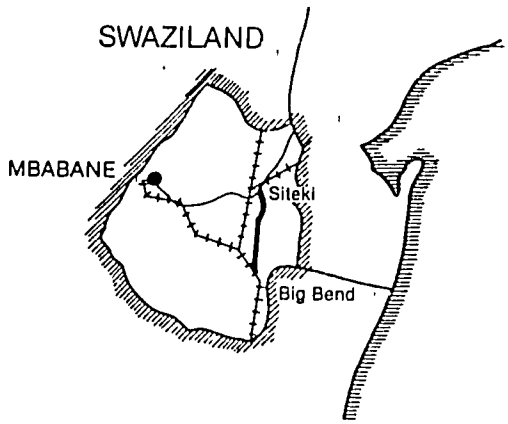
A feasibility study is also envisaged to establish the final desirable standard of a road transport link between Maputo and Zimbabwe.

The road will also be of great importance for agricultural development in the Limpopo Valley area.

Status : The construction of the service road is a new addition to the project. Its implementation is urgent in view of the needs of the ongoing railway rehabilitation. Financing is sought in connection of the 2nd phase of the Limpopo line rehabilitation.

September 1988

1.6.1 Rehabilitation/Upgrading of the Road Mozambique Border at Lomahasha-Siteki-Big Bend



Estimated Costs
Total : USD 22.0 million
Foreign : USD 18.7 million
Local : USD 3.3 million

Funding Secured
Foreign : USD 8.9 million
Local : USD 3.3 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 9.8 million

Executing Agency:
Ministry of Works and Communications, Swaziland
Start : 1992
Duration: 2 years

Objectives : Upgrading and bitumenization of the gravel road sections :

1. Lomahasha - Lonhluperko junction west of Siteki, 52.5 km.
2. Lonhluperko - junction north-west of Big Bend, 39.5 km.

Description: The project is a part of a systematic improvement scheme for the main road network in Swaziland. It will improve Swaziland's road connections to the port of Maputo (see Project 1.5.4).

The improvement of the two road sections is also very important for the ongoing agricultural schemes in the eastern parts of Swaziland, sugar production, irrigation projects, small scale farming, cattle ranching and agriculture industry. Most of the existing and potential production is export orientated with Maputo as its natural sea outlet. Much of these export products is dependent on road transportation.

The upgrading includes widening to 6.7 m asphalted carriageway on a 10.3 m formation.

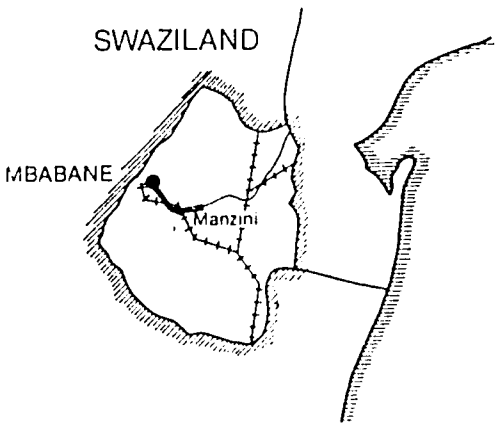
The road section Lomahasha - Siteki has traffic volumes between 175 and 700 vehicles per day.

The road section Siteki - Big Bend has traffic volumes between 150 and 300 vehicles per day. Internal rates of return for this section are rather low.

Status : The construction of the section Lomahasha - Lonhluperko completed, financed by ADB, Sweden and Swaziland. Financing to be secured for the section Lonhluperko - Big Bend.

September 1988

1.6.2 Improvement of the Mbabane- Manzini Road, Swaziland



Estimated Costs
Total : USD 28.9 million
Foreign : USD 23.1 million
Local : USD 5.8 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 5.8 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 23.1 million

Executing Agency:
Ministry of Works and Communications, Swaziland
Start : 1989
Duration: 2 years

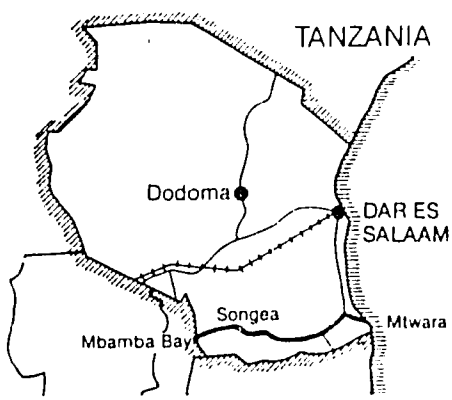
Objectives : Improvement of the road between Mbabane and Manzini by widening of the existing road over 14.6 km and construction of a new road section of 19.4 km, as well as upgrading of a 15 km relief road between Lobamba and the Matsapha Industrial Area to dual carriageway standard.

Description: The road between Swaziland's capital Mbabane and Manzini, the main industrial centre, is one of the most heavily trafficked roads in the country, and part of the SADCC Regional Trunk Road Network. The 1986 traffic counts indicate some 8.000 vehicles per day between Matsapha Industrial Area and Manzini and 5.000 vehicles per day between Mbabane and Ezulwini Valley. Up to 25 per cent are heavy goods/timber vehicles. Due to volume of traffic and nature of the terrain serious capacity and safety problems exist on the present road. The road also exhibits signs of distress and will require major rehabilitation in the very near future. Therefore a major improvement is envisaged, consisting of partly constructing a new road and partly widening the existing road to four lane standard, and constructing the relief road to dual carriageway standard.

Status : Financing is being sought.

September 1988

1.7.1 Rehabilitation and Upgrading of the Mtwara- Songea- Mbamba Bay Road, Tanzania



Estimated Costs
Total : USD 80.0 million
Foreign : USD 54.0 million
Local : USD 26.0 million

Funding Secured
Foreign : USD 8.0 million
Local : USD 26.0 million

Funding Under Negotiation
Total : USD 24.5 million

Financing Gap:
Total : USD 21.5 million

Executing Agency:
Ministry of Communications and Works, Tanzania
Start : 1989
Duration: 3 years

Objectives :

1. Studies and design for the section between Masasi and Songea, upgrading of section Masasi-Songea, 445 Km, to engineered gravel standard.

2. Upgrading of section Songea-Mbinga-Mbamba Bay, 160 Km, to bitumen standard.

The main aim of the Southern Trunk Road as a regional project is to carry traffic to and from the port of Mtwara and serve as a link to the port and shipping services on Lake Malawi at Mbamba Bay (c.f. project No. 3.7.1).

The main importance of the road will be to serve the rich agricultural zone in the south and south-west of Tanzania.

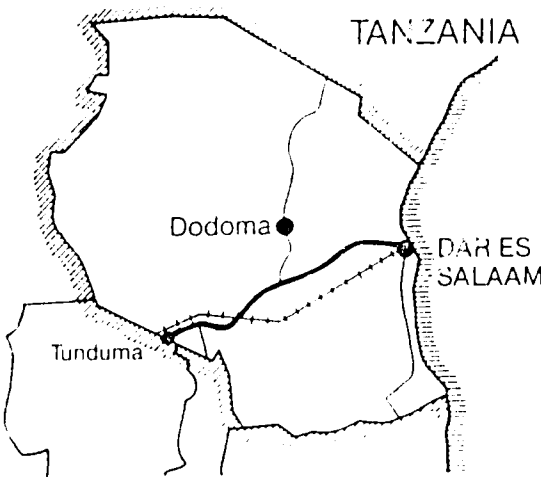
Description: The road section Mtwara-Masasi, 200 Km, has been upgraded to bitumen standard in 1978. The existing road Masasi-Tunduru-Songea, 445 Km, is partly earth, partly engineered gravel standard, 6.5-7 m wide, partly in a poor condition. The terrain is generally rolling to hilly. Some repair works have been carried out.

The existing road from Songea to Mbamba Bay, 169 Km, is gravelled on half of the length and the rest is earth. It is in poor condition due to low construction standards, e.g. lack of adequate drainage and unsafe wooden bridges across rivers. The terrain is rolling to hilly and includes a mountainous stretch at the escarpment to the lake shore plain. As a trunk road, it should be upgraded to at least surface dressed standard (6.5 m + 2 x 1.5 m). After realignment the road length will be reduced to 160 Km.

Status : UK has financed the construction of the road Mkambako-Songea, linking the proposed road to the Tanzam Highway. Review of detailed design for section Songea-Mbamba Bay and feasibility study for section Masasi-Songea have been completed.

USD 8 million have been secured from Netherlands for section Masasi - Songea. Financing of section Songea - Mbinga (100 km) being discussed with EEC. The remaining financing to be sought.

1.7.3 Rehabilitation/Strengthening of the TANZAM Highway, Tanzania



Estimated Costs
Total : USD 62.0 million
Foreign : USD 41.5 million
Local : USD 20.5 million

Funding Secured
Foreign : USD 39.5 million
Local : USD 20.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 2.0 million

Executing Agency:

Start : 1988
Duration: 2 years

Objectives : Rehabilitation and strengthening of the Tanzam Highway in Tanzania.

Progress : The Tanzania section (925 km) of the Tanzam Highway connects the port of Dar es Salaam with Tunduma at the Tanzania/Zambia border via Morogoro, Iringa and Mbeya. The road was built to a two lane paved standards with 6.7m wide carriageway in 1972. Apart from the flat terrain in the section between Dar es Salaam and Mikumi, the road traverses mostly rolling terrain.

This road carries considerable heavy national and regional traffic. The section between Dar es Salaam and Morogoro carries also traffic for the Rwanda and Burundi. The traffic volume varies from about 900 vehicles per day between Dar es Salaam and Chalinze to 400 vehicles per day between Mbeya and Tunduma. About 70 per cent of this traffic consists of commercial vehicles.

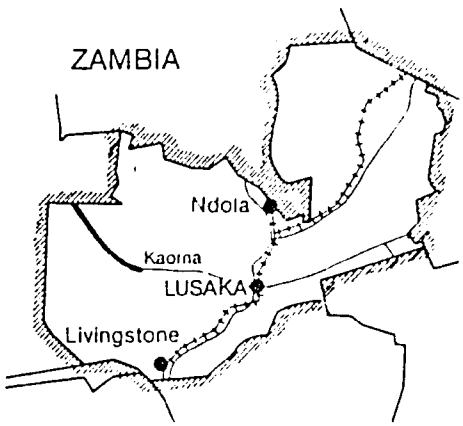
The road pavement within certain sections has shown signs of distress in the form of potholes, surface cracks and surface deformation. At certain places, especially between Dar es Salaam - Mikumi (289 km) and Iyayi - Mbeya - Tunduma (228km), the road has failed completely, with the pavement destroyed.

Status : A feasibility study for rehabilitation of the sections Zambia border - Iyayi and Dar es Salaam - Mikumi has been completed in June 1983. Detailed documents for the reconstruction works have been completed in October 1983.

Financing has been secured for a total of USD 60 million by ADB - 19.4 million, IDA 13.2 million, Norway - 6.9 million and Tanzania - 20.5 million, leaving a gap of USD 2 million.

The project has been divided in four contract sections. Two contracts have been signed and the works started in September 1988.

1.8.1 Study on Angola-Zambia Road Link, Zambia



Estimated Costs
Total : USD 0.2 million
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Ministry of Works and Supply, Zambia
Start :
Duration:

Objectives : Feasibility study on the construction of an all-weather heavy traffic road connecting Kaoma in Zambia with Lumbala in Angola, about 370 km.

The proposed road Kaoma - Borderpost at Cariparde - Lumbala - Luena will be one of the few road links between Zambia and Angola and will be essential for road transports to the Lobito Port.

Progress : In Angola the road section Luena - Lucusse has been completed and the section Lucusse - Lumbala is under construction up to paved standard. About 50km to the Borderpost at Cariparde remains to be upgraded.

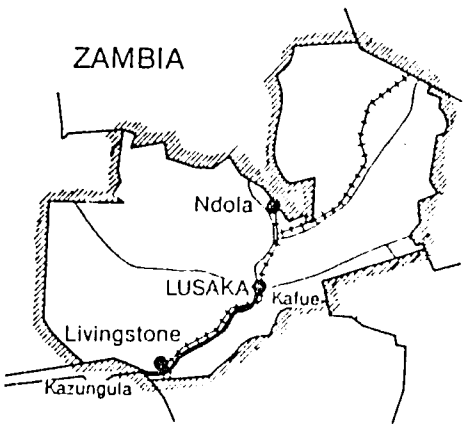
In Zambia the road follows mainly existing unclassified gravel or earth roads.

Construction costs are estimated roughly at USD 80 million (1983 prices).

Status : The feasibility study financed by EEC was started in 1980. Preliminary findings based on work in Zambia were presented in 1981. Further work adjourned for the time being. The project to be reviewed in the context of the Lobito Port Transport System, as a potential road connection between Angola and Zambia.

September 1988

1.8.3 Rehabilitation of the Lusaka- Kafue-Livingstone-Kazungula Road, Zambia



Estimated Costs
Total : USD 30.1 million
Foreign : USD 19.0 million
Local : USD 11.1 million

Funding Secured
Foreign : USD 12.5 million
Local : USD 11.1 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap
Total : USD 6.5 million

Executing Agency:
Ministry of Works and Supply, Zambia
Start : 1988
Duration: 3 years

Objectives : Rehabilitation and upgrading of the road Lusaka - Kafue - Livingstone - Kazungula, 478 Km.

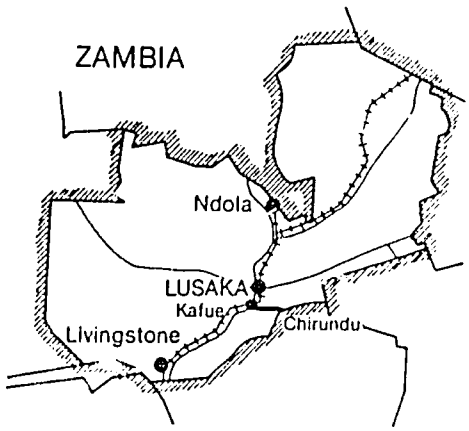
Description: Upgrading work has been completed in 1986 on the section Zimba-Livingstone (42 Km) with financing from Norway. This road section has been upgraded from a 3.5 m wide surface to a 6.1 m bitumen surface with 2 m shoulders (USD 5 million). The remaining sections are of varying standards and show signs of deterioration. The normal recurrent maintenance funds are not sufficient for the necessary works.

Status : Denmark has financed feasibility and engineering studies (USD 0.7 million), together with 3 other roads in Zambia (projects 1.6.5, 1.8.6, 1.8.8). Studies have been completed in early 1986.

Recently, Norway has pledged USD 7.0 million for the section Kafue-Monze (approx. 100Km). The works on this section are to start towards the end of 1988. Denmark has also been approached.

The section Lusaka-Kafue junction (54 Km) is included in the Beira Port Transport System Development Plan (see Project 1.5.1).

1.8.4 Rehabilitation of Kafue- Chirundu Road, Zambia



Estimated Costs
Total : USD 16.0 million
Foreign : USD 13.0 million
Local : USD 3.0 million

Funding Secured
Foreign : USD 13.0 million
Local : USD 3.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Ministry of Works and Supply, Zambia
Start : 1983
Duration: 5 years

Objectives : Strengthening and partial reconstruction of damaged sections of the Kafue-Chirundu Road.

Progress : The Kafue-Chirundu road (92 Km) is part of the main road connection between central Zambia and central Zimbabwe. The traffic demand has increased rapidly during the last years and the border post registers an average daily traffic of about 90 vehicles of which about 50 heavy vehicles.

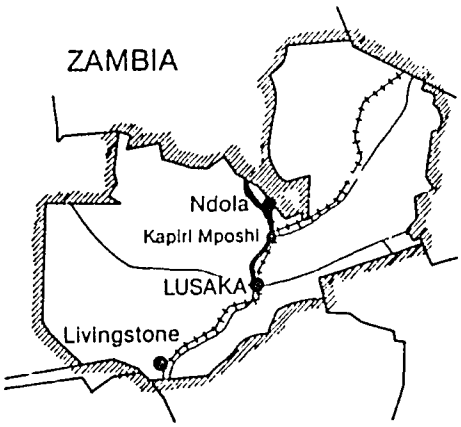
A three-day, Friday-Sunday, traffic count on the road in July 1983 showed 667 vehicles/day of which 42% trucks at a point near the Lusaka-Livingstone road and 391 vehicles/day of which 66% trucks at a point close to Chirundu.

Portions of the road are in a bad condition with failures in the pavement and settlements due to bad underground. The road needs strengthening and partly reconstruction.

Status : Financing for the project has been secured from USAID. The first phase of the works, consisting of resealing by chip and spray, has been completed. The second phase, including strengthening, improvement of culverts and partial realignment, after some delays, is now in its final stages. Completion expected during 1988.

September 1988

1.8.5 Rehabilitation of the Lusaka- Kapiri-Chingola-Zaire Border Road, Zambia



Estimated Costs
Total : USD 45.7 million
Foreign : USD 28.8 million
Local : USD 16.9 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 16.9 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 28.8 million

Executing Agency:
Ministry of Works and Supply, Zambia
Start : 1988
Duration: 4 years

Objectives : Strengthening/partial reconstruction of the road Lusaka - Kapiri Mposhi - Zaire border (460 km).

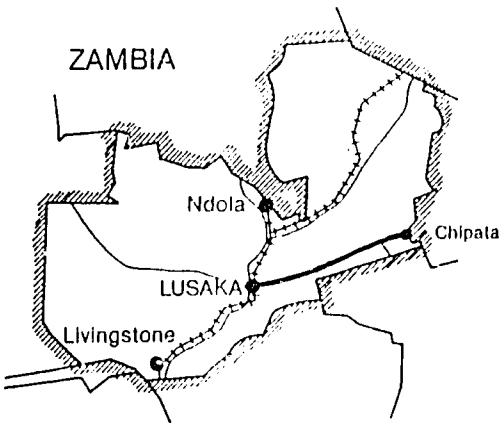
Description: This road was built more than 15 years ago and carries a heavy volume of traffic. Recent counts show the flows to be above 2900 vehicles per day with 45 per cent heavy vehicles. There is evidence of damage to the road due to overloading.

Rehabilitation works have been carried out over selected sections in the past including reconstruction, surface dressing and premix overlay. However, due to the lack of funds it has not been possible to keep up with the deterioration and it is now imperative to take urgent action.

At present, only normal maintenance is being carried out as and when funds are available.

Status : Denmark has financed feasibility and engineering studies (USD 0.6 million) together with 3 other roads in Zambia (Projects 1.8.3, 1.8.6 and 1.8.8), completed in early 1986. Financing is being sought for the works. Denmark has expressed interest in funding of works supervision.

1.8.6 Rehabilitation of the Road Lusaka - Chipata, Zambia



Estimated Costs
Total : USD 26.3 million
Foreign : USD 16.6 million
Local : USD 9.7 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 9.7 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 16.6 million

Executing Agency:
Ministry of Works and Supply, Zambia
Start : 1988
Duration: 3 years

Objectives : Strengthening/partial reconstruction of approximately 180 Km damaged sections of the road Lusaka - Chipata.

Description: The Lusaka - Chipata road T4 is some 589 Km in length. The last section from Luangwa Bridge to Nayimba across the escarpment was tarred in 1972.

Earlier sections are showing signs of deterioration and normal recurrent maintenance funds are not sufficient to arrest this.

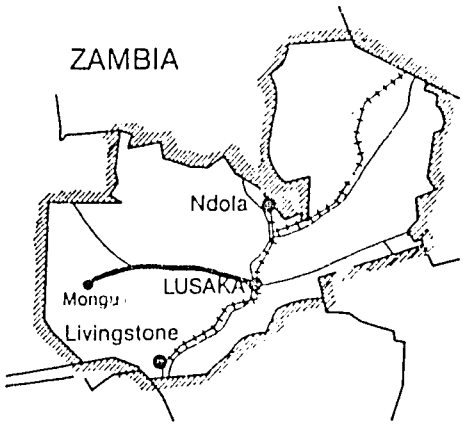
The average daily traffic is in the region of 200 to 250 vehicles with 45 per cent of heavy vehicles.

Urgent rehabilitation works are required.

At present only normal maintenance is being carried out as and when funds are available.

Status : Denmark has financed feasibility and engineering studies (USD 0.7 million) together with three other roads in Zambia (projects 1.8.3, 1.8.5 and 1.8.8), completed in early 1986. The NIB Co-ordination Committee has earlier selected the project for Bank participation. No firm financing commitment so far, contacts with NIB being followed up. Denmark has expressed interest in funding the supervision of works.

1.8.7 Improvement of the Road Lusaka -Mongu, Zambia



Estimated Costs
Total : USD 25.0 million
Foreign : USD 15.8 million
Local : USD 9.2 million

Funding Secured
Foreign : USD 15.8 million
Local : USD 9.2 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Ministry of Works and Supply, Zambia
Start : 1988
Duration: 3 years

Objectives : Rehabilitation/improvement of the road Lusaka-Mongu.

Progress : The Lusaka-Mongu road, M9, is 583 Km in length. The section between Lusaka and Kafue Hook Bridge was completed by a Chinese team in 1973, together with the bridge. The section from the bridge to Mongu was finished by private contractors in the mid-1960's.

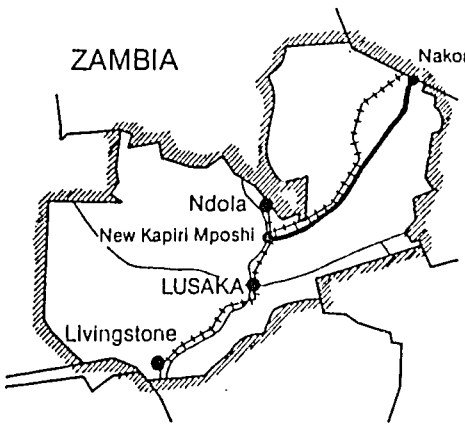
Traffic flows are approximately 200 vehicles per day with over 60 per cent heavy vehicles. Due to poor soil conditions, long sections of the road are showing signs of distress and already several kilometers have had to be reconstructed. Some surface dressing works have been made.

In order to avoid further deterioration, rehabilitation works of a large scale are required.

Status : Financing has been secured from P.R. China and works started by a Chinese construction team in May 1988.

September 1988

1.8.8 Rehabilitation of the TANZAM Highway, Zambia



Estimated Costs
Total : USD 9.3 million
Foreign : USD 5.9 million
Local : USD 3.4 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 3.4 million

Funding Under Negotiation
Total : USD 5.9 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Ministry of Works and Supply, Zambia
Start : 1988
Duration: 2 years

Objectives : Strengthening/partial reconstruction of the damaged sections of the Tanzam Highway in Zambia between Kapiri Mposhi and Nakonde (800 km).

Description: The Kapiri - Nakonde road was built over 15 years ago and carriers a heavy volume of traffic. Recent counts show the flows to be 431 vehicles per day with 56 per cent heavy vehicles. Efforts are being made to ensure that vehicles comply with axle load limits by the weighbridges at Kapiri and Nakonde, but there is evidence of damage to the road due to overloading.

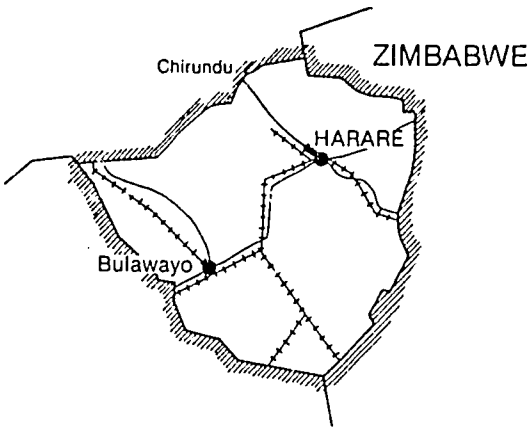
Rehabilitation works have been carried out over sections in the past with surface dressing and slurry seal. However, due to the lack of funds it has not been possible to keep up with the deterioration and it is imperative to take urgent action.

At present, only normal maintenance is being carried out as and when funds are available.

Status : Denmark has financed feasibility and engineering studies (USD 1.1 million, together with 3 other roads in Zambia (Project 1.8.3, 1.8.5 and 1.8.6), which completed in early 1986. Denmark has been approached and has expressed positive interest for the funding of the works. Updating of the studies has been completed, financed by Denmark.

September 1988

1.9.1 Rehabilitation of Harare - Chirundu Road, Zimbabwe



Estimated Costs
Total : USD 1.8 million
Foreign : USD 1.3 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.3 million

Executing Agency:
Ministry of Transport,
Zimbabwe
Start : 1989
Duration: 1 year

Objectives : Rehabilitation of the Harare - Chirundu road in the section between kilometres 15 and 34 (19 km).

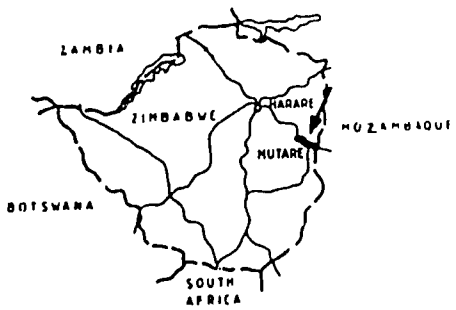
Description: The road Harare - Chirundu is the main road link between Zimbabwe and Zambia, and part of the SADCC Regional Trunk Network. The section kms 15-34 has started showing signs of distress and rehabilitation is being considered.

Some other sections of the same road have been rehabilitated earlier, partly recently under the SADCC Programme.

Status : Deflection and roughness measurements have been carried out and design work will commence in due course once the results have been analysed. Financing for the works is being sought.

September 1988

1.9.3 Upgrading of Eastern end of Harare-Mutare-Mozambique Border Road, Zimbabwe



Estimated Costs
Total : USD 15.0 million
Foreign : USD 11.0 million
Local : USD 4.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 4.0 million

Funding Under Negotiation
Total : USD 0.6 million

Financing Gap:
Total : USD 10.4 million

Executing Agency:
Ministry of Transport,
Zimbabwe
Start : 1989
Duration: 2 years

Objectives : Upgrading the last 41 Km of the Harare - Mutare - Mozambique Border Road to a standard consonant with the rest of the highway and capable of accommodating expected increased heavy traffic in the Beira Corridor, along the existing road alignment and a new by-pass route around the southern end of the City of Mutare.

Description: The project road is part of the principal road link in the Beira Corridor, connecting Zimbabwe with the Port of Beira. In addition, the link provides a road connection to Beira from Zambia, Malawi and potentially Botswana and South-eastern Zaire. Emergency repair works on the road from Zimbabwe border to Beira are in progress.

In the national context, the project forms part of the Zimbabwean state road network providing the connection between the capital and the fourth largest city, Mutare, as well as the adjacent land use and Eastern/South-Eastern parts of the country.

The Harare-Mutare road is mostly a 6.7/9.7 metre wide bitumen surfaced road in a fair to good condition with few sections in need of strengthening. The present route passes through the commercial centre of Mutare, along the City's street network to the Mozambique Border along a 6 metre wide surfaced road.

The traffic volumes vary from 800 to 2000 vehicles per day west of Mutare and are less than 100 vehicles per day near the border. The terrain in the project area is mainly mountainous. The last 30 Kilometres of the Harare-Mutare road were constructed some 30 years ago and require to be reconstructed and strengthened.

A feasibility and preliminary engineering study, funded by Finland, was carried out and the Final report produced in November, 1987.

The study recommends the construction of the Mutare by-pass.
The project comprises the construction of 16,8 Km of new road, upgrading of 8,2 Km of existing road and the construction of 6 new bridges. The internal rate of return of this option is approx. 18 percent (baseline traffic forecast).

Status : Finland has been approached for funding detail design and supervision, and ADB for funding of works.

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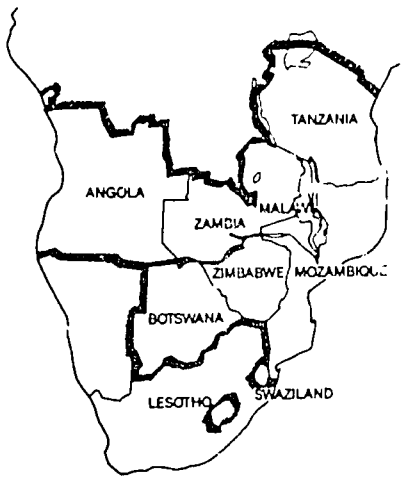
Railways

2.0.6 Development of Railway Training, Regional



Estimated Costs
Total : USD 8.6 million
Foreign : USD 8.6 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.6 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 8.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
SATCC

Start : 1988
Duration: 3 years

Objectives : To organise railway training in SADCC countries in order to provide adequate skilled manpower to cope with the maintenance of railways and with operations.

Description : The projects consists of the following sub-projects:

		USD (Thousand)
(i)	Management Development Courses	2.988,8
(ii)	Instructors' Training	830,1
(iii)	Language Training	500,0
(iv)	Specialist Courses for Managers	541,0
(v)	Technical Courses for Engineers	500,0
(vi)	Provision of Training Aids	2.044,5
(vii)	Production of Handbooks and Manuals	565,8
(viii)	Support to Railway Training Subgroup Meetings	368,1
(ix)	SATCC Railway Training Expert (for 3 years)	261,0
	TOTAL	8.599,3

The plan includes 8 management development courses, 3 courses for instructors' training, 2 language courses for Portuguese speaking personnel to study English, 5 specialist courses for engineers, plus support to these activities as listed under items (v) - (viii) above.
The cost estimates include consulting services related to the various items.

Status : Project descriptions have been prepared in connection with P. 2.0.2, Study on Railway Training Programmes, carried out by DeConsult of Germany, financed by the Federal Republic of Germany. Language courses are expected to be financed by CIDA and UK, technical courses for engineers by CIDA and Federal Republic of Germany, provision of training aids by Switzerland, and the rest of the sub projects by the Federal Republic of Germany. A pilot project (DEM 1.0 million) will be initiated in October, 1988. A Regional Railway Training Expert is being hired for that phase.

2.0.7 Seminar on Marketing for the SADCC Port and Railway Administration

Estimated Costs
Total : USD 0.1 million
Foreign : USD 0.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.1 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
SADCC

Start : 1988
Duration: 3 months

Objectives : The objectives of the project are to improve the knowledge and skills of commercial officers of the SADCC port and railway administrations in effective marketing techniques within the particular environment of the Southern Africa transport systems.

Description: Marketing of transport services within the region as been identified as a serious problem to cost effective operation. The objective of the project is to improve the marketing techniques and procedures of the SADCC port and railway administrations through the staging of a two week combined seminar.

The seminar will be directed at imparting an understanding of the marketing concept for customer orientation, the analysis of the relative strengths and weaknesses of competing services, demand analysis and forecasting procedures. It will also include long term commercial planning, market research, the effective use of advertising and transport service costing and pricing.

Status : CIDA has agreed to fund the seminar through the Technical Services Fund. It is intended that the seminar will be held early in 1989 although preliminary planning of the seminar will commence during the last quarter of 1988.

2.0.8 Study on Rail Wagon Standardization and Wagon Spare Parts

Estimated Costs
Total : USD 0.2 million
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.2 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
SADCC

Start : 1989
Duration: 7 months

Objectives : The objectives of the study are to augment the work of the Wagon Standardization and Spare Parts Task Group of the SADCC Rail Administrations in improving the availability of the regional wagon fleet.

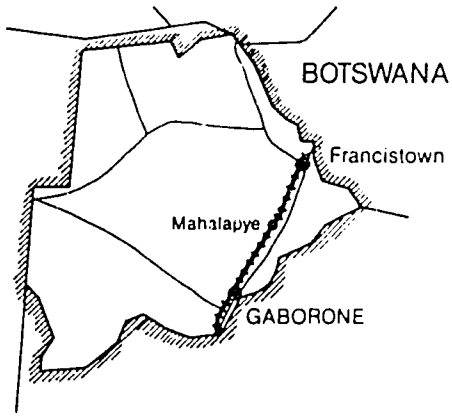
Description: In March 1988 the Wagon Standardization and Spare Parts Task Group produced its Draft Final Report prescribing measures to achieve better wagon utilization through standardization of components. They concluded that efforts should continue toward standardization of the most common components which would promote, in the long term, complete wagon standardization. The Group noted that further investigations were required into the economic consequences of standardization. They also recommended that efforts should be made to increase the utilization of locally supplied components and that a common catalogue system for components would benefit the SADCC railways by improving spare parts interchange between the railways.

The project has therefore been designed to:

- examine the benefits and costs of pursuing component and complete wagon standardization;
- develop a common spare parts catalogue for the use of SADCC railways; and
- to produce a listing covering the sources of component supply within the Region.

Status : CIDA has been approached to carry out the study through the Technical Services Fund as this project is follows from the recently completed study implemented through the Fund on rail wagon manufacture in the Region.

2.2.1 Rehabilitation of the Main Railway Line, Botswana



Estimated Costs
Total : USD 114.0 million
Foreign : USD 91.0 million
Local : USD 23.0 million

Funding Secured
Foreign : USD 18.0 million
Local : USD 23.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 73.0 million

Executing Agency:
Ministry of Works, Transport and Communications, Botswana
Start : 1984
Duration: 9 years

Objectives : Renewal of the track :

(1) Gaborone - Southern Border (120 km),
(2) Francistown - Northern Border (85 km), and
(3) Gaborone - Francistown (435 km)

Progress : The railways in Botswana consist of a 640 km main line which has two branch lines Serule - Selebi Pikwe (57 Km) and Palapye - Morupule (15 Km), in total 714 Km. The railway system is operated by Botswana Railways and the government is in the process of formally bying the assets from NRZ.

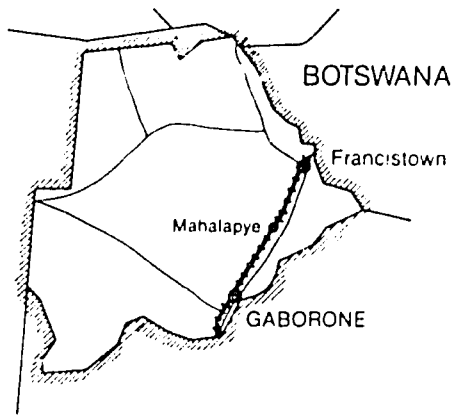
All rails and sleepers, with a few exceptions, were second-hand when laid in Botswana since 1961 from the Zimbabwe border southwards. After the track was constructed only normal maintenance has been carried out but no systematic renewal of the track has been initiated. The track, especially some deteriorated sections, had reached a state where severe restrictions of speed and axle loads have to be applied. Therefore the renewal of the track or improvements of some bad sections were initiated in the following order of priority: (1) Gaborone - Southern Border (120 Km), (2) Francistown - Northern Border (85 Km) and (3) Gaborone - Francistown.

The new track will consist of 50 kg/m longwelded rails on mondoloc concrete sleepers with fist-fastenings.

Status : An agreement has been signed between the People's Republic of China and Botswana to finance the acquisition of rails and equipment and for technical assistance. To begin with, the costs of sleepers, ballast and works is being financed by the Government of Botswana. The rehabilitation of the Gaborone-Southern Border (120 km) section has been completed and the work is in progress on the stretch Francistown-Northern Border (85 km).

A study concerning sections (2) and (3), financed under the CIDA/SATCC Technical Services Fund and carried out by SLI Consultants, has been completed in October 1987. Additional funds are being sought for the section Gaborone - Francistown (section 3).

2.2.2 Rehabilitation of Railway Telecoms Facilities, Botswana



Estimated Costs
Total : USD 4.1 million
Foreign : USD 4.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 4.1 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Ministry of Works, Transport and Communications, Botswana
Start : 1986
Duration: 2,5 years

Objectives : Re-equipment and expansion of the present telecommunication system.

Progress : The project consists of the following parts :

(1) 12 channel carrier frequency system, plus one additional pair of wires between Gaborone and Francistown, including installation;

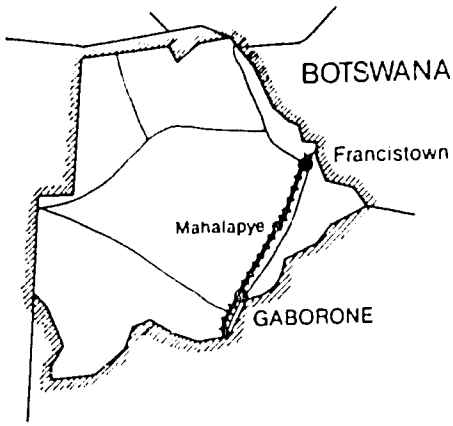
(2) Replacement of the existing selector system with a modern selector system with AF-signalling connected at 24 stations; and

(3) Public Automatic Branch Exchange (PABX), LM Ericsson digital ASB 100 exchange with a maximum capacity of 128 lines, to replace the present 30-line PABX in Gaborone.

Status : Design specifications have been prepared in co-operation with SIDA, National Railways of Zimbabwe and Botswana Government. Financing secured from Sweden. Works started in 1986.

September 1988

2.2.4 Renewal of the Train Working System, Botswana



Estimated Costs
Total : USD 5.0 million
Foreign : USD 4.7 million
Local : USD 0.3 million

Funding Secured
Foreign : USD 4.7 million
Local : USD 0.3 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Ministry of Works, Transport and Communications, Botswana
Start : 1987
Duration: 2 years

Objectives : Renewal of the train working system.

Progress : The present system of train working in Botswana is by facsimile machine which is a simple repeater machine transcribing an order written out at station A to station B. A copy of this order is handed to the driver of the train and the guard. This system is susceptible to human error and requires a very high level of experience and competence. These machines are now life expired and the system will be replaced.

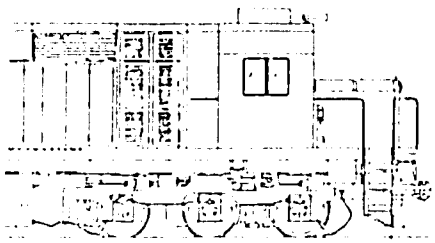
To facilitate train working in a reliable manner an electronic token control system for the whole line from the Southern to the Northern Border is being installed.

The rehabilitated telecommunication system (P. 2.2.2) will be used also for signalling purposes. The points will remain manually operated.

Status : Sweden is financing the project. Implementation has started in 1987.

September 1988

2.2.6 Procurement of Railway Rolling Stock, Botswana Railways



Estimated Costs
Total : USD 18.5 million
Foreign : USD 18.5 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 18.5 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Ministry of Works, Transport and Communications, Botswana
Start : 1988
Duration: 2 years

Objectives : Procurement of Railway Rolling Stock for the Botswana Railway.

Description: In preparation towards the take-over from the National Railways of Zimbabwe, Botswana has commenced track rehabilitation, construction of maintenance workshops and acquisition of locomotives and wagons. Botswana is very deficient in rolling stock, having only 47 open-high-sided coal wagons, 13 water-tank wagons and 20 hopper ballast wagons.

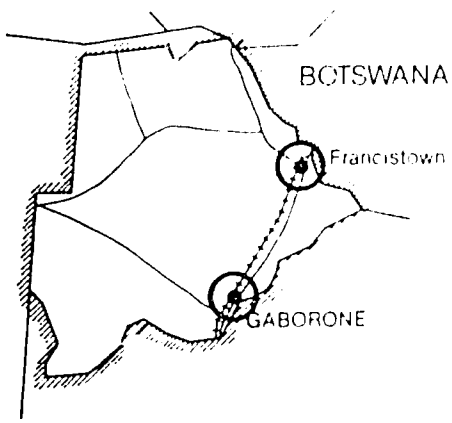
It is projected that Botswana Railways will initially require 570 wagons of various functional types. Without rolling stock, Botswana Railways would be constrained and tied by high demurrage and hiring charges to the other railway systems. Botswana considers this scenario most unacceptable and wishes to procure her own rolling stock fleet so as not be held ransom by lack of wagons.

The project includes the acquisition of 150 high side open, 230 drop side open (container carrying), 90 covered, 80 petrol oil tanks and 10 guards vans.

Status : Overall plans for the take-over have been prepared and the railway organisation has been formally established. DANIDA is financing 20 drop side (container carrying) open wagons and 40 refrigerated containers. Financing for the rest of the project has been secured from Japan. The wagons will be manufactured in Zimbabwe.

September 1988

2.2.7 Establishment of Dry Ports/ ICD's in Botswana



Estimated Costs
Total : USD 5.0 million
Foreign : USD 4.5 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 0.5 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap
Total : USD 4.0 million

Executing Agency:
Ministry of Works, Transport and Communications, Botswana
Start : 1988
Duration: 1,5 years

Objectives : The establishment of dry ports/inland clearance depots in order to reduce transit transport costs and journey times through maritime ports and transit countries, achieve savings in foreign exchange payments, improve performance of the external trade and thereby contribute to economic development.

Progress : In Botswana, two dry ports/ICD's facilities will be established at Francistown and Gaborone.

Dry port/inland clearance depot is a common and inland facility with public authority status equipped with fixed installations and offering services for handling and temporary storage of any kind of goods, including containers, carried under customs transit by any applicable mode of transport, placed under customs control and with customs and other agencies competent to clear goods for home use, warehousing, temporary admission, re-export, temporary storage for onward transit and outright export. *

Not all these features are to be incorporated in Phase 1, which will concentrate on providing container handling facilities, temporary storage of containers and customs clearance (including full loads from road haulage).

Status : Project descriptions have been prepared by the UNDP/UNCTAD Transit Transport Project RAF/77/017, including cost estimates and supporting documents covering customs matters of dry ports/ICD's operations, management and operations of dry ports/ICD's and documentation and legal matters. DANIDA will finance a feasibility study and has as well been approached for financing the implementation of the project. The works for a container depot in Francistown, to be developed to a dry port, have been initiated by Botswana. Training of dry port personnel is being discussed with UNDP/UNCTAD.

* This definition of a dry port has been prepared by UNCTAD, Geneva, and has now been submitted for clearance by the Customs Cooperation Council in Brussels.

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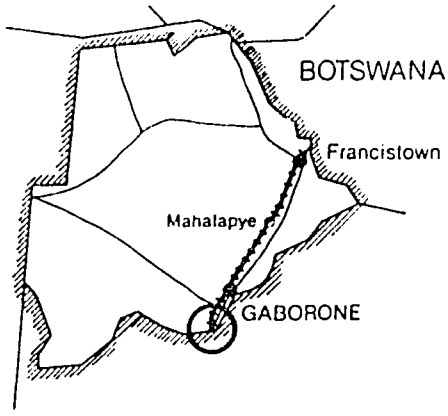
2.2.8 Exchange Yard for Botswana Railways at Rakhuna



Estimated Costs
Total : USD 1.6 million
Foreign : USD 1.2 million
Local : USD 0.4 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.4 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.2 million

Executing Agency:
Botswana Railways

Start : 1987
Duration: 2 years

Objectives : To provide Botswana Railways with exchange facilities for international traffic at the Southern border in Botswana.

Progress : The project includes the following components :

- 4 stabling / reception sidings;
- 1 engine run-round;
- 2 cripple sidings;
- 1 reversing triangle; and
- basic office space and a small number of houses for the yard staff.

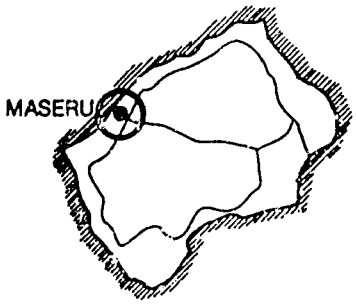
Botswana Railways do not have free and unencumbered access to the marshalling yard at Mafeking in South Africa. Therefore the establishment of an exchange yard within Botswana has become necessary.

The work has largely been completed, with only the housing to be built.

Status : Drawings and track formation lay-out have been prepared by the Botswana Railways. Financing of the foreign currency part is being sought.

2.3.1 Establishment of Dry Port/ICD in Lesotho

LESOTHO



Estimated Costs
Total : USD 1.4 million
Foreign : USD 1.0 million
Local : USD 0.4 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.4 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.0 million

Executing Agency:
Ministry of Transport and Communications, Lesotho
Start : 1989
Duration: 2 years

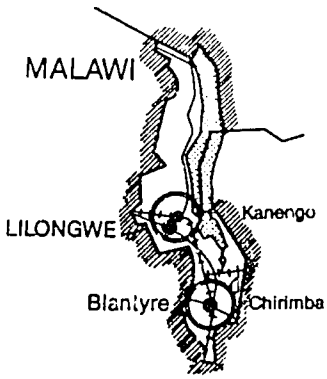
Objectives : The establishment of a dry port/inland clearance depot in order to reduce transit transport costs and journey times through maritime ports, improve performance of the external trade sector and thereby contribute to economic development.

Description: Lesotho is connected to the South African railway system by a single track line which terminates at the Maseru station, 2 km inside the country. Goods traffic handled at Maseru station has averaged some 160 000 tonnes p.a. and has been estimated by consultants to increase to about 420 000 tonnes p.a. by the year 2000. Containerization is growing rapidly.

At present, overseas containers must be opened, regrouped and cleared at South African ports due to the absence of a customs terminal and the absence of adequate clearance procedures and handling facilities in Maseru. This results in delays and additional costs compared with possible through shipments to and from Maseru. The project ranks very high in the national plans, as it is very crucial to development efforts of Lesotho especially in view of the fact that is is geared towards promotion of Lesotho's trade links with SADCC member states by facilitating cargo handling and transportation and thereby reducing the country's overwhelming dependence on the Republic of South Africa. The project has been incorporated in the regional programme for the establishment of dry ports in the land locked countries of the Region.

Status : A feasibility study was completed in 1985. Design study has been made. EEC has been approached to finance the implementation of the project.

2.4.3 Establishment of Dry Ports/ ICD's in Malawi



Estimated Costs
Total : USD 4.0 million
Foreign : USD 3.2 million
Local : USD 0.8 million

Funding Secured
Foreign : USD 0.5 million
Local : USD 0.8 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 2.7 million

Executing Agency:
Ministry of Transport and Communications, Malawi
Start : 1989
Duration: 1,5 years

Objectives : The establishment of dry ports/inland clearance depots in order to reduce transit transport and costs and journey times through maritime ports and transit countries, achieve savings in foreign exchange payments, improve performance of the external trade sector and thereby contribute to economic development.

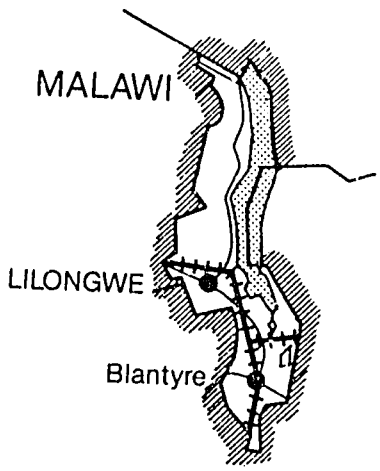
Description: In Malawi, one dry port/ICD facility will be established at Chirimba industrial site in Blantyre and one at the Canadian rail site at Kanengo in Lilongwe.

Dry port/inland clearance depot is a common user inland facility with public authority status equipped with fixed installations and offering services for handling and temporary storage of any kind of goods, including containers, carried under customs transit by any applicable mode of transport, placed under customs control and with customs and other agencies competent to clear goods for home use, warehousing, temporary admission, re-export, temporary storage for inward transit and outright export. *

Status : Project descriptions have been prepared by the UNDP/UNCTAD Transit Transport Project RAF/77/017, including cost estimates and supporting documents covering customs matters of dry ports/ICD's operations, management and operations of dry ports/ICD's and documentation and legal matters. A feasibility Study will be financed by Denmark. DANIDA has as well been approached for financing of the project.

* This definition of a dry port/ICD has been prepared by UNCTAD, Geneva, and has now been submitted for clearance by the Customs Cooperation Council in Brussels.

2.4.4 Improvement of Communications Systems, Malawi Railways



Estimated Costs
Total : USD 0.8 million
Foreign : USD 0.8 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.8 million

Executing Agency:
Malawi Railways

Start : 1989
Duration: 1,5 years

Objectives : Improvement of communication systems of Malawi Railways for efficient operations.

Description: The project components are included in the Telecommunications Ten-Year Development Plan of 1987. The project consists of the following parts :

(i) Rehabilitation of Shipping Communications on Lake Niassa/Nyasa/Malawi, operated by Malawi Railways, USD 0.35 million;

(ii) Locomotive Radio Communication system for the Nkaya - Nacala route, USD 0.15 million;

(iii) Replacement of PABX for Malawi Railways headquarters, USD 0.25 million; and

(iv) Upgrading of an open wire carrier system, USD 0.05 million.

The current equipment for shipping communications on the Lake was installed in the late 1960's. It is practically unreliable and spares are difficult to obtain. Therefore it needs improvement to cope with the anticipated increase of lake traffic.

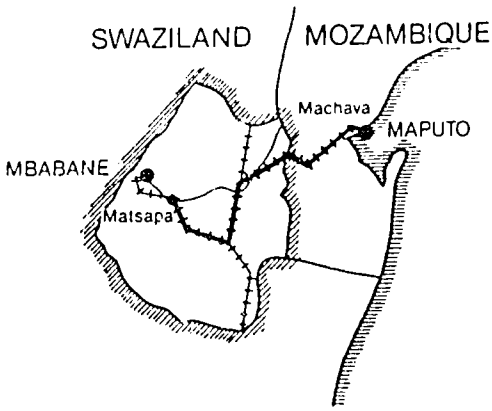
For safety and operational reasons, it is proposed to equip the four locomotives operating on the Nacala route with HF communications.

The existing PABX at Limbe is an obsolete Strowger exchange which has to be replaced.

The open wire system between Blantyre and Mozambique border will be upgraded from 5 channels to 12 channels.

Status : Funds are being sought for implementation.

2.5.1(02) Rehabilitation of the Machava - Swaziland Railway, Machava - Swaziland Border



Estimated Costs
Total : USD 23.0 million
Foreign : USD 16.0 million
Local : USD 7.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 7.0 million

Funding Under Negotiation
Total : USD 16.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
DNPCF/EMS, Mozambique

Start : 1988
Duration: 3 years

Objectives : Rehabilitation of the (Maputo) Machava - Matsapa (Swaziland) line between Machava and Swaziland border.

Description: The project consists of the following parts :

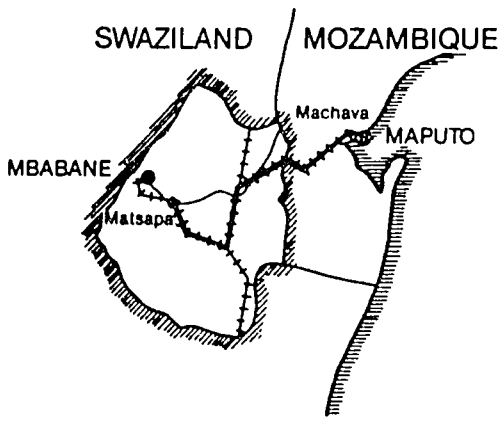
		USD (thousand)
(i)	Earth works and drainage	1442.5
(ii)	Track, including ballast and sleepers	14022.4
(iii)	Protection works	1178.0
(iv)	Turnouts	542.0
(v)	Signalling	4050.0
(vi)	Contingencies	1765.1
	Total	23000.0

The 64km long line Machava - Swaziland border consists of 45 kg/m rails on timber sleepers. The line has deteriorated to such an extent that major rehabilitation is needed on the Mozambique side of the border. It is expected that a rehabilitation on the Swaziland side of the border will be initiated also in 1988. Project document will be prepared once the Swaziland Government has approved the Final Report.

The future standard consists of 45 kg/m longwelded rails on mondoloc concrete sleepers with Pandrol fastenings, in Mozambique.

Status : Final Report of a Technical Study and Improvement of the Machava - Swaziland Railway (P. 2.5.1 (1)) has been completed by SOTECNI Consultants, financed by Italy. Funding is being negotiated with Italy.

2.5.1(03) Rehabilitation of Machava - Swaziland Railway, Matsapha - Mozambique Border



Estimated Costs
Total : USD 37.0 million
Foreign : USD 26.0 million
Local : USD 11.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 11.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 26.0 million

Executing Agency:
Swaziland Railway

Start : 1989
Duration: 3 years

Objectives : Rehabilitation of the Machava-Swaziland Railway, Matsapa-Mozambique Border, to provide adequate infrastructure for international traffic between Swaziland and Mozambique.

Description: The project consists of the following parts:

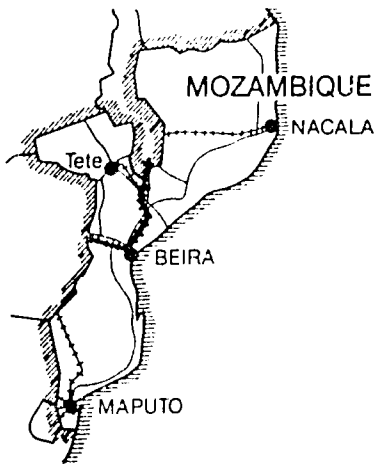
		USD (Thousands)
(i)	Earthworks and drainage	2570.4
(ii)	Protection works	1507.8
(iii)	Track, including ballast and sleepers	29526.2
(iv)	Turnouts	740.0
(v)	Signalling	1175.0
(vi)	Contingencies	1480.6
	TOTAL	37000.0

The 114.4 Km long line Matsapa-Mozambique border consists of 40 Kg/m rails on timber sleepers and with staggered joints. The track has deteriorated to such an extent that major rehabilitation is needed to provide adequate infrastructure for the anticipated traffic in the future. Project No. 2.5.1 (02) covers the Mozambique side of the line. Both subprojects should be implemented simultaneously since they constitute parts of the same main projects.

The future standard will be 48 Kg/m rails (as on the other sections of the Swaziland lines) on concrete sleepers with FIST fastenings permitting 20 tonne axle loads.

Status : Final Report of a Technical Study and Improvement of Machava-Swaziland Railway (P 2.5.1 (01)) has been completed by SOTRONI Consultants, financed by Italy. Italy has been approached for financing the implementation of the project.

2.5.3 Railway Projects in Beira Port Transport System Development Plan



Estimated Costs
Total : USD 216.7 million
Foreign : USD 192.8 million
Local : USD 23.9 million

Funding Secured
Foreign : USD 107.4 million
Local : USD 23.9 million

Funding Under Negotiation
Total : USD 61.5 million

Financing Gap:
Total : USD 23.9 million

Executing Agency:
Beira Corridor Authority
(Partly Malawi/Zambia/Zimb.)
Start : 1986
Duration: 10 years

Objectives : Rehabilitation and upgrading of the railway lines to the Port of Beira and provision of facilities to provide adequate transport capacity for the future traffic demand.

Progress : The 10-Year Development Plan for the Beira Port Transport System includes the following railway subprojects:

2 technical assistance (R-TA);
2 operational (R-OP);
6 civil engineering (R-CE);
6 telecommunications (R-ST); and
8 mechanical engineering (R-ME) projects, altogether 24 projects.

Project details have been published in the 10-Year Development Plan for the Beira Port Transport System. R-CE-1, track rehabilitation of Beira-Machipanda stretch has been completed with technical assistance from Zimbabwe and financing from Austria, SIDA, USAID and Mozambique. Also R-OP-1, Operation Plan, has been completed (omitted from the list below).

The projects are mostly being implemented. The status is described below.

Status : The status of costs and financing is presented in the following table.

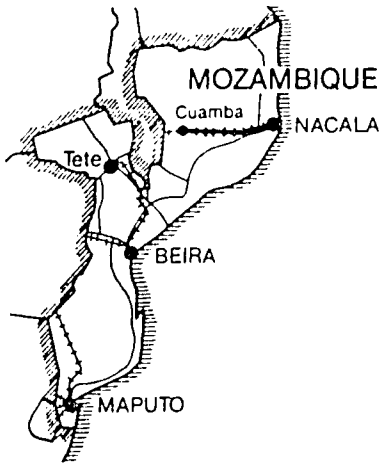
Status of Costs and Financing (USD, million)

		Estimated Costs		Financing	
		Total	Foreign	Secured or Negotiated	Gap
Code	Project				
R-TA-1	Technical Assistance to CRM	21.1	21.1	21.1	16.0
R-TA-2	Technical Assistance to Malawi Railway	2.0	2.0	-	2.0

R-OP-2	Electrification Study	0.7	0.7	-	0.7
R-OE-1	Track Upgrading, Rehabilitation Beira-Machipanda	11.7	9.0	11.7	0.0
R-OE-3	Track Rehabilitation Blantyre-Border	15.5	12.4	15.5	0.0
R-OE-4	Rehabilitation Dondo-Vila Nova	84.0	71.5	84.0	0.0
R-OE-5	Study, Rail Link Kafue to Lions Den	0.8	0.8	-	0.8
R-OE-6	Line Doubling Beira-Dondo	8.0	6.4	1.6	6.4
R-OE-7	Track Maintenance CFM (C)	3.5	3.5	3.5	0.0
R-ST-1	Emergency Repairs to Telecommunications Beira to Machipanda	0.2	0.2	0.2	0.0
R-ST-3	Train Control System CFM (C)	10.6	9.2	7.3	3.2
R-ST-4	Wagon Control System CFM (C)	1.0	1.0	0.0	1.0
R-ST-5	Replacement of Railway Telephone Exchanges CFN (C)	0.5	0.5	0.2	0.3
R-ST-6	Solar Power Panels Blantyre - Border	0.1	0.1	-	0.1
R-ME-1	Scrapping, Salvaging of Wagons and Locomotives, Rehabilitation of Wagons, Conversion to Roller Bearings CFM (C)	4.6	4.6	4.6	0.0
R-ME-2A	Rehabilitation of Locomotives CFM (C)	4.1	4.1	4.1	0.0
R-ME-2B	Acquisition of Second Hand Locomotives	20.0	20.0	20.0	0.0
R-ME-3	Replacement of Malawi Railways Wagons	2.0	2.0	-	2.0
R-ME-4	Rehabilitation of Locomotive Workshops CFM (C)	5.0	5.0	5.0	0.0
R-ME-5	Extension of Limbe Workshop, Malawi Railways	0.6	0.6	0.6	-
R-ME-6	Facilities, Spares, Equipment for CFM (C) Workshops	6.2	5.0	1.2	5.0
R-ME-7	Rescue Cranes, Rerailing Equipment CFM (C)	3.6	3.6	3.6	0.0
	TOTAL	216.7	151.8	104.2 *	71.9

* of which USD 61.5 million is being negotiated.
Additional funds are being sought.
Acquisition of new locomotives included in P. 2.5.12.

2.5.5 Rehabilitation of the Nacala - Cuamba Railway (538 km) Mozambique



Estimated Costs
Total : USD 223.4 million
Foreign : USD 193.4 million
Local : USD 30.0 million

Funding Secured
Foreign : USD 193.4 million
Local : USD 30.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
DNFCF, Mozambique

Start : 1983
Duration: 7 years

Objectives : To rehabilitate and upgrade the line between Nacala and Cuamba and to improve the stretch between Cuamba and Malawi border by heavy maintenance in order to provide means for international traffic between Nacala and Malawi and for Mozambique's internal development.

Progress : The project aims at total replacement of the worn out track between Nacala and Cuamba by long welded BS 80A rails on bi-block concrete sleepers with adequate ballast. Between Cuamba and Entre Lagos only minor improvements have been proposed. The project includes also improvements to the communications system and implementation of a training programme. In addition technical assistance for operations and maintenance is in the programme.

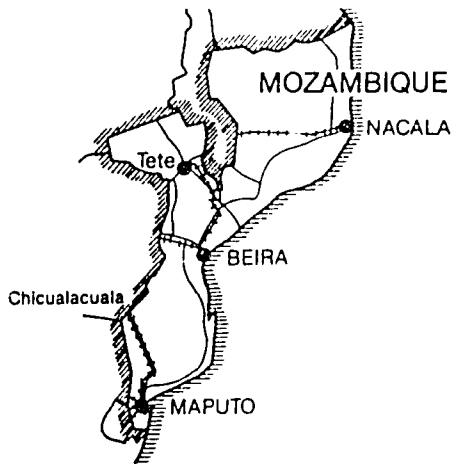
A Consortium has been established for the works which consists of the following companies : Borie Sae (French); Dehe (French) and Somafel (Portuguese). Mobilization started in July 1983 and the works are going on.

The first phase of the project, upgrading the track between Nacala and Nampula, which is about 200 km, has now been completed, and the works continue towards Cuamba. Training programmes for maintenance are being implemented.

Status : The project is fully financed by Canada, France and Portugal, EEC, Finland, Italy, UK and Mozambique.

September 1988

2.5.6(03) Rehabilitation of Maputo - Chicualacuala Railway



Estimated Costs
Total : USD 214.0 million
Foreign : USD 199.0 million
Local : USD 15.0 million

Funding Secured
Foreign : USD 28.1 million
Local : USD 15.0 million

Funding Under Negotiation
Total : USD 40.1 million

Financing Gap:
Total : USD 130.8 million

Executing Agency:
DNFCF/RMS Mozambique

Start : 1986
Duration: 10 years

Objectives : Rehabilitation and upgrading of the track, motive power, rolling stock, workshops and other facilities to make it possible to reopen the line for international traffic and to provide adequate capacity for the future traffic demand.

Progress : The first phase of the project was initiated in 1986, financed by UK and Mozambique, and continues until 1989. The second phase, based on the Study on Rehabilitation, Operation and Maintenance of Limpopo Line by Mott, Hay and Anderson of UK and SLI Consultants of Canada, has also been initiated.

On that basis, the project is composed of the following subprojects :

(i) First Phase

	Cost Estimate USD ('000)		
	Total	Foreign	Local
Operations study, track renewal km 471-525; Resleepering ballasting and welding km 4-84; Track renewal in Maputo yard; quarry; sleeper factory; welding plant; railway telecommunications Maputo-Chicualacuala; tools and equipment; and technical assistance	27,000	25,000	2,000

(ii) Core Programme

C-QO-1	Quarry equipment	721	721	0
C-QO-2	Ballast for track upgrading	252	82	170
C-QO-3	Ballast for track renewal	1,116	366	751

C-SF-1	Equipment for sleeper factory	225	225	0
C-SF-2	Sleepers for track renewal	7,688	1,147	6,541
C-MD-1	Equipment and yard improvement, Machava rail depot	285	285	0
C-TM-1	Steel sleepers by NRZ	1,260	1,260	0
C-TM-2	New rails (70 km)	3,780	3,780	0
C-TM-3	New turnouts	380	380	0
C-TU-1	Track upgrading	243	195	48
C-TU-2	Bridge works	2,400	1,975	425
C-RM-1	Track renewal operations by BMS	3,446	1,605	1,841
C-RM-2	Technical assistance to BMS	975	975	0
C-RZ-1	Concrete sleepers, track renewal by NRZ	10,032	10,032	0
C-RZ-2	Ballast, track renewal by NRZ	4,293	4,293	0
C-RZ-3	Track renewal operations by NRZ	15,376	15,376	0
C-OM-1	Workshop organization and methods study	600	600	0
* C-LO-1	Spare parts and materials for locomotive workshops	6,450	6,450	0
C-LO-2	Repairs to tools and equipment (locos)	750	750	0
C-LO-3	New tools and equipment (locos)	2,500	2,500	0
C-LO-4	Building repairs, loco workshops	1,746	1,525	222
* C-LO-5	Technical assistance and training (loco workshops)	800	800	0
C-LO-6	Accommodation, technical assistance (locos)	3,000	2,700	300
C-WA-1	Spare parts and materials, wagon workshops	750	750	0
C-WA-2	Equipment repair and replacement (wagons)	500	500	0
C-WA-3	Building repairs (wagon workshops)	1,562	1,353	209
C-WA-4	Technical assistance and training (wagon workshops)	4,800	4,800	0
C-WA-5	Accommodation for technical assistance	3,000	2,700	300
C-BR-1	Repair and rehabilitation, other buildings and services	823	715	108
C-TA-1	Technical assistance to BMS	2,406	2,395	11
C-TA-2	Management technical assistance to CFM	1,253	1,253	0
C-TA-3	Train operations technical assistance to CFM	500	500	0
C-TA-4	Accommodation for technical assistance	1,000	900	100
	Subtotal, Core Programme	84,912	73,888	11,024

* USD 2.4 million for spares and 4.0 million for technical assistance are included in Project No. 2.5.12, Rehabilitation and Acquisition of Locomotives for C.F.M.

(iii) Additional Support Programme

A-ST-1	Train control study preliminary design (signal system Maputo - Infulene)	500	475	25
A-ST-2	System implementation	4,500	4,000	500
A-SC-1	Equipment for stores and inventory control	941	941	0
A-SE-2	Implementation (spares and inventory control)	566	560	6
A-LO-1	Spare parts and materials (locco workshops)	26,550	26,550	0
A-LO-2	Technical assistance and training (locco workshops)	27,200	27,200	0
A-LO-3	Accommodation for technical assistance	2,000	1,800	200
A-WA-1	Spare parts and materials (wagons)	2,250	2,250	0
A-WA-2	Technical assistance and training (wagon workshops)	27,200	27,200	0
A-WA-3	Accommodation for technical assistance	2,000	1,800	200
A-BR-1	Railway housing	738	645	93
A-BR-2	Station buildings	920	800	120
A-BR-3	Other buildings	1,839	1,605	234
A-BR-4	Permanent water supplies	1,792	1,670	122
A-BR-5	Power generation facilities	1,046	1,000	46
A-FC-1	Technical assistance for financial control	1,125	1,125	0
A-TE-1	Track maintenance equipment	543	543	0
	Subtotal, Additional Support Programme	101,710	100,164	1,546
	Grand total	213,622	199,052	14,570

Status : The first phase is fully financed by UK (USD 25.0 million) and Mozambique (USD 2.0 million).

A Technical Coordination Conference on this project was held in Maputo on 27-28 July, 1988. The following pledges and statements were made :

Botswana USD 3.1 million for concrete sleepers.

Canada CAD 20.0 million (USD 16.6 million) for rails, turnouts, equipment and materials (about half for acquisition in the region).

Denmark Wagon rehabilitation programme and participation in the Workshop Organization and Methods Study (C-OM-1).

Federal Rep. of Germany C-BZ and A-ST projects out of the DEM 25.0 million (USD 13.4 million) pledged at the SADCC Conference in Arusha.

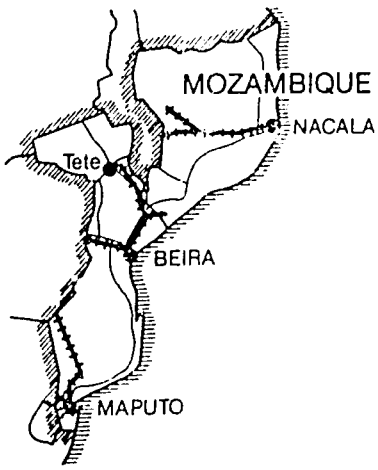
EEC Subject to additional resources being made available within the SADCC - EEC regional cooperation : C-TM-1, 2 and 3, C-GF-1 and 2, C-QO-1 and C-TO-3 (mixture of SADCC and national allocations).

USD	C-LO projects (USD 15.2 million) and C-TA projects (USD 5.2 million) out of the total of USD 34.5 million allocated to Mozambique (USD 6.4 million under project No. 2.5.12, Rehabilitation and Acquisition of Locomotives for C.F.M.).
ADB	Interested in workshop improvements, technical assistance and training.
Austria	Interested in track rehabilitation and maintenance.
Portugal	Interested in C-TA-1.
Zimbabwe	Committed to participation in the project.

Additional funding is being sought.

September 1988

2.5.8 Rehabilitation and Maintenance of Wagons - CFM, Mozambique



Estimated Costs
Total : USD 14.6 million
Foreign : USD 11.5 million
Local : USD 3.1 million

Funding Secured
Foreign : USD 2.8 million
Local : USD 3.1 million

Funding Under Negotiation
Total : USD 4.2 million

Financing Gap:
Total : USD 4.5 million

Executing Agency:
INPCF, Mozambique

Start : 1987
Duration: 4 years

Objectives : Rehabilitation of rolling stock, change over to roller bearings and provision of facilities for wagon maintenance.

Description: The project includes the following sub-projects :

		Cost (USD, million) Total	Foreign
(i)	Workshop for CFM-N (Nampula), repair tracks at key locations, spares, materials, tools, technical assistance;	4.6	4.1
(ii)	Rehabilitation of wagons and recovering of wagon components (CFM-S);	3.0	1.8
(iii)	Conversion of 1000 CFM-S and CFM-N wagons to roller bearings, and refurbishment	7.0	5.6
	Total	14.6	11.5

Corresponding projects for CFM-C are included in Project No. 2.5.3, related to the 10-Year Development Plan for the Beira Port Transport System.

Workshop improvements, CFM-S, including technical assistance has been combined with P. 2.5.6 (03).

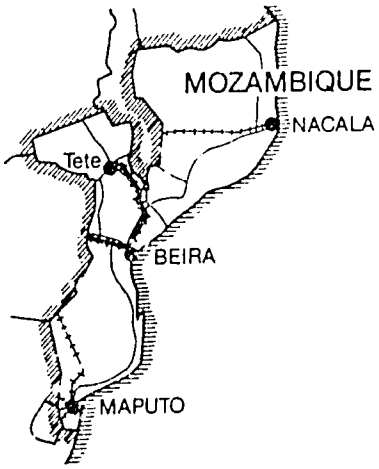
The above sub-projects are based on the findings of Project No. 2.0.1, Study of Railway Rolling Stock, carried out by KAMPSAX-SWEDRAIL.

Former Projects No. 2.5.8, Change Over to Roller Bearings and Reconditioning of Wagons; 2.5.9, Facilities, Materials, Spares and Equipment for Workshops; and 2.5.10, Wagon Rehabilitation CFM-S, have been combined under this project.

Status : Item (iii), Rehabilitation of Wagons CFM-S, is being financed by Italy and Mozambique. UK will finance roller bearings for 200 wagons for CFM-N (USD 1.0 million). DANIDA has pledged participation in the project.

Additional funding is being sought. USD 4.2 million (ECU 3.4 million) under negotiation with Italy.

2.5.11 Computerized Wagon Control System for CFM, Mozambique



Estimated Costs
Total : USD 2.5 million
Foreign : USD 2.0 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 1.5 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.5 million

Executing Agency:
INPCF, Mozambique

Start : 1989
Duration: 1 year

Objectives : Introduction of computerized wagon control for Mozambique Railways (CFM), pilot project for CFM(S).

Description: Several studies for computerized wagon control have been made. The basic concepts proposed by RITES have been approved for implementation covering 10 sub-systems of CFM(S) (cost estimate USD 9.0 million). To begin with a pilot project (2.5 million) for CFM-South has been approved for implementation.

The long term project includes 10 sub-systems but the present pilot project only 3-4 such systems. It includes training of personnel and provision of expert services.

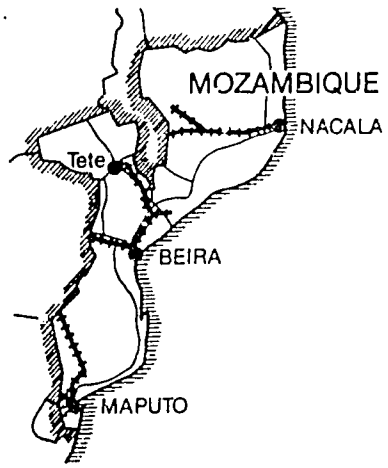
The part not yet funded is composed of :

- Equipment	USD 140.000
- Consultancy and training	USD 110.000
- Transfer of existing applications	USD 250.000
Total	USD 500.000

A computerized system is already in operation in Zimbabwe. Similar services should be available in Mozambique for the proper control of international operations. The advantages include better utilization of wagons, less hire charges, better maintenance, better customer services and proper accounting of hire charges.

Status : USD 1.5 million have been secured from Kuwait and 0.5 million in local currency. Four software specialists have been contracted. USD 0.5 million should be provided to complete the implementation of the pilot project. A site has been allocated to the computer centre and a project office has been established.

2.5.12 Rehabilitation and Acquisition of Locomotives for CFM



Estimated Costs
Total : USD 85.0 million
Foreign : USD 85.0 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 6.4 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 78.6 million

Executing Agency:
DNPCF, Mozambique

Start : 1989
Duration: 5 years

Objectives : Provision of adequate motive power for main line operations for the Mozambique Railways to cope with the traffic.

Description: The project consists of the following parts :

(i)	Rehabilitation of 10 GE locomotives	USD 9.0 million
(ii)	Purchase of 35 new locomotives	USD 70.0 million
(iii)	4 GE locomotive power packs	USD 3.2 million
(iv)	Maintenance facilities for diesel traction at Beira	USD 2.0 million
(v)	Contingencies	USD 0.8 million

The above includes the initial supply of spare parts and tools, and provision of technical assistance.

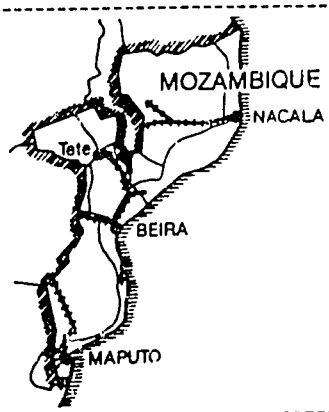
At present the main line fleet consists of 67 GE and 2 AEI diesel electric locomotives. Altogether 34 units are operational and 22 planned for local repairs. Another 13 units are considered for rehabilitation. In addition 6 steam locomotives have been rehabilitated for main line operations. Other steam locomotives are not worth while to repair but will be scrapped. (A separate programme is going on to repair the fleet of diesel hydraulic shunting locomotives locally).

8-10 units are needed for track rehabilitation works on each of the following lines : Nacala - Malawi; Beira - Zimbabwe and Maputo - Zimbabwe. Similar needs will arise in the near future for the Beira - Malawi and Maputo - Swaziland lines.

The shortage of motive power, to cope with the above works and present and anticipated traffic, will be covered in the first place by the above programme.

Status : A project description has been prepared. USAID will finance the rehabilitation of 8GE locomotives, USD 6.4 million (of which 2.4 million for spares and 4.0 million for technical assistance). Additional funds are sought.

2.5.13 Development of Railway Training for Portuguese speaking Personnel



Estimated Costs
Total : USD 25.3 million
Foreign : USD 24.2 million
Local : USD 1.1 million

Funding Secured
Foreign : USD 24 2 million
Local : USD 1.1 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
SATCC

Start : 1984
Duration: 6 Years

Objectives : Development of training of Portuguese speaking executives and personnel in Mozambique and Angola to provide them with basic professional knowledge for their work.

Description: When Mozambique gained independence an exodus of Portuguese railway personnel, especially of executives, took place. The personnel remaining in the railway service had to assume duties for which they had not been prepared. To overcome these problems a study was carried out by SOFRERAIL/NORMA/SEDES Consultants. The facilities will be available also for Angola.

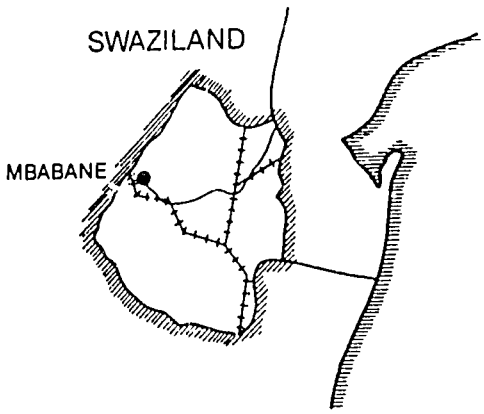
Based on the recommendations of the consultants a 3-phase programme has been approved.

		Cost USD Million
1st Phase Development of the Railway School at Inhambane, short term courses and pedagogical training	Foreign	10.9
	Local	0.4
	Total	11.3
2nd Phase Technical assistance, development of school activities and on the job training and rehabilitation of regional training centres	Foreign	13.3
	Local	0.7
	Total	14.0

3rd Phase
To be defined later on the above basis.

Status : France, Portugal and Mozambique have financed the 1st phase which will be completed in June, 1987. French and Portuguese financing for the 2nd phase is USD 5.9 million. The rest is financed by EEC. A detailed programme for the 2nd phase has been prepared by SOFRERAIL/SEDES/NORMA.

2.6.1 Modifications of Wagons and Wagon Maintenance, Swaziland Railway



Estimated Costs
Total : USD 1.2 million
Foreign : USD 0.9 million
Local : USD 0.3 million

Funding Secured
Foreign : USD 0.3 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.9 million

Executing Agency:
Swaziland Railway

Start : 1989
Duration: 3 years

Objectives : Modifications of iron ore wagons for other purposes and provision of wagon repair facilities in order to provide adequate rolling stock for the anticipated traffic.

Description: The project consists of the following parts :

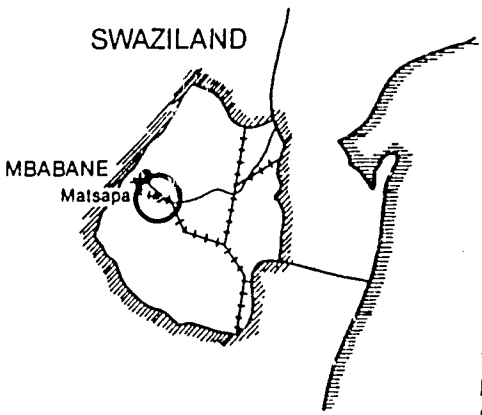
(i) conversion of 130 iron ore wagons (USD 325 000);
(ii) conversion of workshop building (USD 200 000); and
(iii) acquisition and installation of equipment (USD 563 000) at the workshop.

Iron ore wagons then became redundant in 1980/81 when the Kadake Mine was closed. Since then, 127 wagons have been successfully converted into high sided bogie wagons to carry sugar, coal and other bulk commodities for which there is a great demand in the common pool operated to/from Maputo. There are still 130 wagons to be modified. The project is of high priority and should be implemented in 1989-90.

At present there is only a small shelter at Sidvokodvo for wagon repairs. A new combined wagon workshop and repair track is needed by expanding the existing facilities. The building of the workshop is scheduled for 1989.

Status : The above projects are based on the recommendations included in the Final Report of the Railway Rolling Stock Study, Project No. 2.0.1, by Kampsax/Swedrail. Funds are being sought for implementation. DANIDA has been approached.

2.6.2 Establishment of Dry Port/ICD in Swaziland



Estimated Costs
Total : USD 0.7 million
Foreign : USD 0.5 million
Local : USD 0.2 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.2 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.5 million

Executing Agency:
Ministry of Works and Communications, Swaziland
Start : 1989
Duration: 1,5 years

Objectives : The establishment of a dry port inland clearance depot in order to reduce transit transport costs and journey times through maritime ports, improve performance of the external trade sector and thereby contribute to economic development.

Description: In Swaziland, one dry port/ICD facility will be established at the railway yard at Matsapha between Manzini and Mbabane.

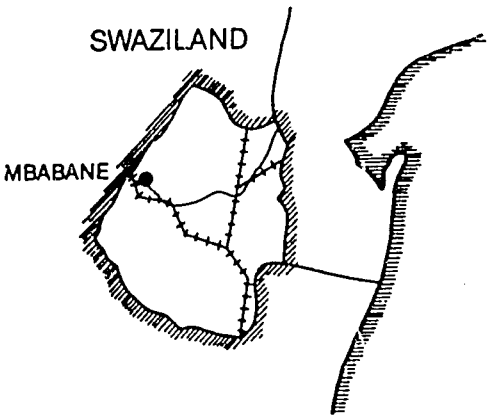
Dry port/Inland clearance depot is a common user inland facility with public authority status equipped with fixed installations and offering services for handling and temporary storage of any kind of goods, including containers, carried under customs transit by any applicable mode of transport, placed under customs control and with customs and other agencies competent to clear goods for home use, warehousing, temporary admission, re-export, temporary storage for onward transit and outright export. *

Status : Project description has been prepared by the UNDP/UNCTAD Transit Transport Project RAF/77/017, including cost estimates and supporting documents covering customs matters for dry ports/ICD's operations, management and operations of dry ports/ICD's and documentation and legal matters.

DANIDA has been approached for the funding of the project.

* This definition of a dry port/ICD has been prepared by UNCTAD, Geneva and has been submitted for clearance by the Customs Co-operation Council in Brussels.

2.6.3 Provision of Technical Assistance and Management Training to Swaziland Railway



Estimated Costs
Total : USD 4.7 million
Foreign : USD 3.5 million
Local : USD 1.2 million

Funding Secured
Foreign : USD 3.5 million
Local : USD 1.2 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Swaziland Railway

Start : 1989
Duration: 5 years

Objectives : Provision of technical assistance and management training to Swaziland Railway, forming part of a new regional rail transportation project whose ultimate aim is enhancing the efficiency and capacity of the rail system within the SADCC region.

Description : The project consists of provision of technical assistance for a period of three years in the areas of General Management, Marketing and Financing Management and for a period of two years in the areas of Operations and Mechanical Engineering.

A total of 1 1/2 years will be provided in the area of human resources, comprising short term training in the managerial functions identified above.

Finally, for a total period of 4 years, provision shall be made for long term training for pre-selected candidates.

Status : The above project will be based on the recommendations of an evaluation Mission undertaken by USAID. Foreign currency part to be financed by USAID.

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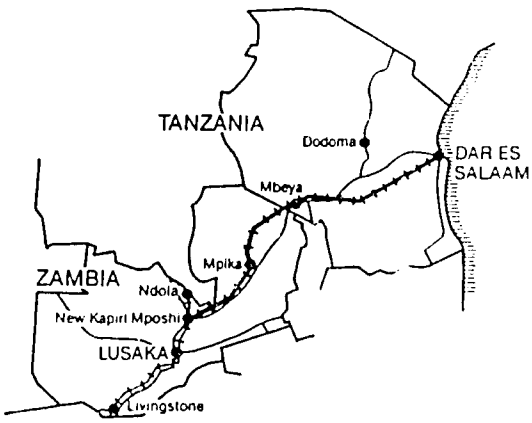
2.7.1 TAZARA 10 Year Development Plan Projects



Estimated Costs
Total : USD 268.8 million
Foreign : USD 245.6 million
Local : USD 23.2 million

Funding Secured
Foreign : USD 182.8 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 25.1 million

Financing Gap:
Total : USD 60.9 million

Executing Agency:
TAZARA & Min.of Transp.,Comms & Works, Tanzania and Zambia
Start : 1985
Duration: 10 years

Objectives : Rehabilitation and upgrading of the TZR to provide adequate capacity for future services.

Progress : The Revised 10 Year Development Plan prepared by TAZARA with assistance from SADCC/TU includes a total of 22 projects of which 8 are permanent way and construction projects (CE Projects), 5 are signalling and telecommunication projects (ST Projects), 6 are motive power, rolling stock and mechanical equipment projects (ME Projects), and 3 are general management and training projects (GM Projects).

The phasing of the projects has been ranked according to priority.

Projects to facilitate Malawi traffic to TAZARA have been added.
The projects are mostly being implemented. The status is described below.

Status : The following countries and organizations have pledged to finance TAZARA projects, Austria, Denmark, Finland, Norway, People's Republic of China, Sweden, Switzerland, USAID, ADB and EEC. Canada and Italy have expressed interest in TAZARA projects. Related Malawi projects are financed by KfW, ODA and USAID. The status of costs and financing is presented in the following table.

STATUS OF COSTS AND FINANCING (USD million)

	Estimated Cost		Financing	
	Total	Foreign	Secured or Under Neg.	Gap
CE:1 Rehabilitation of Quarries	17.9	16.2	17.9	0.0
CE:2 Permanent Rectification of Landslides	45.0	40.0	45.0	0.0

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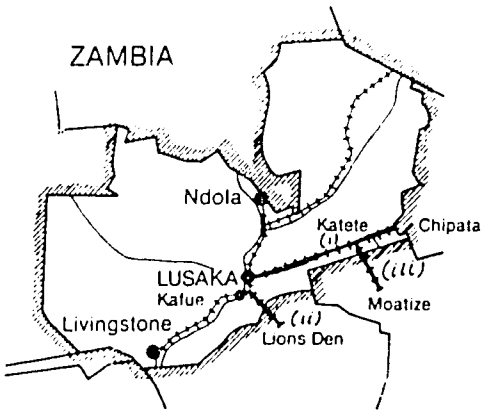
CE:3	Mechanized Track Maintenance	13.7	13.6	13.7	0.0
CE:4	Rail Welding	16.4	6.7	9.7	6.7
CE:5	Rail Burn Repairs	8.1	7.6	8.1	0.0
CE:6	Terminal Facilities at New Kapiri Mposhi	0.3	-	0.3	-
CE:7	Railway Link TAZARA - Mpulungu Port, Zambia, Study	0.4	0.4	0.4	0.0
ST:1	Solar Power Panels *	4.3	3.4	4.3	0.0
ST:2	Back-up HF Radio Link	combined with ST-1			
ST:3	Teleprinters	combined with ST-1			
ST:4	Feasibility Study on Future Telecommunication System	0.2	0.2	-	0.2
ST:5	Automatic Train Stops	4.5	3.5	1.0	3.5
ST:6	Track Circuiting	1.6	1.1	0.5	1.1
ME:1	Locomotives	45.0	42.5	45.0	0.0
ME:2	Goods Wagons	50.0	50.0	17.0	33.0
ME:3	Trolleys and Trailers	6.6	6.6	6.6	0.0
ME:4	Handling Equipment for Goods Depot	2.0	2.0	-	2.0
ME:5	Rescue Cranes and Rerailing Equipment, Accident Prevention	8.0	7.8	8.0	0.0
ME:6	Wheel Lathes	3.7	3.6	3.7	0.0
ME:7	Mechanical Equipment for Workshops	9.6	9.6	1.8	7.8
GM:1	Technical Assistance to Head Office	4.5	4.5	3.9	0.6
GM:2	Manpower Development Plan and Training Facilities	2.7	2.6	2.7	0.0
GM:3	Project Coordination Unit	2.2	2.0	2.2	0.0
	Training on DE Locomotives	2.2	2.2	2.2	0.0
	Training, misc.	1.6	1.2	1.6	0.0
	Total TAZARA	250.5	227.3	195.6	54.9
MALAWI PROJECTS related to TAZARA					
ME:8	Tank Wagons and Tank Containers	1.3	1.3	1.3	0.0
CE:9	Malawi Cargo Centre, Mbeya	6.4	6.4	6.4	0.0
CE:10	Malawi Cargo Centre, Dar es Salaam	8.6	8.6	8.6	0.0
	Total Malawi Rail Projects	16.3	16.3	16.3	0.0
	GRAND TOTAL	266.8	243.6	211.9	54.9

* USD 1.5 million needed for signal lights.

USD 57.5 million under negotiation.
Additional funds are being sought. The Plan has been reviewed and revised.

2.8.1 Feasibility Study for New Rail Links Connecting Zambia with Malawi and Mozambique



Estimated Costs
Total : USD 0.6 million
Foreign : USD 0.6 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.6 million

Executing Agency:
Ministry of Power, Transport and Communications, Zambia
Start : 1989
Duration: 8 months

Objectives : Feasibility study for possible new connections to the sea for Zambia's foreign trade.

Description: Originally the project included a link from TAZARA to the Port of Mpulungu on Lake Tanganyika, a link via Caprivi Strip to Namibia and a link study is presented now under TAZARA projects, P. 2.7.1. The links to Namibia and Lobito are not considered realistic at the moment. A link from the Livingstone-Lusaka line at Kafue to Lions Den to connect with the National Railways of Zimbabwe (approximately 300 Km), has been included in the 10 Year Development Plan for the Beira Port Transport System, P. 2.5.3.
On the above grounds the proposal for a study includes the following links :

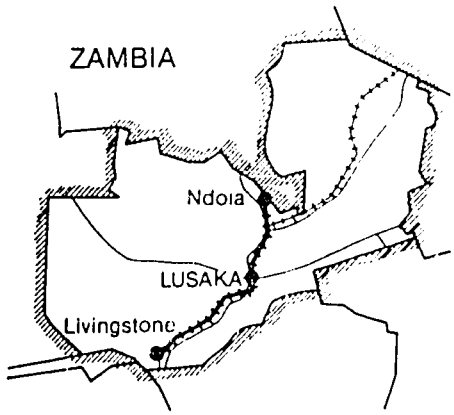
(i) from either the Zambia Railways, Lusaka, or some point on TAZARA to Chipata to connect with the Malawi Railways;

(ii) from link (i) at Katete to Moatize to connect with the Mozambique railway system (approximately 300 km).

Development plans made in Zambia and in the neighbouring countries are expected to increase trade and demand for transport. Therefore a new study, taking into account the development plans for Nacala, Beira and Maputo corridors, is considered necessary although the Zambia Coastal Link Study was finalized as recently as in June 1980.

Status : Financing is being sought. Australia has been approached.

2.8.2 Acquisition and Refurbishment of Locomotives and Wagons, Zambia Railways



Estimated Costs
Total : USD 262.0 million
Foreign : USD 243.5 million
Local : USD 18.5 million

Funding Secured
Foreign : USD 25.1 million
Local : USD 18.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 218.4 million

Executing Agency:
Zambia Railways

Start : 1989
Duration: 5 years

Objectives : To provide Zambia Railways with adequate motive power and rolling stock to cope with the anticipated traffic.

Description: The goods traffic on Zambia Railways in 1986/87 amounted to 4.3 million net tonnes, 3.1 million internal and 1.2 million international traffic. Traffic volumes in 1987/88 are expected to increase to 3.6 million of which 1.6 million tonnes would be international traffic.

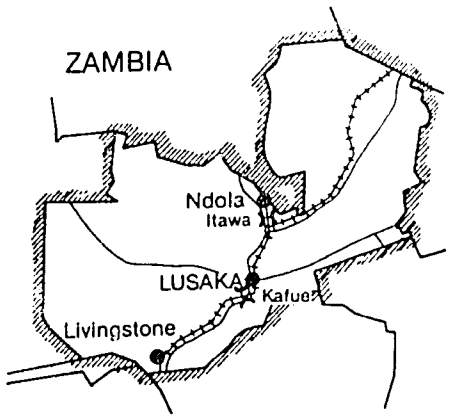
The present locomotive fleet consists of 79 units of which 36 are 17-20 years old. The wagon fleet is composed of 6656 wagons of which about 2000 are more than 40 years old. Therefore a part of the locomotive and wagon fleets are to be replaced and additional units are needed to handle the traffic. Proper repair and maintenance facilities should be provided.

The project is composed of the following parts:

		Cost (USD Million)		
		Foreign	Local	Secured
(i)	Acquisition of 36 diesel electric locomotives, HP 3200;	72.0	-	-
(ii)	2060 wagons, various types	111.0	12.0	22.0
(iii)	Spares for locomotive refurbishment and maintenance and for coach and wagon maintenance; and	52.5	5.5	19.4
(iv)	Workshop equipment	6.3	0.7	1.9
(v)	Improvements to loosheds	1.2	0.2	0.2
(vi)	Equipment and shelters to repair tracks	0.5	0.1	0.1
	TOTAL	243.5	18.5	43.6

Status : A project description has been prepared by Zambia Railways. In addition to the local funding, USD 10.7 million has been secured from SIDA for wagon manufacture, USD 1.2 million from IDA and Belgium for workshop improvements, and USD 13.9 million from USAID and IDA for spare parts. Additional funds are being sought.

2.8.3 Railway Bridges, Zambia Railways



Estimated Costs
Total : USD 14.0 million
Foreign : USD 11.7 million
Local : USD 2.3 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 2.3 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 11.7 million

Executing Agency:
Zambia Railways

Start : 1989
Duration: 2,5 years

Objectives : Replacement of the existing rail bridges at Kafue and Itawa by new bridges.

Description: The existing Kafue bridge is 80 years old and has been modified and strengthened on three occasions. Horizontal clearance is 1'6" less than the Zambia Railways standard structure gauge. The relatively short spans of 105 feet give rise to problems with floating islands. The bridge has been damaged several times and is in a poor condition. Severe speed restrictions are applied. The project consists of the building of a new bridge 250 m upstream of the existing bridge. The cost estimate is USD 13.2 million.

The Itawa bridge was built in 1909. Its horizontal clearance does not meet the fixed structure gauge requirements. The approaches are on sharp curves and are scenes of frequent accidents. Construction of a new bridge will improve safety and turnaround times The cost estimate is USD 0.8 million.

Status : Watermeyer, Legge, Piesold and Uhlman plus Freeman and Partners, Consulting Engineers, carried out a study in 1981 on the Kafue Rail Bridge (Report on Rehabilitation or Replacement). They recommended replacement, i.e. building of a new bridge. On behalf of SATCC Henderson and Busby made a survey of the bridge in November 1985. They agreed with the findings of the Watermeyer Study. Financing is being sought.

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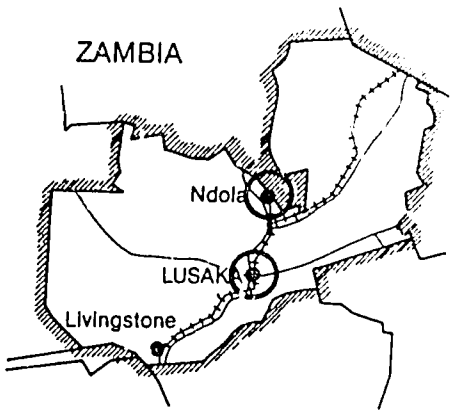
2.8.4 Establishment of Dry Ports/ ICDs in Zambia



Estimated Costs
Total : USD 6.0 million
Foreign : USD 5.4 million
Local : USD 0.6 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.6 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 5.4 million

Executing Agency:
Ministry of Power, Transport and Communications, Zambia
Start : 1989
Duration: 1,5 years

Objectives : The establishment of dry ports/inland clearance depots in order to reduce transit costs and journey times through maritime ports and transit countries, achieve savings in foreign exchange payments, improve performance of the external trade sector and thereby contribute to economic development.

Description: In Zambia, two dry port/ICD facilities will be established at the Zambia Railways goods sheds in the heavy industrial sites at Lusaka and at Ndola to serve the Copperbelt.

Dry port/inland clearance depot is common user inland facility with public authority status equipped with fixed installations and offer services for handling and temporary storage of any kind of goods, including containers, carried under customs transit by any applicable mode of transport, placed under customs control and with customs transit and other agencies competent to clear goods for home use, warehousing, temporary admission, re-export, temporary storage for onward transit and outright export. *

Status : Project descriptions have been prepared by the UNDP/UNCTAD Transit Transport Project RAF/77/017, including cost estimates and supporting documents covering customs matters of dry port/ICD operations, management and operations of dry ports/ICD's and documentation and legal matters. DANIDA has been approached for financing of the project.

* This definition of a dry port/ICD has been prepared by UNCTAD, Geneva, and has now been submitted for clearance by the Customs Cooperation Council in Brussels.

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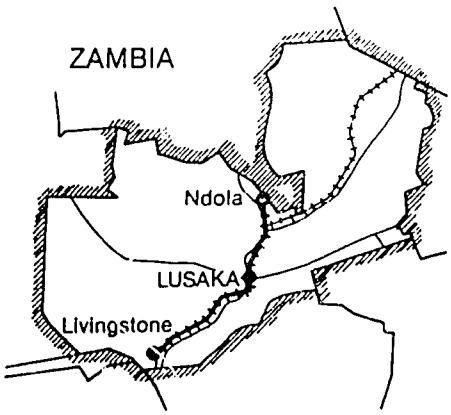
2.8.5 Track Rehabilitation and Maintenance, Zambia Railways



Estimated Costs
Total : USD 64.6 million
Foreign : USD 48.7 million
Local : USD 15.9 million

Funding Secured
Foreign : USD 6.2 million
Local : USD 15.9 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 42.5 million

Executing Agency:
Zambia Railways.

Start : 1989
Duration: 5 years

Objectives : Track renewals of 170 km of the lines, realignments and regradings 18 km, and provision of ballast and maintenance facilities in order to provide adequate capacity for future traffic.

Description: The rails and sleepers are worn out and the ballast is old and inadequate on the stretches included in the plan. There is need to realign the Kafue-Lusaka section (18 km) which runs over steep gradients and sharp curves causing speed restrictions and frequent derailments. Ballast production should be ensured. Only three out of the eigth tamping machines are serviceable.

The project consists of the following parts :

		Cost, USD million Foreign	Local	Secured
(i)	Track renewals: 137km Kalomo-Livingstone; 37km Ndola-Luanshya; 3km Luano-Chililabombwe	35.3	12.0	17.2
(ii)	Rehabilitation of the Livingstone Quarry	1.8	1.2	1.2
(iii)	Track realignments/regradings Kafue-Lusaka (18 km)	8.0	1.4	1.4
(iv)	Track maintenance equipment (5 tamping machines; 20 coach screwing machines, 20 rail cutters; 10 rail drilling machines 2000 machine drilling bits, 2500 hand augers)	3.6	1.3	2.3
	Total	48.7	15.9	22.1

Status : In addition to local funding the following funds have been secured : track renewals USD 5.2 million from AfB, track maintenance equipment USD 1.0 million, AfB. Additional funds are being sought.

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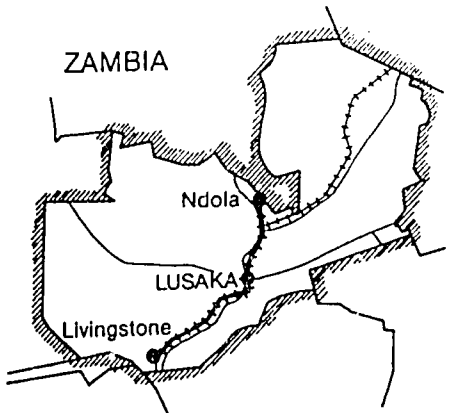
2.8.6 Telecommunications and Data Base Management System, Zambia Railways



Estimated Costs
Total : USD 4.5 million
Foreign : USD 3.4 million
Local : USD 1.1 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 1.1 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 3.4 million

Executing Agency:
Zambia Railways.

Start : 1989
Duration: 4 years

Objective : Completion of the telecommunications programme by providing telephone exchanges and establishment of a data base management system.

Description: A signalling and telecommunications programme has been financed by ADB. To complete the programme funds are needed for the following sub projects :

		USD million
(i)	Supply of telecommunications and signalling equipment;	2.0
(ii)	Telephone exchanges at Choma and Mbonze;	0.5
(iii)	Radio Communications system for the Umlobozi line;	1.0
(iv)	Acquisition of computer software	1.0
	Total	4.5

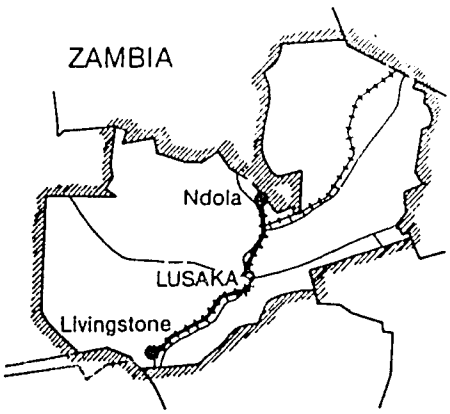
Items (i) - (iii) above are included in the SADCC Telecommunications Ten Year Development Plan.

Zambia Railways have acquired a new computer capable of accommodating among other programmes the on-time systems. The establishment of a data base management system consists of the purchase of software packages to that effect (item iv).

Status : A project description has been prepared by Zambia Railways. Financing is being sought.

September 1988

2.8.7 Motive Power, Rolling Stock and Operation Plan for Zambia Railways



Estimated Costs
Total : USD 0.2 million
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.2 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Zambia Railways.

Start : 1988
Duration: 4 months

Objectives : To provide the Zambia Railways with a plan to best utilize the available resources and for improvements and acquisitions (including needs for technical assistance) to cope with the traffic.

Description: The plan shall include a review of, and recommendations for :

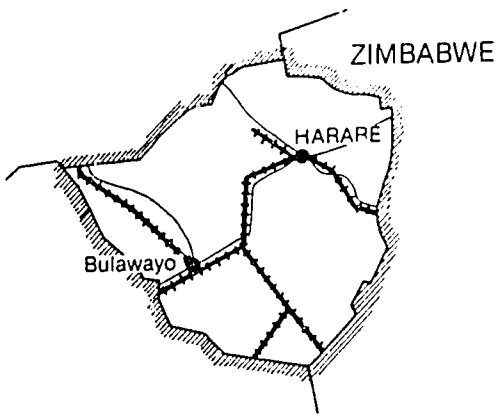
(i) Composition of trains;
(ii) Infrastructure;
(iii) Motive power and rolling stock;
(iv) Train working;
(v) Data transmission;
(vi) Manpower requirements; and
(vii) Identification and quantification of the costs and benefits through a cost/benefit analysis.

Implementation of the project is scheduled for 1988.

Status : Terms of Reference have been prepared. The project has been included in the work programme of S.L.I Consultants financed by the CIDA Technical Services Fund.

September 1988

2.9.1 Repair Tracks & Wagon Maint. Equipment, National Railways of Zimbabwe



Estimated Costs
Total : USD 1.1 million
Foreign : USD 0.6 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 0.6 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
National Railways of Zimbabwe

Start : 1986
Duration: 3 years

Objective : Cover and hardstanding to the existing wagon repair tracks, building of a new repair track and acquisition of maintenance equipment in order to provide facilities for wagon maintenance.

Progress : The project consists of the following parts :

		USD
(i)	cover and hardstanding to the existing repair tracks at Mutare, Thomson Junction, Mpopoma and Lochinvar (1988)	424 000
(ii)	a new repair track at Plumtree with equipment (1988)	76 000
(iii)	replacement of the maintenance equipment at the Mutare Workshop (1986)	473 000
	Total	973 000

The project is based on recommendations made in the Final Report of the Study of Railway Rolling Stock, Project No. 2.0.1, by Kampsax-Swedrail Consultants.

Status : The implementation is being financed by the National Railways of Zimbabwe.

September 1988

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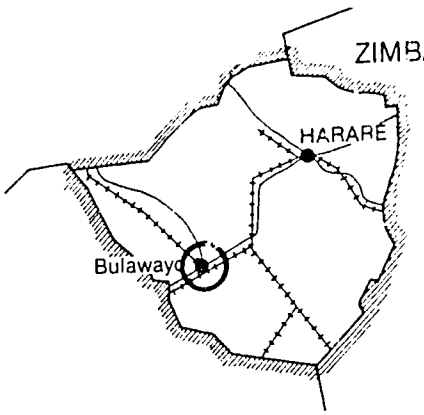
2.9.2 Equipment for Central Elect. Workshop, NRZ, Zimbabwe



Estimated Costs
Total : USD 0.4 million
Foreign : USD 0.4 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.4 million

Executing Agency:
National Railways of Zimbabwe

Start : 1989
Duration: 1 year

Objectives : Acquisition of additional equipment for the Central Electrical Workshop, Bulawayo, to increase capacity.

Description: The following equipment is needed for the Central Electrical Workshop of the National Railways of Zimbabwe, Bulawayo, to increase capacity :

(a)	Heavy Duty Coil Winder	USD 52 000
(b)	Variable Speed Armature Rotating Machine	USD 230 000
(c)	Vacuum Impregnation Equipment	USD 100 000
	Total	USD 382 000

These facilities would be available also to other railway administrations in the region.

Status : Financing is being sought. Australia has been approached.

September 1988

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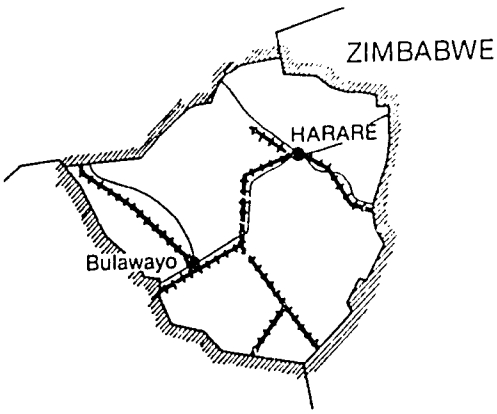
2.9.3 Telecommunications, Signalling and Wagon Control, National Railways of Zimbabwe



Estimated Costs
Total : USD 12.0 million
Foreign : USD 9.0 million
Local : USD 3.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 3.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 9.0 million

Executing Agency:
National Railways of Zimbabwe.

Start : 1989
Duration: 4 years

Objectives : Partial rehabilitation and upgrading of the telecommunications and signalling systems, and replacement of obsolete wagon control equipment of NRZ to provide for efficient operations.

Description : The project consists of the following parts :

		USD, Million Foreign	Local
(i)	Replacement of the CIC system Bulawayo - Victoria Falls;	5.50	3.00
(ii)	Additional open wire carrier systems; and	0.12	0.03
(iii)	Replacement of mobile radio equipment	1.55	-
(iv)	Replacement of wagon control equipment	1.14	0.00
(v)	Contingencies	0.69	-
	Total	9.00	3.03

The present CIC system on the Bulawayo - Victoria Falls line has become obsolete and has to be replaced. Additional open wire carrier systems are needed for an increase in the circuit capacity on branch line open wire routes. Due to heavy use, replacement of mobile radio equipment has become necessary.

The present computerized wagon control system (Advance Train Information System, ATI) installed in 1980 and based Perkin Elmer mini computer model 3220. Due to heavy usage and age the system is breaking down and cannot be properly maintained since the manufacturers have stopped the development of this product line. The renewed system is proposed to be based on Perkin Elmer 3230 - P 8MB and related equipment.

Status : Project descriptions for subprojects (i-iii) are included in the SATCC Telecommunications Ten Year Plan. National Railways of Zimbabwe have prepared a project description for subproject (iv). Financing is being sought.

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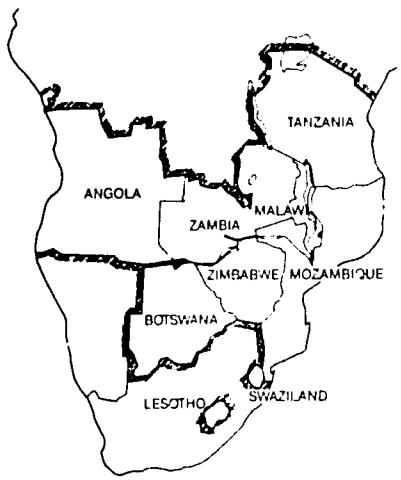
Ports and Water Transport

3.0.1 Regional Cooperation in Shipping



Estimated Costs
Total : USD 0.6 million
Foreign : USD 0.6 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.6 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
SATCC

Start : 1988
Duration: 1 year

Objectives : Study of possible areas of cooperation among Member States in the field of shipping, including the advantages and ways and means of attaining regional cooperation for the development of alternative services and the improvement of shipping by SADCC member countries through, amongst other things, the development of national fleets and the creation of regional shipping lines.

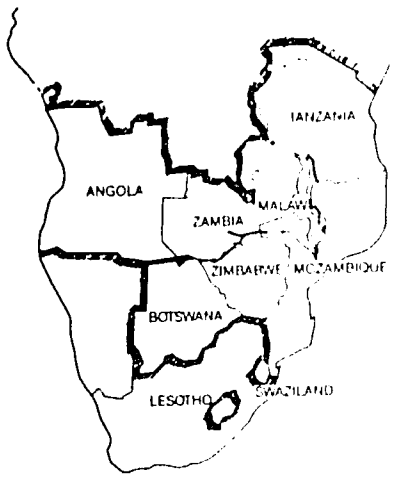
Progress : The project aims at furthering cooperation on shipping among the Member States by way of pooling resources available in the region in order to provide maritime services adapted to the specific needs of the region.

The first phase of the study has been completed and covers the following points:
- A comprehensive analysis of the shipping services at present available to the region;
- Survey of the present cargo flow and forecasts up to the year 2000;
- Corresponding shipping requirements for the defined trades;
- Inventory of shipping resources available in the region;
- Determination of type and amount of additional resources to fill the gap between demand and supply;
- Definition of alternative strategies to secure these resources for the region.

A second phase has been initiated, to cover:
- planning, organization, administration and management of shipping line/lines.
- cargo sharing agreements;
- trades to be covered by shipping line/lines, including recommendations for cooperation with existing coastal services in order to prepare ground for feeder services;
- types and number of vessels to be operated initially;
- manpower requirements, and training needs;
- development programme for short term and intermediate term periods; and
- evaluation of what ratification of international maritime conventions means to SADCC Member States.

The recommendations should be supported by sufficient economic and financial analyses to show the viability of the recommended projects.

3.0.3 Marine Safety Development Programme for SADCC Coastal States



Estimated Costs
Total : USD 0.3 million
Foreign : USD 0.3 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.3 million

Executing Agency:
SADCC

Start : 1988
Duration: 1.5 years

Objectives : To increase Safety of Navigation in SADCC waters through the establishment of a Maritime Safety Development Programme.

Description: Major items of regional importance regarding safety at sea, namely:

1) Maritime search and rescue services;
2) Oil pollution prevention and combat services;
3) Prevention of incidents concerning hazardous cargo;

shall be included in a Maritime Safety Development Programme Study.

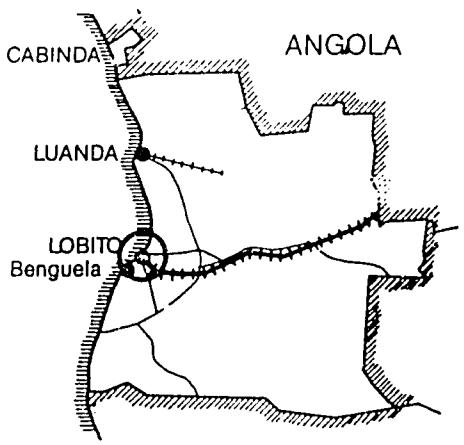
A report on Mozambican Coast Guard Requirements (January 1987) has been prepared for the Ministry of Transport and Communications under British aid agreements to the Government of Mozambique, giving valuable background information for a study to cover all three SADCC coastal areas.

Status : Terms of Reference for a Marine Safety Development Programme Study for Mozambique was presented to the SATCC Co-ordinating Committee and Meeting of Ministers in Mbabane, May 1987, and approved subject to amendment of the Terms of Reference to cover all SADCC coastal states. Terms of Reference have been amended accordingly.

Implementation can commence once funding is secured.

IDA has been approached.

3.1.1 Port & Water Tran. Projects in the Ten Year Dev. Plan for the Lobito Port Transport System



Estimated Costs
Total : USD 76.6 million
Foreign : USD 76.6 million
Local : USD 2.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 76.6 million

Executing Agency:
Lobito Port Authority

Start : 1989
Duration: 10 years

Objectives : Rehabilitation and upgrading of the Lobito Port and related water transport facilities.

Description : The Ten Year Development Plan for the Lobito Port Transport System includes the following subprojects for the development of the Lobito port and related water transport .
Included under this heading are in addition to the Lobito Port Projects also Rehabilitation of Lobito Shipyard, Improvement of the Capacity of the Coastal Shipping Company and a Maritime Security Programme.

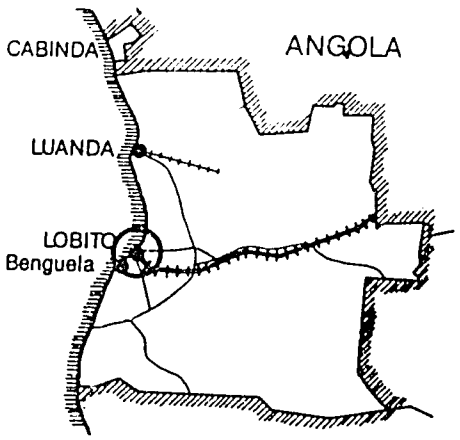
Project		Costs USD, million
P-M-1,	Welfare and Office Facilities	3.5
P-TA-1,	Technical Assistance to the Port	3.0
P-TA-2,	Port School at Lobito	5.3
P-CE-1,	Inspection and Reinforcement of Quays	15.8
P-CE-2,	Grain Bulk Facilities Improvement	1.0
P-CE-3,	New Coastal Terminal and Service Port Facilities	6.5
P-CE-4,	Rehabilitation of Port Railways	2.5
P-CE-5,	Study on Rehabilitation of Existing Ore Bulk Facilities	0.5
P-CE-6,	New Multipurpose Terminal (study)	1.0
P-CE-7,	New Container Terminal (study)	1.0
P-CE-8,	Coastal Protection Works	1.3
P-ME-1,	Rehabilitation of Power and Lighting System	2.5
P-ME-2,	Purchase of General Port Equipment	2.6
P-ME-3,	Port Maintenance Workshop and Store	3.5
P-ME-4,	Mobile Cranes Rehabilitation and Scrapping Programme	3.0
P-ME-5,	Floating Equipment	5.0
P-ME-6,	Shipyard Rehabilitation	15.0

P-6-1,	Improvement of the Capacity of the Coastal Shipping Company	8.0
P-MS-1,	Maritime Security Programme	1.5
	Total	82.5

Status : A Technical Co-ordination Conference to discuss the Plan is scheduled for November, 1988.

September 1988

3.1.1(P-TA-2) Port School at Lobito, Angola



Estimated Costs
Total : USD 5.3 million
Foreign : USD 5.3 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 5.3 million

Executing Agency:

Start : 1989
Duration: 3 years

Objectives : The need for professional training of staff and workers in the port is indisputable. SATCC has carried out a study on Port Staff Training Programmes (P 3.0.2) completed in 1985. The study established the basis for port schools in Tanzania, Mozambique and Angola. Port schools habe already been financed in Tanzania (Dar es Salaam) and in Mozambique (Maputo) and implementation is ongoing.

A similar school is to be established in Lobito, and earlier described as SATCC Project No. 3.1.3.

Description: A proposal for a port school project is being worked out by the Angolan authorities.

The project should be divided into two phases, namely:

1) Establishment of a study team to assist the Angolan authorities in concerning both the hardware and the software part of the project.

2) Implementation.

PROJECT COMPONENTS

The project comprises the following components:

- Evaluation of training needs in order to establish the proper profile and duration of courses and training to be given,

- Design of school facilities, including classrooms, dormitories and equipment,

- Establishment of a management assistance team and provision of instructors, and

- Implementation

Status : It is envidaged that the study phase should start within the Emergency Phase and be completed within one year, and that the school premises will be established within three years.

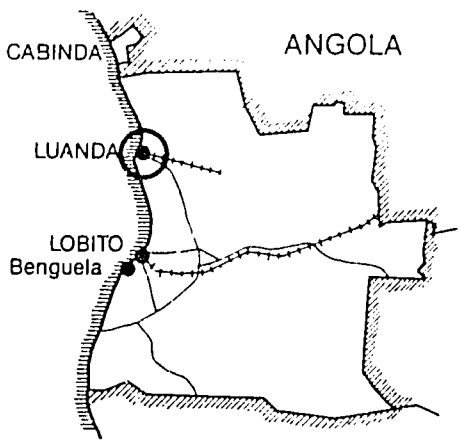
Management assistance and provision of instructors, are foreseen to be necessary for a period of three years after the school facilities have been made ready for use.

The overallcost of the project is estimated at USD 5.3 million. It is expected that about half this sum will be needed for development of the software part of the project, including management assistance and provision of instructors. The other half is expected to be used for the design and construction of school facilities.

Financing being sought. UNCTAD has been approached for the software part.

September 1988

3.1.2 Development of the Port of Luanda



Estimated Costs
Total : USD 38.0 million
Foreign : USD 31.9 million
Local : USD 6.1 million

Funding Secured
Foreign : USD 10.0 million
Local : USD 6.1 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 21.9 million

Executing Agency:
Ministry of Technologie and Construction
Start : 1985
Duration: 4 years

Objectives : Development of the Port of Luanda to meet the future needs of the traffic in dry bulk commodities, pallets, containers and Ro/Ro and the demands for modern handling and to improve the working conditions of the labour force.

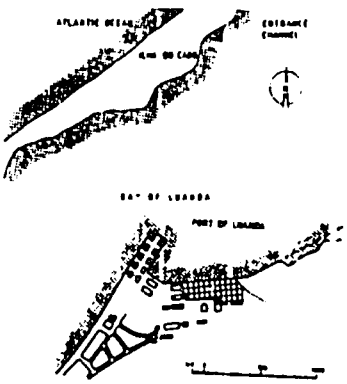
Progress : The project comprises several sub-projects consisting of civil works, procurement of equipment and technical assistance.

(1) Design and construction of a container and Ro/Ro terminal. The project is further elaborated as a sub-project on the following pages. The cost is estimated at USD 10 million.
(2) Construction of a grain terminal, including silos, and 165 m of quay as well as equipment and conveyers.
The estimated cost of this is USD 11.9 million of which the silos part is USD 5.6 million. For the latter part financing is secured.
(3) Modernization and enlargement of the electrical system of the port. For this there is a contract in the amount of USD 3 million covering the existing older parts of the port but this will have to be enlarged to cover the planned port extensions.
The estimated cost for the whole project is approximately USD 5 million.
(4) Earthwork, compacting and paving of 100 000 m2 of backup area to the the general cargo quay.
Estimated costs are USD 5 million.
(5) Construction of canteen facilities for 2 500 workers at an estimated cost of USD 3.4 million.

For sub-project (1) negotiations with financiers are in progress. For (2) the larger part of the equipment is already stored in the port and sub-soil investigations at the new site are underway. There is no financing for the civil works as yet. For (3) the enlargement must be planned in the context of the new port extensions. (4) is on the verge of being completed and for (5) there are proposals but no financing.

Status : Financing or remaining financing is being sought for sub-projects (2), (3) and (5).

3.1.2(01) Container and Ro/Ro Terminal in the Port of Luanda



Estimated Costs
Total : USD 10.7 million
Foreign : USD 9.1 million
Local : USD 1.6 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 1.6 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 9.1 million

Executing Agency:
Ministry of Technology and Construction
Start : 1988
Duration: 2 years

Objectives : Establishment of container and Roll On/Roll Off facilities needed in the Port of Luanda and future investment requirements and operating procedures.

Description: The project comprises two parts:

- detailed design and construction of immediate requirements for the present traffic, including terminal operations; and
- an investigation of longer term requirements.

Immediate requirements:

Review of the short term plans for handling the existing levels of container and RO/RO traffic, and the detailed design of immediately required facilities, taking into account operations management including documentation.

Long term requirements:

Forecast of the container and RO/RO traffic for determination of future capacity requirements giving a twenty year perspective. Alternative methods of dealing with the expected growth in traffic shall be evaluated and recommendations made on investment requirements and necessary improvements in management and operations procedures as well as staffing requirements. Financing proposals for the investments finally selected by the Government shall also be prepared.

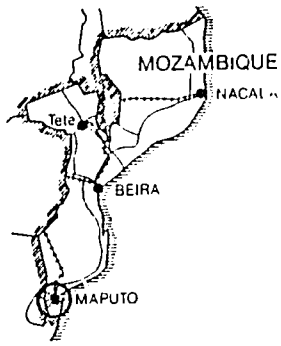
The Governments of Italy and Angola are negotiating financing of the project.

Status : Draft Terms of Reference, Feasibility Study on Container and RO/RO Terminal in the Port of Luanda, presented to the Co-ordinating Committee and Committee of Ministers Meeting in Luanda, November 1983, and approved.

Financing agreements not yet finalized.

Port projects in Luanda has been included in the special assistance programme

3.5.1 Maputo Port, Mozambique



Estimated Costs
Total : USD 121.0 million
Foreign : USD 115.2 million
Local : USD 5.8 million

Funding Secured
Foreign : USD 10.8 million
Local : USD 5.8 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 104.4 million

Executing Agency:
DNPCP, Mozambique

Start : 1984
Duration: 7 years

Objectives : Rehabiliation and upgrading of the port of Maputo to provide proper and adequate capacity for future traffic demand.

Progress : Up to date only three of the projects in the port of Maputo has been described and reported through SATCC, namely:

3.5.1 (1)	Improvement of the Entrance Channel to the Port of Maputo and the Matola Terminals (Feasibility Study in two phases)
3.5.1 (2)	Coal Handling Terminal at Matola
3.5.1 (3)	Maputo Container Terminal

These projects are described in specific project briefs on the following pages.

In order to keep the Co-ordinating Committee, and the SATCC Committee of Ministers updated on the development of all the regional ports on an equal basis, a brief overview of other projects in the port of Maputo is also described in a separate project brief (3.5.4 (04), Maputo Port Other Projects.

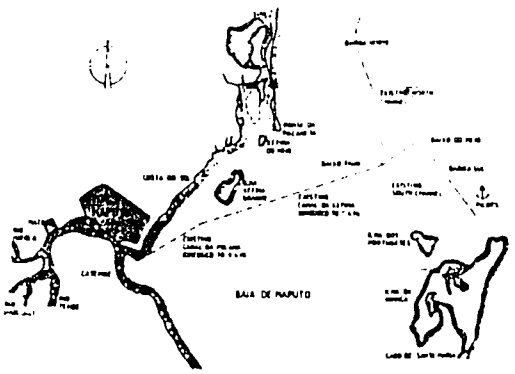
These other projects are:

- Steel Terminal
- Sugar Terminal
- Cold Storage Facilities
- General Cargo Berths
- Coastal Terminal
- Crane Rehabilitation Programme
- Rehabilitation and Fendering of Quays
- Rehabilitation of Oil Terminal at Matola
- Navigational Aids, Maputo
- Dredging of Existing Entrance Channel
- Sea Mapping, Entrance Channel

Cost estimates and detailed description of these other projects are not elaborated in this version of the Project Brief.

Status : Funding is still to be sought for the Study on Improvement on the Entrance Channel. Phse 1 of the Coal Handling Facilities in Matola is completed, and initiation of Phase 2 and 3 will first start when traffic increase demands.
The technical and management assistance to the Container Terminal continues, and the British Team has also been engaged in the management of the Sugar Terminal, the Steel Terminal, and in Training in general.
An agreement with Italy about Technical and Operational Assistance for general cargo berths has been initiated, and a crane rehabilitation programme is ongoing with assistance from Germany. A British pre-feasibility team has looked at the need for rehabilitation and tendering of quays, and rehabilitation of the Oil Terminal at Matola.
Construction of the new Coastal Terminal is in good progress with Norwegian aid.
And a programme for dredging of the entrance channel is ongoing.

3.5.1(01) Feasibility Study on Improvement of the Entrance Channel to Maputo Port



Estimated Costs
Total : USD 1.7 million
Foreign : USD 1.4 million
Local : USD 0.3 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.3 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.4 million

Executing Agency:
DNPCF, Mozambique

Start : 1989
Duration: 2 years

Objectives : Study to provide recommendations regarding the economic and technical feasibility of improving the channel to permit the passage of large vessels to the Matola terminals on normal tides, and of container vessels to the Maputo Container Wharf at all tides.

Description: The first phase of the feasibility study includes the following topics:

- hydrographic, geotechnical and hydraulic investigation of the sea access to the port to provide a basis for realistic estimates of proposed improvement works;
- preliminary engineering studies including cost estimates of capital and maintenance dredging, etc.;
- cost analysis for three alternative, for channel depth and width;
- alternative time schedules for the implementation;

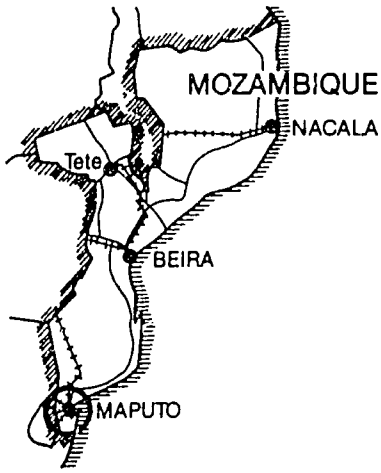
The studies are to be carried out to a level that will provide a sound basis for the final design and the preparation of contract documents.

In 1981 the project description and Terms of Reference for the comprehensive study were approved. The Terms of Reference were revised in April 1984.

Status : Hydrographic survey works have been carried out by Mozambique (SNHB) during 1986 under a bilateral agreement with Norway. This work is continuing. The rehabilitation for nav. aids in the channel is in progress (ref. P. 3.5.4 and 3.5.4 (1)). A dredging scheme to establish -9.4 m CD as a minimum depth in the existing channel has been initiated by the port. Dredging started in July 1987 and will be completed in March 1988. This will reestablish very good access to the port of Maputo.

Financing for the more comprehensive feasibility study is being sought.

3.5.1(02) Matola Coal Terminal, Mozambique



Estimated Costs
Total : USD 90.6 million
Foreign : USD 89.0 million
Local : USD 1.6 million

Funding Secured
Foreign : USD 1.6 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 89.0 million

Executing Agency:
INPOF, Mozambique

Start : 1985
Duration: 7 years

Objectives : Construction of a Coal Handling Terminal at Matola for coal export.

Progress : The project is divided into three phases:

PHASE 1: Convertion of the present ore terminal to coal handling with a capacity of 1,5 million tons per year.
Estimated cost: USD 1.6 million

PHASE 2: Increase capacity to 3,5 million tons paer year.
Estimated cost: USD 9.0 million

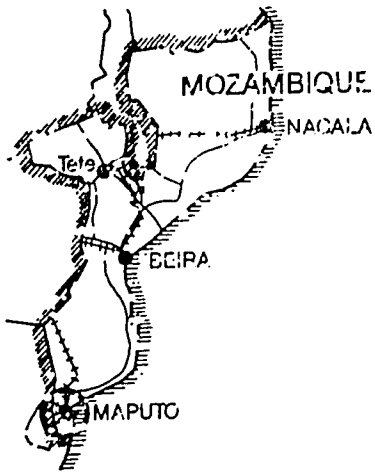
PHASE 3: Increase capacity to 7 million tons per year.
Redesign and construction costs are estimated at USD 89 million.

Status : Rehabilitation of mechanical and electrical infrastructure has been ongoing since 1985, and such works were concluded in 1987, bringing the terminal up to a capacity of 1,5 million tons per year.
Loading capacity is now 7.000 tons per vessel per day, but throughput up to 12.000 tons per vessel per day has been achieved.
Rehabilitation works concerning dust suppression equipment, fire lighting equipment, purchase of spare parts and regular maintenance have been ongoing since June 1987, along with the reclaiming of stacker No.2.
These works were scheduled to be completed by January 1988.

PHASE 2 and 3 will not be initiated before traffic figures allow.

September 1988

3.5.1(03) Container Terminal Equipment and Management Assistance, Port of Maputo



Estimated Costs
Total : USD 29.0 million
Foreign : USD 24.8 million
Local : USD 4.2 million

Funding Secured
Foreign : USD 10.0 million
Local : USD 4.2 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap
Total : USD 14.0 million

Executing Agency:
DNPCF, Mozambique

Start : 1985
Duration: 7 years

Objectives : To provide adequate container handling facilities for the Port of Maputo.

Progress : Maputo Container Terminal project comprises the purchases of two container cranes for the service of cellular container vessels, layout of the terminal area, introduction of handling system, purchase of shore side equipment for handling and retrieving containers and technical assistance to the terminal management. Cost assessed at USD 29 million. Additional need for 2 mobile 40 feet container handling equipment.

The first period for Operational and Management Assistance Agreement with CDA expired September 1987, and a second period lasting up to September 1989 was initiated.

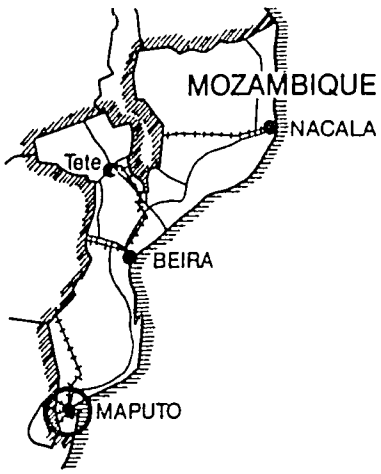
The number of persons supplied under the new agreement has been reduced compared to the former agreement, which contained :

- 1 Terminal Manager
- 1 Operations Manager
- 1 Terminal Engineer
- 1 Administration Manager
- 1 Training Manager
- 1 Operations Superintendent

Progress reports from the project are produced on a quarterly basis. Training makes up an essential part of the assistance programme.

Status : Two container cranes have been erected, financed by Italy, as have been other shore side equipment at a combined cost of USD 9.0 million. The British Government has financed a feasibility study, which was submitted in November 1982, recommending a phased development plan. The first phase of which demands investments of roughly 12.1 million up to 1986. The technical assistance part is financed by UK. A team of 8 technicians are assisting the container terminal management. Assessed cost is USD 1.8 million in operation, maintenance and training. The first period of the of the technical assistance agreement is up to September 1987. Agreement prolonged for a 2 year period, up to September 1989. Additional funds are being sought.

3.5.1(04) Maputo Port (Other Projects), Mozambique



Estimated Costs
Total : USD 0.0 million
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
INPOF, Mozambique

Start :
Duration:

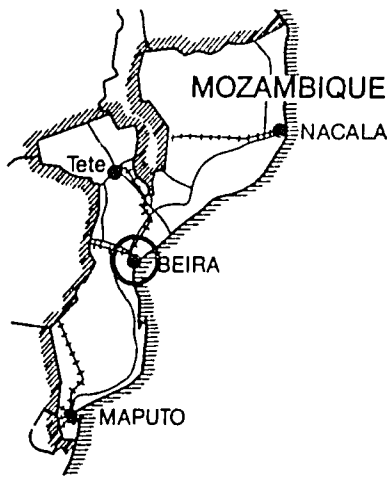
Objectives : This project brief gives a brief overview of projects in the Port of Maputo, not earlier been reported to the Co-ordinating Committee of SATCC.
Project financing is on a bilateral basis, and costs are not reported here.
Knowledge of these projects, however, is essential for a full understanding of the ongoing development in the port.

Progress : The following projects are considered to be of regional importance for the development of services in the regional port of Maputo.

(i) Steel Terminal, technical and operational assistance
(ii) Sugar Terminal, technical and operational assistance
(iii) Cold Storage Facilities
(iv) General Cargo Berths, technical, operational and management assistance
(v) Coastal Terminal, construction, technical, operational and management assistance
(vi) Crane Rehabilitation Programme, technical assistance and training
(vii) Rehabilitation and Rendering of Quays
(viii) Navigational Aids, Port of Maputo (part of SATCC P. 3.5.4)
(ix) Rehabilitation of Oil Jetty, Matola
(x) Dredging of existing Entrance Channel
(xi) Sea Mapping, Entrance Channel

(i) Ongoing with British assistance (Part of team for SATCC P. 3.5.1 (2))
(ii) Ongoing with British assistance (Part of team for SATCC P. 3.5.1 (2))
(iii) Operating well
(iv) Project initiated in 1987/88 with Italian aid (about 10 experts from Italy to arrive)
(v) Ongoing with Norwegian assistance
(vi) Ongoing with assistance from W. Germany. More comprehensive programme covering all cranes probably to be launched
(vii) Britain has indicated interest, and a mission has visited Maputo
(viii) Ongoing as part of SATCC P. 3.5.4. Crash programme for rehabilitation of all buoys in the entrance channel to be completed in April 1988
(ix) Britain has indicated interest, and mission has visited Maputo
(x) Dredging of existing channel down to -9.4 m started June 1987. To be completed during 1988
(xi) Sea Mapping of the entire entrance channel ongoing. Work performed by the Mozambican Hydrographic Services eith Norwegian assistance.

3.5.2 Port Projects in the Beira Port Transport Development Plan



Estimated Costs
Total : USD 357.2 million
Foreign : USD 329.1 million
Local : USD 28.1 million

Funding Secured
Foreign : USD 121.3 million
Local : USD 28.1 million

Funding Under Negotiation
Total : USD 33.5 million

Financing Gap:
Total : USD 174.3 million

Executing Agency:
Beira Corridor Authority

Start : 1986
Duration: 15 years

Objectives : Increase of the capacity of the Port of Beira as provided for in the Beira Port Transport System 10-Year Development Plan.

Progress : The Beira Port Transport System Development Plan includes 18 projects. The implementation of the Plan is ongoing. The present status is described below.

Status : The status of the costs and financing is presented in the following table. Implementation of sub-projects being started once financing is secured.

STATUS OF COSTS AND FINANCING

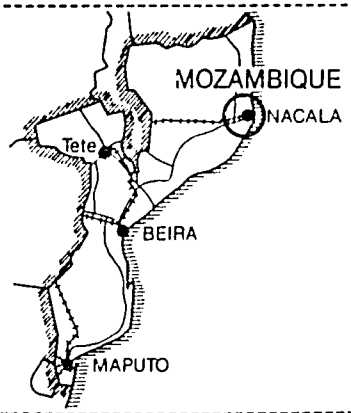
Number	Name of Sub-project	Estimated Cost USD million		Financing USD million	
		Total	Foreign	Secured	Not Sec
P-TA-1	Technical Assitance to Port	5.1	5.1	5.1	0.0
P- A-1	Channel Dredging to 10 metres	13.0	13.0	13.0	0.0
P- A-2	Navigational Aids *	1.0	1.0	1.0	0.0
P-CE-1	Multipurpose and Container Handling Terminal (Berths 2-5)	54.8	54.8	54.8	0.0
P-CE-2	New Oil Terminal	10.4	9.4	10.4	0.0
P-CE-3	Port Railways	14.6	13.1	14.6	0.0
P-CE-4	Cereal Terminal	9.0	8.1	-	9.0
P-CE-5	Cold Storage Facilities	8.0	7.2	8.0	0.0
P-CE-6	Tobacco Terminal	3.0	2.7	-	3.0
P-CE-7	Cotton Terminal	3.0	2.7	-	3.0
P-CE-8	Grain Silos (combined with P-CE-4)	-	-	-	0.0
P-CE-9	Coastal Protection Scheme	10.0	9.0	1.0	9.0
P-CE-10	Service Port Facilities	5.0	4.6	0.4	4.6
P-CE-11	Port Roads	1.0	0.0	1.0	0.0
P-CE-12	High Capacity Coal Terminal	160.0	144.0	16.0	144.0
P-CE-13	Port Construction Supervision	2.0	2.0	2.0	0.0

P-ME-1	Equipment for Multipurpose and Container Handling Terminal	46.6	41.7	11.4	35.2
P-ME-2	Tug Boats	10.7	10.7	10.7	0.0
	Total	357.2	329.1	149.4	207.8 x

* Included in Project No. 3.5.4 (1st phase)

x USD 33.5 million being negotiated.

3.5.3 Design, Const & Operational Assist of Container Terminal for the Port of Nacala



Estimated Costs
Total : USD 28.0 million
Foreign : USD 24.0 million
Local : USD 4.0 million

Funding Secured
Foreign : USD 24.0 million
Local : USD 4.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
DNPCF, Mozambique

Start : 1984
Duration: 5 years

Objectives : Design and construction of container facilities, purchase of container hardling equipment and technical assistance to the management.

Progress : It is the aim of the project to provide the port with adequate container facilities to meet the demand in a cost efficient way. Therefore the implementation of the project has been staged in phases according to the following programme:

Phase I: Improvement of present facilities comprising:

a) lay-out of terminal area including rail and road connections;
b) definition of handling system, specification and ordering of equipment (crane and shore-side machinery);
c) pavement of roads and storage areas.

Phase II: Container terminal activities to continue, including container handling system, organization and training. Preventive maintenance system and redesign and construction of maintenance depot. Implementation of administrative routines and training of terminal manager, office staff and construction works staff. Implementation of spare parts system, and outfitting of the maintenance depot. Repair of equipment, and the evaluation/repair of the 20 tonne crane. Purchase of fork lift trucks, terminal tractors and trailers, and internal radios. Paving of container area to continue, new railway tracks to be installed. Design and construction of a new administration building. Study on the container gantry crane. Study on transtrainer to be completed for possible rehabilitation. Port Management Study to be carried out.
Feasibility study on new Nacala railway station and marshalling yard.

Phase I and II are progressing on schedule.

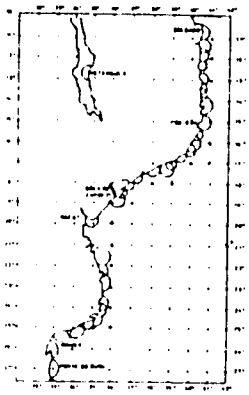
Training of maintenance and operational staff is ongoing. Paving of container areas to continue. Possible implementation of container gantry crane project and new Nacala railway station and marshalling yard.

Nacala Port Management Study, Final Report, completed April 1988, elaborating on further development of the port.

Status : The Finnish Government has financed the foreign currency part of Phase I, including the cost of technical assistance and housing for Finnish personnel. The project was started in 1984 and Phases I and II are scheduled to be completed in March 1989. The project phasing has been reformulated, and financing negotiations with Finland for Phase II (USD 12 million) were completed in August 1986.

September 1988

3.5.4 Navigational Aids, Mozambique



Estimated Costs
Total : USD 15.4 million
Foreign : USD 14.7 million
Local : USD 0.7 million

Funding Secured
Foreign : USD 7.9 million
Local : USD 0.7 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 6.8 million

Executing Agency:
DNCRI/BMM, Mozambique

Start : 1987
Duration: 8 years

Objectives : To increase Safety of Navigation in Mozambique waters through restoring lights and buoys and improving intensity and ranges of navigational aids as well as providing workshops and training for repair and maintenance staff.

Progress : The Project may be divided into three phases i.e. rehabilitation of navigational aids of:

1) the regional port areas of Maputo, Beira and Nacala;
2) the coastal areas; and
3) small ports and inland waters.

Supportive projects such as repair and maintenance workshops, training of personnel and administrative and technical assistance are included.

The cost of phases 1 and 2 are distributed as follows (million SEK):

	Phase 1	Phase 2
Total rehabilitation works, incl. freght and allowance for price escalation	33.9	19.8
Technical Assistance and Training	12.1	10.9
Contingencies	3.0	16.3
Total current prices	49.0	47.0

Phase 1 is estimated to require two years, and phase 2 three years, for implementation.

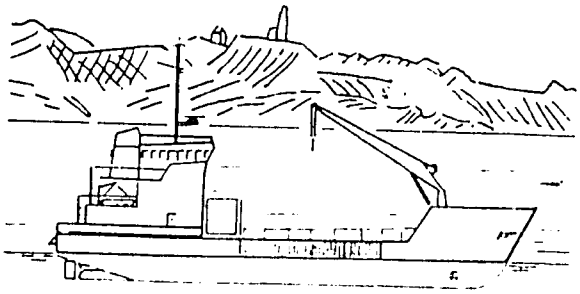
SIDA has agreed to finance Phase 1. The consultant for Phase 1 has been appointed and project organization was established in Maputo in February 1987, with backstop staffing in Sweden. The SIDA financed short term consultancy study of the future organization of the navaid sector in Mozambique has been completed and a Memorandum of Understanding on the future organization structure was signed between SIDA and the executing agency in June 1986.
The detailed design for rehabilitation works completed. A field mission has investigated the light houses onshore and tested the central workshops grounds. Documents for tendering are completed by March 1988. A Steering Committee has been established, meeting at regular intervals. Progress reports are prepared on a regular basis. Training programme established.

Status : A cost increase has been experienced after completion of the detailed design, compared to earlier estimated costs.
A crash programme for repair of existing buoys in the approach channel to Maputo has been established and will be completed by April 1988.
Stage 1 of the first phase (secured) amounting to SEK 55 million.

A buoy tender is needed to implement the project and for future maintenance of the navigational aid system. Agreement on this was signed between Denmark and Mozambique in July 1987.

September 1988

3.5.4(01) Buoy Handling and Maintenance Vessel, Mozambique



Estimated Costs
Total : USD 7.2 million
Foreign : USD 7.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 7.2 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Ministry of Cooperation/BMM, Mozambique
Start : 1987
Duration: 4 years

Objectives : A suitable vessel is needed to implement project 3.5.4, Navigational Aids, and for the future maintenance of the navigational aids system. The aim of the project is to aid Mozambique in acquiring such vessel.

Progress : The sub-project shall cover the purchase and commissioning of a buoy handling and maintenance vessel which will be used to support the lighthouse construction on islands and in other locations where transport is unfeasible. The vessel shall also be fit for salvage operations and for hydrographic survey work. The purchase of the ship includes a maintenance and spare parts fund for 3 years service and funds for contingencies.

A preappraisal mission visited Mozambique in March 1986 and produced the preappraisal report of April 1986.

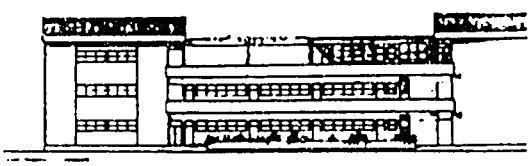
An agreement between Denmark and Mozambique was signed in July 1987. Denmark shall make available funds up to D.Kr 50 million according to the following budget :

The vessel and its equipment	D.Kr 45 million	-	USD 6.5 million
Delivery of vessel to Mozambique	D.Kr 1 million	-	USD 0.1 million
Maintenance and spare parts fund for 3 years	D.Kr 1 million	-	USD 0.1 million
Contingencies	D.Kr 3 million	-	USD 0.5 million
Grand Total	D.Kr 50 million	-	USD 7.2 million

In order to assist the Mozambique counterpart in operations of the vessel, Denmark will, in addition to the grant, provide the services of a Captain and a Chief Engineer for the running of the vessel and for training purposes, initially for a period of two years.

Status : The yard contract has been placed with a Danish Shipyard. Estimated time for delivery is April 1989.

3.5.5 Port Staff Training Institute, Mozambique



Estimated Costs
Total : USD 6.8 million
Foreign : USD 5.8 million
Local : USD 1.0 million

Funding Secured
Foreign : USD 5.8 million
Local : USD 1.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Nat'l Directorate of Ports and Railways, Mozambique
Start : 1987
Duration: 3 Years

Objectives : The aim of the project is to establish a Port Staff Training Institute at Maputo with capacity to provide the Mozambican ports with adequately trained staff for all required port functions and levels and, in the longer term, to make the country self-sufficient in teachers and training capacity.

Progress : In the context of the Regional Port Staff Training Programmes Study (P. 3.0.2) an inventory of the needs for formal training in the different member countries has been carried out. For the ports of Mozambique, about 450 individuals per year during the next 10-year period will have to receive such training.
During the three year project period the Institute will be accommodated in an existing building in the Port of Maputo while the construction of a new school building and rehabilitation of dormitories takes place. At the end of the project period the Institute will be established and operating in the new building.

The Norwegian assistance for the establishment of the Institute will include activities distributed as follows:

-	Technical assistance	NOK 11.0 million	USD 1.6 million
-	Fellowship programme	NOK 2.0 "	USD 0.3 "
-	Equipment	NOK 3.0 "	USD 0.4 "
-	Administration Fee ILO	NOK 2.0 "	USD 0.3 "
-	Construction/Rehabilitation Works	NOK 17.0 "	USD 2.5 "
-	Cost Contingencies	NOK 3.0 "	USD 0.4 "
-	Miscellaneous	NOK 3.0 "	USD 0.3 "
	TOTAL	NOK 41.0 million	USD 5.8 million

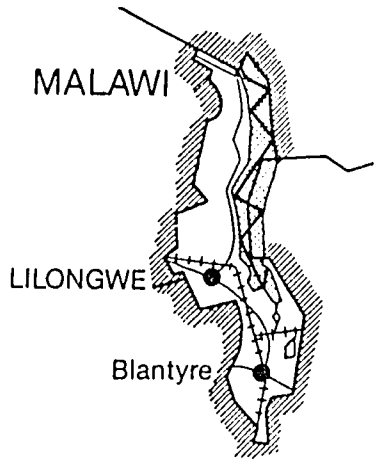
An agreement on management and technical assistance has been entered into with the ILO, who prepare programmes of comprehensive training, staffing with competent teachers and trainers as well as administrative staff.

Status : Agreement between NORAD and Mozambique has been signed. The consultant for the design and supervision of construction works has been selected.
An agreement on Administration and technical assistance between the ILO and Mozambique (valued at 2.1 million USD) has been finalized.
ILO technical assistance team of 5 persons have arrived.
Agreement on detailed design of new school building facilities has been entered into between NORCONSULT and local firm.

Mozambican Project Manager for construction supervision appointed.

September 1988

3.7.1 Development of Navigation on Lake Niassa/Nyasa/Malawi, Malawi, Mozambique, Tanzania



Estimated Costs
Total : USD 12.6 million
Foreign : USD 12.6 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 12.6 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Railway & Port Authorities in Malawi, Mozambique & Tanzania
Start : 1987
Duration: 3 years

Objectives : The objective is to achieve a co-ordinated transportation system for goods and passengers for the three countries bordering the lake. This will help to widen regional markets as well as provide access to the international markets through alternative outlets, in particular the port of Dar es Salaam.

Progress : The project comprises several sub-projects in the field of water transport, port engineering and operation. At present the following sub-projects are defined :

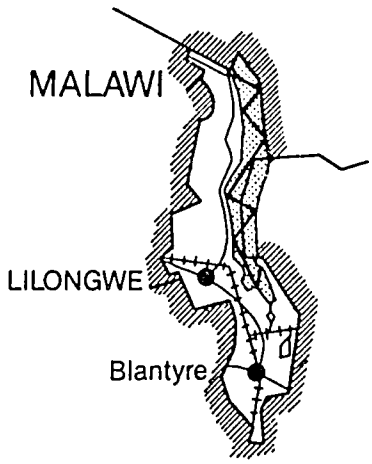
(1)	Lake Navigation Study	USD 0.4 million
(2)	Improved Handling Facilities for Fuel, Containers and Break Bulk at the Ports of Chilumba and Chipoka	USD 5.8 million
(3)	Self-propelled Pontoon(s)	USD 3.7 million
(4)	Monkey Bay Shipyard	USD 2.7 million
		Total USD 12.6 million

Sub-project (1) is the original SADCC project 3.7.1 for which Terms of Reference have been revised with reference to the findings of the "Transport System Study of the Blantyre - Dar es Salaam Corridor".

Status : A Steering Committee has been established for P 3.7.1 (1) and the first meeting was convened in Maputo on 25-26 February 1988. Revised TOR for P 3.7.1 (1) have been prepared. DANIDA has reconfirmed their willingness to finance the study and has been formally approached.
Financing for subprojects 2-4 has been secured from KfW, CDA and USAID.

September 1988

3.7.1(01) Lake Navigation Study



Estimated Costs
Total : USD 0.4 million
Foreign : USD 0.4 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.4 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
To be decided.

Start : 1988
Duration: 1 year

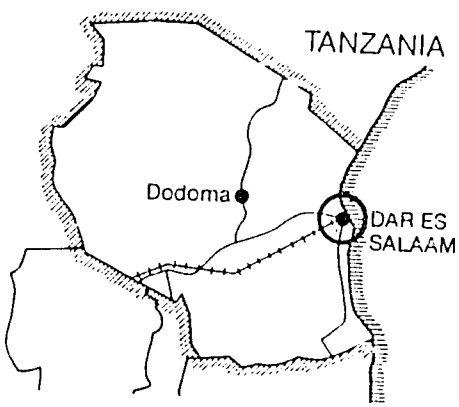
Objectives : The objective is to achieve a co-ordinated transportation system for goods and passenger for the three countries bordering the Lake.

Progress : A Steering Committee has been established. This Committee convened its first meeting in Maputo 25-26 February 1988. Terms of Reference for the Study were reviewed and ammended according to comments made from the delegates from the three countries.

Status : Denmark has reconfirmed interest in financing of the study, and has been formally approached by SADCC in March 1988. The study will probably commence late 1988.

September 1988

3.7.2 Development of the Port of Dar es Salaam, Tanzania



Estimated Costs
Total : USD 207.5 million
Foreign : USD 177.6 million
Local : USD 29.9 million

Funding Secured
Foreign : USD 133.1 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 74.4 million

Executing Agency:
Tanzania Harbours Authority

Start : 1985
Duration: 7 years

Objectives : Rehabilitation and upgrading of the port of Dar es Salaam to provide adequate capacity for future traffic demand.

Progress : The Development Plan for the Port of Dar es Salaam contains several sub projects. Of these 15 are included in the SATCC catalogue of projects. these 15 main main sub projects contain several project components. A majority of the projects are included in a World Bank coordinated improvement programme which has been appraised by the Bank in January 1983.

Status : Meetings with financiers are being held twice a year to monitor the financial status and progress of the World Bank coordinated improvement programme projects. Quarterly progress reports are now being submitted from THA to SATCC. The status of costs and financing is presented in the following table:

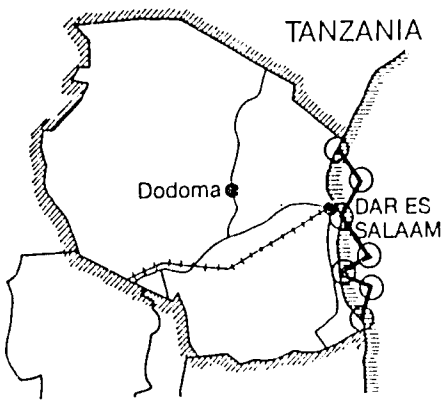
STATUS OF COSTS AND FINANCING

Code Name of Sub-Project	Estimated Cost USD million Total	Estimated Cost USD million Foreign	Financing USD million Pledged	Financing USD million Not Sec.
1) Kurasini Oil Terminal Rehabilitation; Financing by NORAD, phase 2, start November 1986, completion February 1988.	4.7	4.3	4.7	0.0
2) Improvement of Harbour Entrance Channel; Financing being sought. Tender documents ready.	45.4	41.0	4.4	41.0

3)	Container Terminal; Financed by IDA. Contractor appointed. Execution started in September 1985. Completion in February, 1988.	34.0	25.5	34.0	0.0
4)	Construction of Grain Facility; Financing by the Netherlands. Detailed design underway. Implementation started July 1987, completion December 1988.	12.8	9.5	12.8	0.0
5)	Ubungo Inland Container Depot; Financing by IDA. Contractor appointed. Execution started in September 1985. Completion February 1988.	Included in (3)			
6)	Lighterage Quay and Belgian Wharf; Partly financed by IDA.	5.9	2.2	4.2	1.7
7)	Construction of Tug Berth; Financing being sought. Tender documents ready.	5.2	5.2	-	5.2
8)	Purchase of shore-based container and General Cargo Handling Equipment; Financing by Denmark, Finland and Sweden. Equipment started to arrive June 1986. Finance part to be completed late 1987.	38.9	38.9	35.7	3.2
9)	Purchase of Floating Craft-Berthing Tug and Pilot Boats.	21.1	21.1	-	21.1
10)	Technical Assistance and Improvement of Bandari College; Agreement signed. Financing by IDA and NORAD.	3.2	2.8	3.2	0.0
11)	Rehabilitation of Berths 1-8; Financing by Sweden and Norway. Civil works to commence Jul.87.	32.6	23.7	32.6	0.0
12)	Study on New Oil Terminal; Financing being sought.	0.2	0.2	-	0.2
13)	Study on increasing port capacity for SADCC Transit Traffic, by relocating the storage facilities of transit goods outside the port area. To be financed under P 0.0.5.	(0.2)	(0.2)	(0.2)	0.0
14)	Improvement of Central Workshop	3.0	3.0	0.5	2.5
	TOTAL	207.0	177.4	132.1	74.9

September 1988

3.7.3 Coastal Navigational Aids, Tanzania



Estimated Costs
Total : USD 0.2 million
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.2 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Tanzania Harbour Authority

Start : 1988
Duration: 1/2 year

Objectives : To increase the Safety of Navigation on the east coast of the SATCC countries through restoring lights and buoys and improving intensity and ranges of navigational aids, the SATCC project 3.5.4, Navigational Aids Mozambique, shall be followed-up with a similar study in the Tanzanian waters.

Description: The project is divided into two phases, a study phase and an implementation phase.

The study shall review existing studies made on navigational aids in Tanzania and through a mission collect the information to prepare the scope of work for the project implementation.

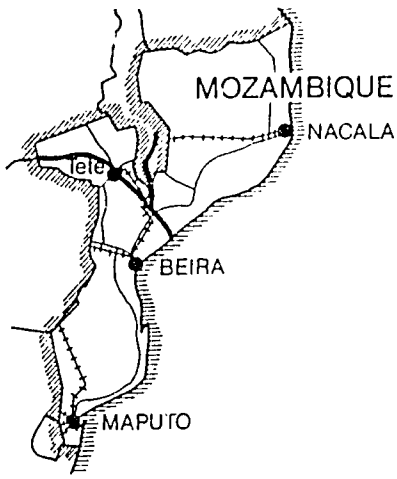
The mission shall look into the need of phasing of the project, including supportive projects such as buoy handling and maintenance vessels, repair and maintenance workshops, training of personnel and needs for administrative and technical assistance, and will work out cost estimates and time schedules for the project.

The study group shall consist of 4-5 persons, and the study phase is estimated to require 3-6 months.

Status : The TOR has been prepared by SATCC. Tanzania has been requested to comment on the TOR. Financing is being considered by Norway. A Norwegian preappraisal mission visited Tanzania in August 1987.

September 1988

3.8.1 Study of the Navigability of the Zambezi and Shire Rivers



Estimated Costs
Total : USD 0.3 million
Foreign : USD 0.3 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.3 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:

Start : 1988
Duration: 1 year

Objectives : Prefeasibility study to establish the engineering feasibility of navigation on Lake Cahora Bassa, the Zambezi and the Shire Rivers.

Description: The aim of the project is to establish the feasibility of using Lake Cahora Bassa, the Zambezi and the Shire Rivers for the transport of cargo from and to Zambia, Zimbabwe, Malawi and Mozambique.

The project includes :

- Reviewing earlier studies made on the subject and evaluating their findings in the context of the latest knowledge of the transport needs in the influence region;

- An engineering study and cost appraisal of the structural works necessary necessary to make the river system navigable, and the type of ship possible to use for navigation on the system, or part of it. The study should be carried out at a prefeasibility level of detail;

- A programme from more detailed investigations, should the appraisals indicate that there is a case for this.

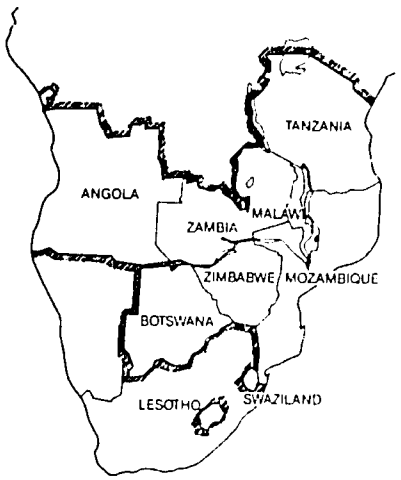
Status : The SADCC Meeting of Ministers in Mbabane, May 1987 decided that a Steering Committee for the project shall be established. A "Background Paper" on inland Water Transport mainly dealing with Zambezi and its main tributaries has been prepared by the TU, and distributed to Member States for consideration and comments.

UNDP has undertaken to finance the study and requested the TU assistance in preparing a project document. A draft has been submitted to UNDP, Maputo. UNDP through UN/DTCD has undertaken the work of preparing Terms of Reference.

Awaiting the establishment of the steering committee, meetings have been held between Zambia-Zimbabwe-Malawi and Mozambique.

Civil Aviation

4.0.01(02) Expansion of DCA Flight Calibration Unit, Tanzania



Estimated Costs
Total : USD 6.3 million
Foreign : USD 6.3 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 6.3 million

Executing Agency:
Ministry of Communications and Works, Tanzania
Start : 1988
Duration: 2 Years

Objectives : The objectives of the project are to:

a) develop the Tanzania DCA Flight Calibration Unit so that it can undertake all flight calibration requirements within the SADCC region;
b) provide training, through fellowships, to flight calibration electronics engineers of the Unit;
c) provide on-the-job training at the Tanzania Flight Calibration Unit to electronics engineers from the SADCC States in the techniques of flight and ground inspection (as appropriate) of navigational aids; and
d) to provide on-the-job training to flight crews from the participating states and to enhance their experience through their involvement in flying duties during calibration work in their home states.

Description : The following inputs are needed:

a) The services of two high level consultants, one in Flight Calibration Engineering for 36 m/m, and the other in Navaids Maintenance for 30 m/m.

b) Fellowships to provide advance training to raise the level of competence of those nationals nominated to serve with the Unit. A total of 27 individual fellowships (108 m/m) will be needed.

c) EQUIPMENT
It will be necessary to procure a new primary calibrations aircraft, with larger and of higher performance than the existing one. It will also be necessary to expand the existing airborne calibration equipment to provide redundancy in the event of equipment failure when the aircraft is operating away from base. The existing ground electronics laboratory will similarly have to be developed to provide proper maintenance support for the aircraft installation.

Status : Project implementation phases are being discussed between ICAO, Tanzania and Finnish Government. Finnida will finance a feasibility study.

4.0.03 Study on Coordinated Use of Aircraft Maintenance Facilities

Estimated Costs
Total : USD 0.3 million
Foreign : USD 0.3 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.3 million

Executing Agency:
SATCC

Start : 1988
Duration: 8 Months

Objectives: The objectives of the project are to rationalize the use of aircraft maintenance facilities in the SADCC region.

Description: The study shall:

- recommend optimum utilization of resources for maintenance, overhaul and repair of airframes, engines and components for the national airlines in the SADCC States, bearing in mind existing and planned facilities and fleet development over a 20 year period;

- assess present facilities and determine the manpower requirements and the training programmes and facilities required to meet current and future needs, and chart the present customs procedures and traffic;

- indicate the magnitude of investment by location and to estimate the operating costs;

- recommend a system aiming at a distribution of gains and work load among the participating members; and

- prepare a cost/benefit analysis showing the economic improvements which the recommended system will achieve compared to current maintenance and over haul practices.

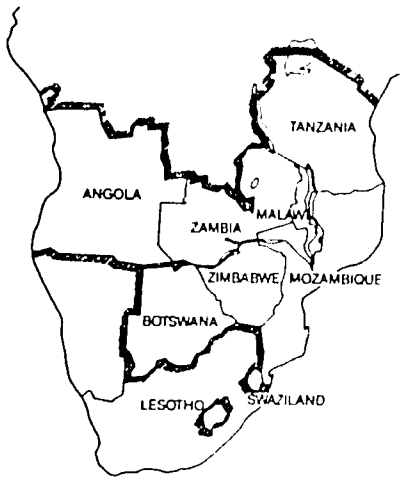
The study shall be performed to supplement the "Feasibility Study for the Establishment of a Co-ordinated Network of Aircraft Maintenance and Overhaul Centres in Africa, carried out in 1984 on commission by the African Development Bank, in order to give required detailed additional information needed for the objectives stated above.

The study should be based on the ADB financed continental study, including the amendment for turbo-prop aircraft, and experience gained in bilateral co-opera tion between SATCC airlines.

Status : ADB has indicated its preparedness to finance the study if combined with Project 4.0.10.

CIDA (Canada) has also been approached to finance the project.

4.0.05 Study on General Aviation Activities



Estimated Costs
Total : USD 0.4 million
Foreign : USD 0.4 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.4 million

Executing Agency:
SADCC

Start : 1989
Duration: 9 Months

Objectives : To carry out a comprehensive study of the policy, regulations and operations of general aviation in the SADCC region, taking into account its role in development, including charter, aerial work and aerial medical services.

Description: There are at present approximately 800 General Aviation aircraft and well over 1000 aerodromes and landing strips in the nine SADCC States. The most commonly used regular passenger transport aircraft in regional operation, the Boeing 737, can land on only 36 of the landing strips.

From the discussions at the meeting of Directors of Civil Aviation and Airlines Executives in Maputo in July 1982, it was evident that the group was looking to a study for guidance on a considerable range of matters, including:

- the establishment and implementation of mutually acceptable policies and regulations which permit General Aviation operations, particularly commuter and charter type operations, to be developed and integrated with regular passenger transport operations. It is essential to reconcile the separate development of both and to ensure their separate economic survival by minimising conflict and optimising their distinctive roles;
- the regulation of procedures and frequency of movement for General Aviation aircraft operating between adjoining states;
- the practicability and methods of achieving greater communality of aircraft types and development of approved regional organizations for aircraft, engine and acessories overhaul;
- the development of an application of common standards of airworthiness in certification,. maintenance and servicing of aircraft together with development of standards for licensed maintenance personnel;
- the inclusion of General Aviation services in individual state planning as part of the National Transport Development Plan;
- the practicability of development of aerial work activities in such fields as environmental survey, agricultural spraying, pest control, and topo dressing;
- the practicability of establishing an aerial medical coverage which would be a great benefit to the communities of their States.

Status : Financing is being sought.

4.0.06 Civil Aviation Manpower and Training Requirements Survey

Estimated Costs
Total : USD 0.3 million
Foreign : USD 0.3 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.3 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
SADCC

Start : 1986
Duration: 1 Month

Objectives : Due to the rapid development within the civil aviation sector, there is now an urgent need for updating the survey with regard to the SADCC States. The following objectives are to be pursued:

1. to make a survey and analysis of the existing staff establishments of the civil aviation authorities and national airlines;
2. to consider, in the light of expected civil aviation activity, the adequacy of these staff establishments to meet the long range and immediate objectives as laid down in the original 1974/75 survey;
3. to prepare a Training Programme geared to filling the establishments necessary to meet both the long range and immediate objectives for all categories of staff.

Progress : At a meeting with the Civil Aviation Training Task Group it was concluded that:

(i) the majority of the courses needed for DCA and airline personnel during the coming 5 year period are today available in the SADCC States, or can readily be made available through the use of visiting instructors.
(ii) the first step in the training cooperation will be that all training institutes make courses schedules known to all concerned and, where possible, indicate openings for participants from other states.

Available training facilities within the SADCC region are:

(i) Escola Nacional de Aeronautica (ENA), Mozambique
(ii) SADCC Boeing 737 Flight Training Centre, Mozambique
(iii) Eastern and Southern Africa Management Institute (ESAMI), Tanzania
(iv) Zambia Air Service Training Institute (ZASTI), Zambia
(v) Zimbabwe Aviation Training Centre, Zimbabwe

Regarding these training institutes, funds are needed for the upgrading of the Boeing 737 Flight Simulator (Project 4.5.4) and for reinforcing the management and improving ZASTI resources (Project 4.8.5). A physical extension of ZASTI is, however, not needed.

Status : Project completed in relation to all SADCC States except Angola.

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4.0.07 Updating the Aeronautical Information Services

Estimated Costs
Total : USD 1.7 million
Foreign : USD 1.7 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.7 million

Executing Agency:
SADCC

Start : 1989
Duration: 2 Years

Objectives : To provide technical assistance for:

(i) updating and completing the AIPs in the nine SADCC States with a view to co-ordinating and harmonizing the product;

(ii) updating instrument approach procedures and designing relevant charts at selected airports (15-20 international airports).

Description: The technical assistance for the AIPs updating and production shall be provided by three experts, who should assist the AIPs organization units in the SADCC States in the daily work related to AIPs production as specified in Annex 11 to the Convention on International Civil Aviation.

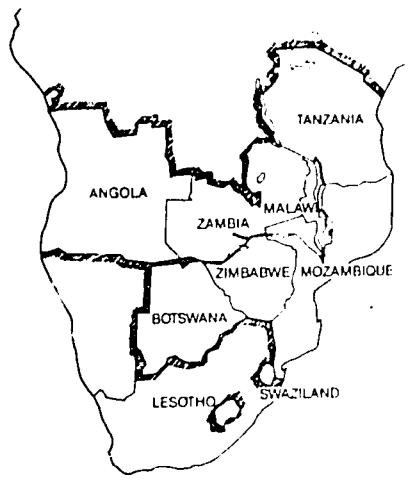
Technical assistance for the preparation of Aeronautical Charts to be given by one expert assisting the countries in a priority sequence established by the DCAs in the SADCC States.

The technical assistance shall include procurement of office equipment. On the job training (OJT) and basic training shall also be included.

Status : Swaziland has prepared an updated issue of AIP supported by ICAO. Otherwise no financing available.

September 1988

4.0.08(01) Rehabilitation of Aeronautical Telecoms in the Region



Estimated Costs
Total : USD 30.0 million
Foreign : USD 30.0 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 30.0 million

Executing Agency:

Start : 1989
Duration: 5 years

Objectives : Establishment of a specialized aeronautical and telecommunication network able to meet international civil aviation requirements designed for flight safety purposes and to implement the ICAO Telecommunication Air Navigation Plan for Africa in the SADCC region.

Description: Installation of navigation and landing aids required for phases of air navigation according to international flight safety standards and recommended practices (ICAO SARPS) and the Air Navigation Plan for Africa as above.

Training of technical personnel able to install and maintain the above facilities.

Activities spread over 3 years comprise, among other things :

a) finalization of the project work plan according to updated requirements and costs,
b) completion of necessary civil aviation works,
c) launching of the training programme,
d) installation of equipment and continuation of training,
e) tests on equipment operations,
f) establishment of maintenance procedures (including flight checking of facilities).

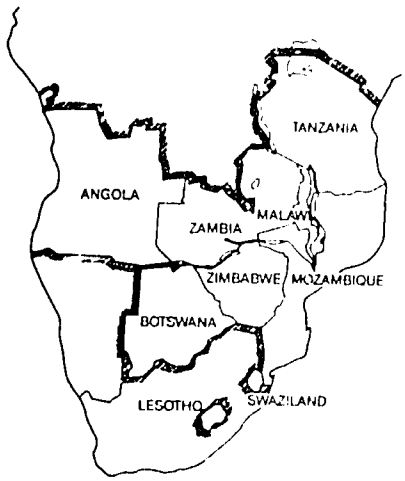
Since the origin this project has been handled as a joint regional effort. It has, however, been proposed in the Telecommunications Ten-Year Development Plan that the project, from a finance point of view, that it should be divided into a number of national projects still co-ordinated as a regional project. The following sub-projects are included in project 4.0.8(1):

Angola	Malawi	Swaziland	Mozambique	Tanzania	Zambia	Zimbabwe
1-CA-1	H-CA-1	6-CA-1	5-CA-1	7-CA-3	8-CA-1	9-CA-1
1-CA-2			5-CA-2	7-CA-4	8-CA-2	
1-CA-3			5-CA-3	7-CA-5	8-CA-3	
				7-CA-6		

Total costs for these projects are estimated at USD 27.5 million.

Status : Each civil aviation authority in the SADCC States is expected to find a donor for its national part of the project.

4.0.10 Study on the Joint Use of Wide Body Aircraft and Sub-Regional Cooperation



Estimated Costs
Total : USD 1.0 million
Foreign : USD 1.0 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.0 million

Executing Agency:
SADCC

Start : 1988
Duration: 9 Months

Objectives : The project aims at:

(i) A thorough and comprehensive feasibility study within SADCC incorporating a practical implementation plan for the operation of intercontinental wide body aircraft under a joint-use programme.

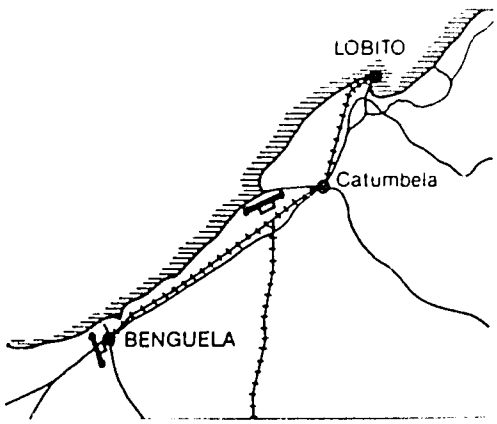
(ii) Comprehensive studies of all aspects of sub-regional airline cooperation.

Description: The studies shall cover following main elements taking various alternatives into consideration such as wet lease of aircraft, joint venture or pool agreement with suitable airline(s).

(a) Traffic and Route Analysis.
(b) Aircraft and Crew Scheduling.
(c) Equipment Selection.
(e) Negotiation of Air Transport Agreements.
(f) Airline Traffic and Sales Management and Planning.
(g) Economic Analysis.
(h) Analysis of the legal, administrative and technical ramifications of joint-user activities.
(i) Rationalization and common utilization of the existing wide-body and other aircraft within SADCC, for intercontinental or sub-regional routes choice or acquisition of aircraft suitable for joint-use.
(j) Financial and leasing arrangements, including revenue and cost - sharing formulae.
(k) All commercial aspects embracing:
  (i) Revenue accounting
  (ii) Reservations
  (iii) Sales and Traffic Documents
  (iv) Marketing and Customer Service
  (v) Financial Statements and Statistics.
(l) Equity share capital and initial pre-operative financial plan.
(m) Administrative, manpower and structural framework for the day to day activities of the joint-use agency.

Status : ADB has indicated its preparedness to finance the study in combination with Project 4.0.03.
CIDA (Canada) has also been approached for financing the project.

4.1.1 Civil Aviation Projects in the Ten Year Development Plan for the Lobito Port Transport Sys.



Estimated Costs
Total : USD 10.1 million
Foreign : USD 10.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 10.1 million

Executing Agency:
Directorate for Civil Aviation
Start : 1989
Duration: 5 years

Objectives : Provision of adequate airport capacity related to the Lobito Port Transport System.

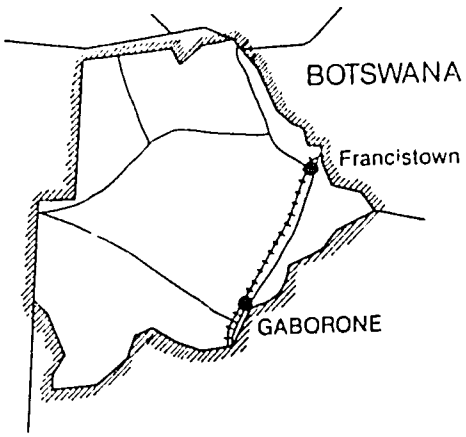
Description: The Ten Year Development Plan for the Lobito Port Transport System includes the following subprojects for civil aviation:

Project		Costs USD, million
CA-CE-1	Upgrading of Benguela Airport	10.0
CA-CE-2	Study on New Airport between Lobito and Benguela	0.1
	TOTAL	10.1

Status : A Technical Co-ordination Conference to discuss the Plan is scheduled for February, 1989.

September 1988

4.2.1 Acquisition of new Aircraft for Air Botswana



Estimated Costs
Total : USD 9.0 million
Foreign : USD 9.0 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 9.0 million

Executing Agency:
Ministry of Work and Communications
Start : 1989
Duration: 1 year

Objectives : Acquisition of a new aircraft for expansion of Air Botswana's SADCC regional route network.

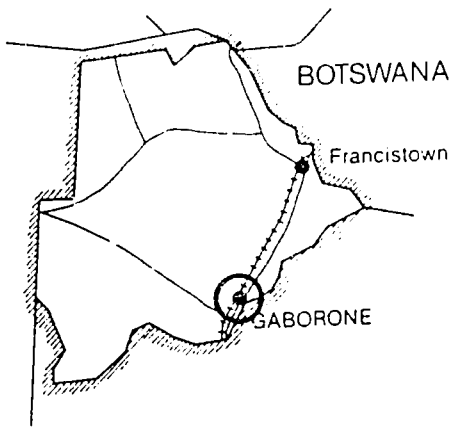
Description: The aircraft sought should ideally be twin-engine turbo-prop aircraft with pressurised cabine. Good fuel efficiency to promote acceptable operating costs should also be a characteristic.

Adaptable to high altitude and hot climate flights. A seating capacity of 30-40 would suit the regional pattern of operation.

Status : Financing is being sought as part of contingency preparations.

September 1988

1.2.2 Contingency Improvement to Gaborone Airport



Estimated Costs
Total : USD 8.0 million
Foreign : USD 5.0 million
Local : USD 3.0 million

Funding Secured
Foreign : USD 3.8 million
Local : USD 3.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.2 million

Executing Agency:
Department of Civil Aviation

Start : 1988
Duration: 1,5 year

Objectives : Contingency improvements to Sir Seretse Khama (SSKA) Airport, Gaborone International Airport, to cope with long-haul international operations.

Description: The project consists of the following parts :

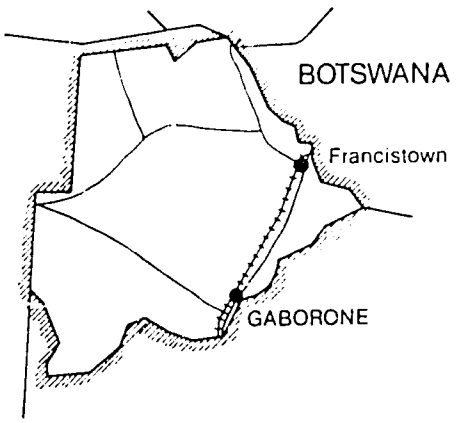
(i)	apron extension	2.4	(100% foreign)
(ii)	handling equipment / facilities	1.5	(95% foreign)
(iii)	runway extension	3.3	(25% foreign)
(iv)	cold storage facility	0.8	(50% foreign)
	Total	8.0	

At present the SSKA airport handles regional flights to and from Zambia, Zimbabwe, Tanzania, Kenya and Swaziland. The socio-economic and political context have recently altered drastically resulting in SSKA having to cope with the contingency usage not envisaged when the airport was built (completed in 1984). Long-haul operations with wide-bodied aircraft has been initiated in April 1987.

On the above grounds it has become necessary to extend and strengthen the apron(s) to accommodate wide-bodied aircraft, to provide cargo and passenger handling equipment for such traffic, to extend the runway by 1000 m and to provide a cold storage facility for the export of meat products, fruits, vegetables, etc.

Status : The improvement components are at an advanced planning stage. Item (iii) and (iv) are, however, still under further investigation. It is possible that these items will be extended, e.g. taxiway improvements, extension of passenger terminal and cargo facilities. Cost figures for these additional items are not yet available.

4.2.3 Flight Information Region for Botswana



Estimated Costs
Total : USD 9.4 million
Foreign : USD 8.5 million
Local : USD 0.9 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.9 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 8.5 million

Executing Agency:
Department of Civil Aviation

Start : 1989
Duration: 1 year

Objectives : To establish an independently functional Flight Information Region (FIR) for Botswana.

Description: The aim of the project is to provide ATS Services (Flight Information and Alerting Services) to all flights in the air space over the territorial limits of Botswana for safety of air-navigation by the civil aviation administration in Botswana. To that effect it is planned to establish a separate Flight Information Region (FIR) for Botswana and the appropriate ATS units located at Sir Seretse Khama airport, Gaborone. The accommodation for the units shall be found in the existing Technical/Operational Block after some modifications and alteration. New and additional radio/radar navigational aids and telecommunications equipment will be required for this purpose.

According to the ICAO AFI Regional Air-Navigation Plan (1976) presently still valid, the air space over the Republic of Botswana comes under the jurisdiction of the Flight Information Region (FIR), Johannesburg. In actual practice, except for high flying aircraft, FIR/FIC Johannesburg hardly is in position to provide air traffic services to the numerous domestic and non-scheduled micro-regional flights in the air space of Botswana, the area of which is 582000 sq. km.

To provide adequate ATS services to all flights, for safety of air-navigation over Botswana as well as for national security, it has become necessary to establish a separate FIR for Botswana. In view of the region's geo-political factors, a separate FIR for Botswana should be in operation as soon as possible.

A "Financial and Economic Feasibility Study of a Flight Information Region for Botswana" was carried out in 1975. The findings of the study have been updated with relevant technological changes.

Status : Contract documents and TOR completed. Ready for tender procedure last quarter of 1988.

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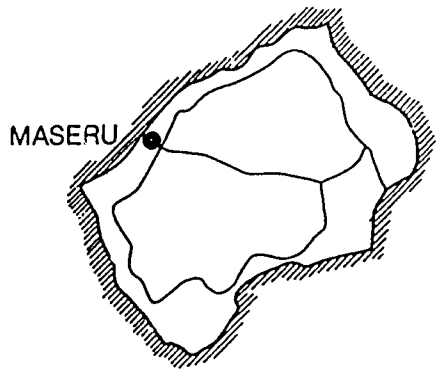
4.3.3 Acquisition of New Aircraft for Air Lesotho

LESOTHO



Estimated Costs
Total : USD 40.0 million
Foreign : USD 40.0 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 40.0 million

Executing Agency:
Ministry of Transport and Communications
Start : 1988
Duration: 3 years

Objectives : To provide Lesotho with adequate air transport capacity for contingencies.

Description: The project includes the purchase of two convertable passenger/cargo planes for the transport of emergency supplies from the SADCC Member States.

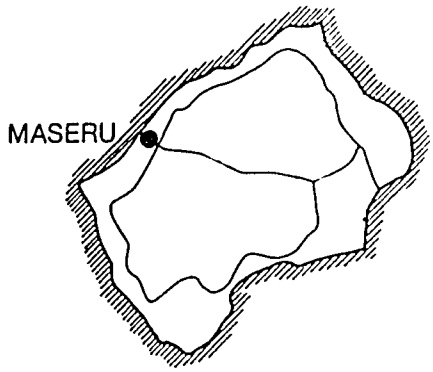
Technical assistance is needed for the implementation of the project for three years.

Status : One aircraft Boeing 707 delivered and taken into service.

September 1998

4.3.4 Rehabilitation of Aeronautical Telecommunications, Lesotho

LESOTHO



Estimated Costs
Total : USD 0.3 million
Foreign : USD 0.3 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.3 million

Executing Agency:
Ministry of Transport and Communications
Start : 1989
Duration: 2 years

Objectives : To improve rural airfield communications and to expand range of Very High Frequency (VHF) transmission through one VHF repeater station and to improve the navigation aids at Thaba-Tseka airport, being a centre for search and rescue.

Description: The project covers the three telecommunication projects for civil aviation taken up in the Telecommunications Ten-Year Development Plan, namely:

3-CA-1 Rural Airfield Communications
3-CA-2 Extended Range VHF and
3-CA-3 NDB at Thaba-Tseka Airport

Project 3-CA-1 includes the supply, installation and commissioning of six 100 W HF SSB transceivers at three airfields, and the provision of spare parts and training staff.

The project 3-CA-2 includes the supply of one VHF repeater station complete with antennas, power supplies and all other necessary equipment.

The project 3-CA-3 includes the supply of one 100 W NDB with power supply, antennas and spare parts.

Status : Financing is being sought as part of the contingency preparations.

September 1988

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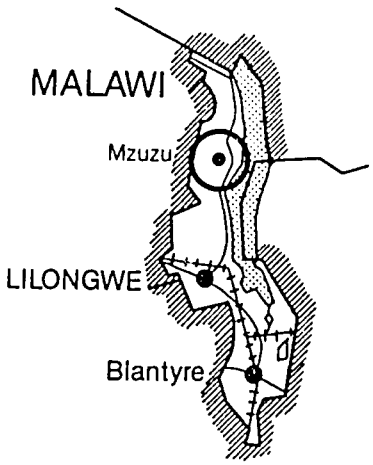
4.4.1 New Airport at Mzuzu, Malawi



Estimated Costs
Total : USD 17.3 million
Foreign : USD 13.0 million
Local : USD 4.3 million

Funding Secured
Foreign : USD 2.6 million
Local : USD 4.3 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 10.4 million

Executing Agency:
Ministry of Transport and Communications
Start : 1988
Duration: 3 years

Objectives : Construction of a new airport about 5 km west of Mzuzu, the capital of the North Region, with the objective to provide an airport that will permit operations by medium range jet aircraft, such as the Boeing 737 which are generally used in the SADCC region, rather than the smaller turbo prop HS 748's which are used at present.

Description: The project provides for the following :

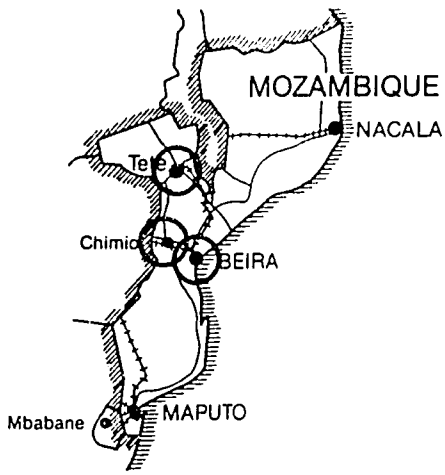
- the runway
- the main taxiway
- the commercial aviation taxiway
- the general aviation apron
- roads and car parks
- new terminal area
- new terminal buildings including control tower, and administration block
- freight terminal and fire station
- navigation aids, communication and landing equipment
- fire and rescue vehicles/services
- staff quarters for about 120 families
- airport lighting, meteorological equipment, power supply, vehicles, etc.

Detailed design and preparation of the tender documents are underway, financed by France.

Status : Financier for construction is being sought.

September 1988

4.5.3 Civil Aviation Projects in the Beira Port Transport System Development Plan



Estimated Costs
Total : USD 29.5 million
Foreign : USD 28.3 million
Local : USD 1.2 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 1.2 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap
Total : USD 28.3 million

Executing Agency:
Ministry of Transport and Communications
Start : 1988
Duration: 5 years

Objectives : To improve the flight traffic services in the Beira region by general rehabilitation and modernization of related civil aviation facilities.

Description: The rehabilitation and modernization programme consists of following projects:

		Estimated Cost USD million	
		Total	Foreign
C-TA-1	Technical Assistance and Training	5.0	5.0
C-CE-1	Development of Beira Terminal	2.0	2.0
C-CE-2	Strengthening of Runways in Beira and Tete	4.5	3.6
C-CE-3	Airport Building, Chimoio	1.5	1.2
C-ME-1	Acquisition of two Aircraft	7.0	7.0
C-ME-2	Communication and Navigation, Beira, Chimoio and Tete	6.0	6.0
C-ME-3	Fire Fighting Equipment (Beira, Chimoio and Tete)	2.5	2.5
C-ME-4	Maintenance Equipment	0.5	0.5
C-ME-5	Airport Lighting, Chimoio	0.5	0.5
	TOTAL	29.5	28.3

For details see Beira Port Transport System 10-Year Development Plan.

Status : Building of a terminal and installation of COM equipment and NAVAIDS in Chimoio will start before end of 1988.

Two aircrafts to serve Beira Corridor Traffic delivered and taken into service.

4.5.4 SADCC Boeing 737 Flight Training Centre

Estimated Costs
Total : USD 3.6 million
Foreign : USD 3.6 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 3.6 million

Executing Agency:
Min of Transport and Communications, Mozambique
Start : 1988
Duration: 1 year

Objectives : To offer flight simulation training for all Boeing 737 pilots of the SADCC National Airlines.

Description: The upgrading of the present Boeing 737 - 200 Basic simulator, with its JT8D - 9A engine simulator to cover relevant versions of Boeing 737 operated by SADCC National Airlines, consists of the following actions :

(i) installation of a visual system,
(ii) replacement of the mainframe computer,
(iii) inclusion of the software adapted to all models of the SADCC Boeing 737 fleet,
(iv) evaluation of interchangeability between different cockpit layouts,
(v) installation of an uninterrupted back-up power supply.

Status : EEC and OPEC have been approached for funding the project.

September 1988

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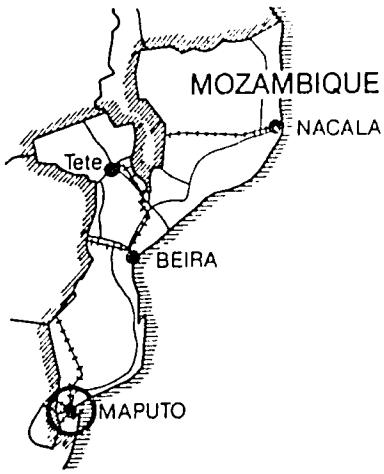
4.5.5 Development of Maputo Airport



Estimated Costs
Total : USD 6.5 million
Foreign : USD 5.2 million
Local : USD 1.3 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 1.3 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 5.2 million

Executing Agency:
Ministry of Transport and Communications
Start : 1988
Duration: 3 years

Objectives : Improvement and upgrading of the existing airport at Maputo, about 3 km N of the city.

Progress : The Maputo International Airport is the principal airport of Mozambique, serving the capital and being the main gateway for regional and intercontinental traffic. The neighbouring airports serving as alternatives.

As result of recent improvements in aeronautical infrastructure in the SADCC context (airport lighting, ILS), the airport is capable of handling medium-range aircraft, such as B737/-B727 largely used in the Region, as well as the critical aircraft DC10/B747.

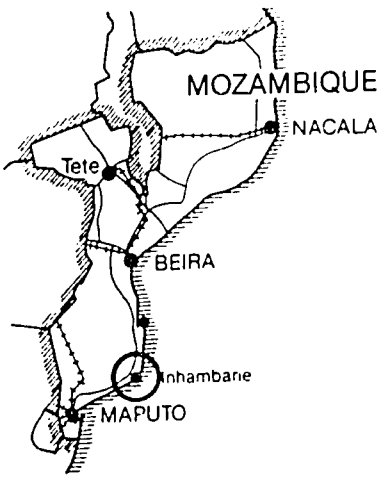
The full benefits of recent investments cannot be fully realized without additional investments to be made during this decade in order to improve the flight safety, security and regularity of flights and the services to passengers and cargo on the ground. This development will benefit the Region, considering the present situation in Southern Africa, in safeguarding regional connections and consolidating the co-operation between flight operations.

The project includes :
- new runway overlay (about 150.000 m2)
- upgrading of the existing passenger terminal, including equipment, to cater for an annual traffic of 1 million passengers
- extension of the cargo terminal
- acquisition of fire and rescue vehicles
- installation of new NDB (navigational aids) and aeronautical communication equipment VHF (air-ground), and a surveillance radar for air traffic control
- construction of a catering unit
- technical assistance to the airport management
- training of airport personnel (handling and commercial services, fire fighting, maintenance, etc.)

The runway is now being re-surfaced financed by Mozambique.

Status : Additional funding is being sought.

4.5.6 Development of Inhambane Airport



Estimated Costs
Total : USD 6.0 million
Foreign : USD 5.0 million
Local : USD 1.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 1.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 5.0 million

Executing Agency:
Ministry of Transport and Communications
Start : 1989
Duration: 5 years

Objectives : Improvement and upgrading of the existing airport, about 2.5km E of the city.

The aim of this project is to upgrade the airport to be capable of handling medium size aircraft (e.g. B737, which is generally used in the region) and made it usable as an alternate airport to Maputo and Beira airports.

Description : The existing Inhambane airport is located 23 52'S and 35 24'30" E on W158 air route and has a runway of about 1500m asphalt and a very small terminal building/technical services. The critical aircraft is F27, the operation is very poor due to the lack of :

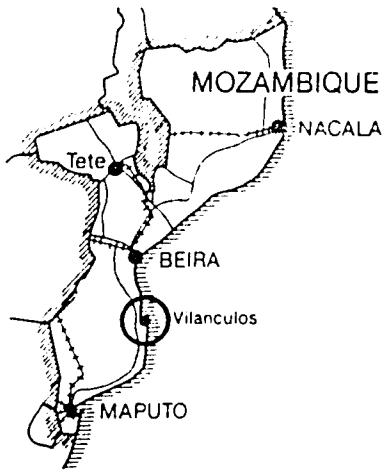
- terminal facilities
- nav aids
- lighting systems
- fire services ...

The project shall include :

- strengthening, widening (from 30 to 45 metres) and extending (at least by 500 metres) of the main runway
- strengthening and widening of the taxiway
- strengthening and extension of the aircraft parking area
- runway lighting including emergency power supply
- installation of radio-aids (NDB), communications (HF/SSB and VHF) and meteorological equipment
- fire and rescue vehciles
- new terminal bulding for passengers
- new cargo terminal
- utilization of existing aerogare installations for technical services, including the fire fighting service
- improvement and construction of residences for airport personnel
- technical assistance to management
- training of airport personnel

Status : Financing is being sought.

4.5.7 Development of Vilanculos Airport



Estimated Costs
Total : USD 2.5 million
Foreign : USD 2.0 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 2.0 million

Executing Agency:
Ministry of Transport and Communications
Start : 1988
Duration: 3 years

Objective : Improvement and upgrading of Vilanculos airport, about 1.5 kms of the city.

The aim of this project is to upgrade Vilanculos airport to promote the development of tourism, industrial projects and to increase the opportunities for regional air services.

Progress : The project therefore is to upgrading the existing airport to permit regular operations of the aircraft type F27 or smiliar.

The existing infrastructure is located 22 01 S and 35 19 E on W15 D air route and has two runways of about 1470 x 30 and 750 x 30 metres in aspfalt with restrictions due to the lack of navaids, fire services, communications and landing aids.

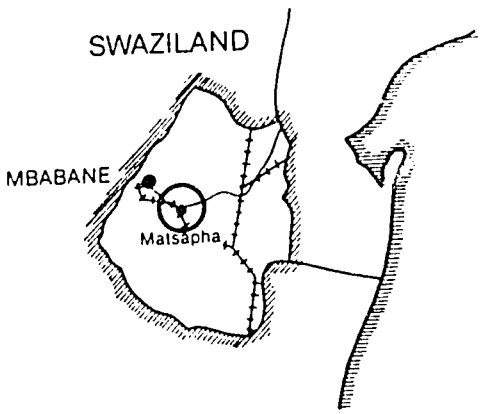
The project includes :

- new runway overlay and widening from 30m to 45m
- new lighting systems and stand-by power supply
- installation of new NDB (with solar panel), COM equipment and METEO equipment
- extension and renovation of terminal buildings, including technical services, fire and rescue services
- acquisition of fire and rescue vehicles
- technical assistance of management
- training of airport staff.

Rehabilitation of the passenger terminal building has started.

Status : Additional funding is being sought.

4.6.1 Development of Matsapha Airport



Estimated Costs
Total : USD 38.0 million
Foreign : USD 32.0 million
Local : USD 6.0 million

Funding Secured
Foreign : USD 20.8 million
Local : USD 6.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 11.2 million

Executing Agency:
Ministry of Works, Power and Communications
Start : 1984
Duration: 7 years

Objective : The aim of this project is to upgrade Matsapa Airport to enable handling of medium range aircraft (e.g. B737) with full payload.

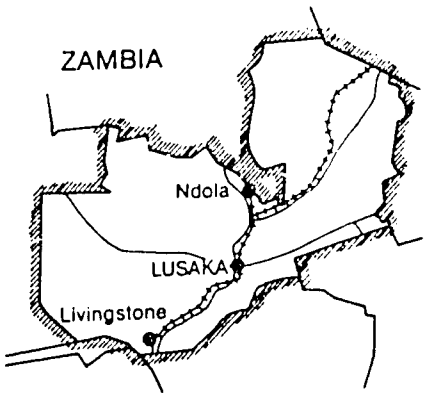
Progress : Use of B737 a/c with full belly compartment capacity for cargo and without time restrictions at the airport will improve Royal Swazi's Air Cargo operating result.

(i) Construction of runway, 2600m long and 45m wide, taxiway and apron;
(ii) Installations of airfield lighting;
(iii) Building control tower, operations building and remote transmitter station; as well as a training component and a small telecommunications component;
(iv) Installation of navigation aids, communications and landing equipment;
(v) Training and technical assistance; and
(vi) Construction of fire and rescue vehicles building; new terminal building and a cargo building.

Status : Items (i) and (ii) have been completed.
Items (iii) and (iv) almost completed.
Item (v) ongoing.
EEC has been approached for financing of item (vi).

September 1988

4.8.1 Study on the Improvement of Livingstone, Ndola and Southdown Airports, Zambia



Estimated Costs
Total : USD 0.7 million
Foreign : USD 0.7 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.7 million

Executing Agency:
Department of Civil Aviation

Start : 1989
Duration: 1 year

Objectives : Study on improvements of Livingstone, Ndola and Southdowns airports to cater for the future development of the air transport in Zambia.

Description: For Livingstone the study should cover :

- strengthening of the runway - estimated cost USD 5.0 million (1983)
- construction of new control building and realignment of certain roads - estimated cost USD 4.0 million (1983)
- rescue/fire building - estimated cost USD 0.3 million (1983)
- security fencing - estimated cost USD 0.7 million (1983)

In future also improvement of navigation facilities will be needed.

For Ndola the study should cover :

- replacement of existing terminal building
- extensions of the runway
- additional airfield lighting and
- extensions as well as new taxiways.

Further improvement of navigation equipment and also design and construction of a new cargo terminal will be needed at a later stage.

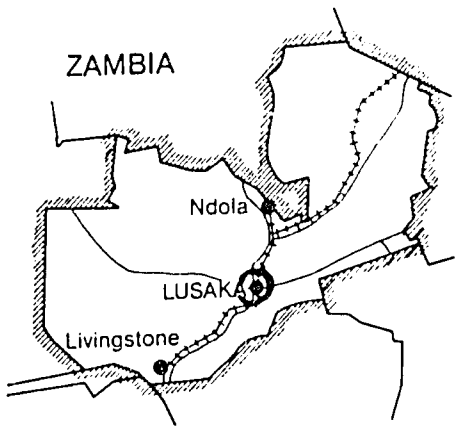
For Southdowns airport following should be studied :

- total re-surfing for at least Boeing 737 standard
- new taxiways
- relocation and enlargement of facing area
- installation of airfield lighting
- passenger terminal
- air traffic control tower
- car parking and realignment of access roads.

Status : Funds for a feasibility study being sought.

September 1988

4.8.4 Study on New Hangar at Lusaka International Airport, Zambia



Estimated Costs
Total : USD 0.1 million
Foreign : USD 0.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.1 million

Executing Agency:
Zambia Airways Corporation

Start : 1989
Duration: 3 months

Objective : The study shall answer the question, whether the maintenance base as a whole or part of it should be designed for Zambia Airways need only or being capable of serving the total maintenance needs of the region.

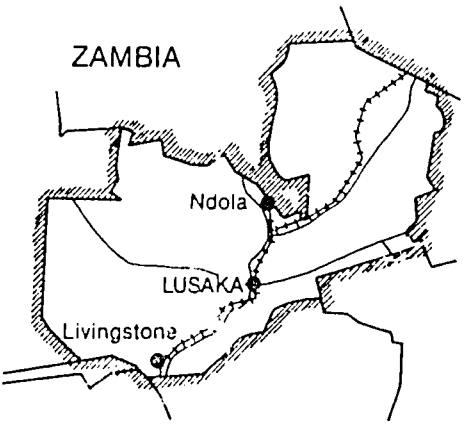
Description: The study must be co-ordinated with project 4.0.3, and shall embrace a study of the need for :

- a widebody hangar and workshop
- a power plant overhaul building and offices
- a component overhaul facility.

Status : ADB has been approached for this study together with project 4.0.3.

September 1988

4.8.5 Improvement of Zambia Air Services Training Institute (ZASTI)



Estimated Costs
Total : USD 1.7 million
Foreign : USD 1.7 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.7 million

Executing Agency:
Ministry of Power, Transport and Communications
Start : 1988
Duration: 2 years

Objective : To improve the ZASTI organization to enable it to perform efficient training of students from all SADCC Member States.

Description: In order to improve the training efficiency at the institute, repair and modernization of equipment, maintenance of accommodation and student facilities are needed.

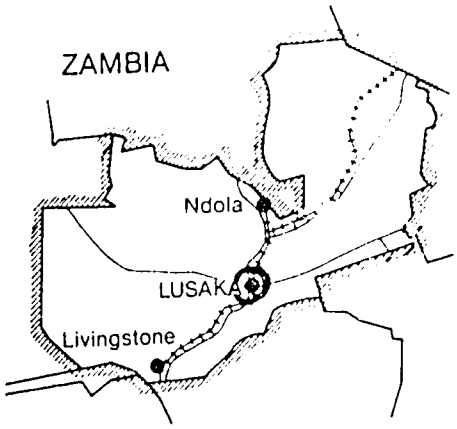
The repair of equipment consists mainly of putting available aircraft in serviceable condition. Modernization of equipment embraces procurement of various engineering workshop equipment, fire service, telecommunications and avionics equipment.

An improvement, of the existing dining and kitchen facilities will also be needed.

Status : Civil works for an avionics laboratory is funded by UNDP.

September 1988

4.8.6 Lusaka International Airport Development, Zambia



Estimated Costs
Total : USD 44.1 million
Foreign : USD 44.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 44.1 million

Executing Agency:
Department of Civil Aviation, Zambia
Start : 1990
Duration: 10 years

Objectives : A development of Lusaka International Airport in order to :

(i) secure air safety with improved air navigation facilities,
(ii) achieve a service level of international standard of terminal facilities,
(iii) make it possible for the airport to be a gateway to the landlocked Zambia and partly also for SADCC region as a whole.

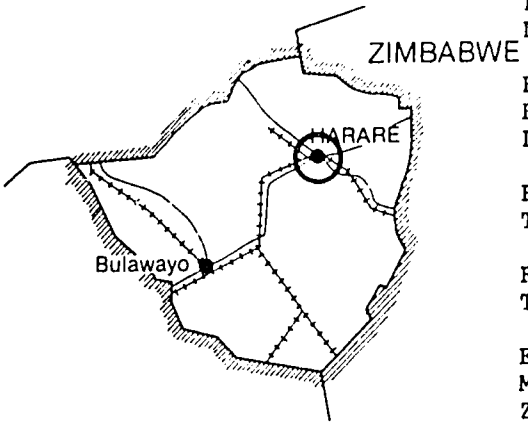
Description: Following elements of the airport have to be improved to indicated requirements;

(i) overlay and replace cracked concrete slabs, on runway (Required runway length : 400m),
(ii) overlay taxiways and extension to new VIP apron, (Requirement : Partial parallel)
(iii) replace cracked slabs and expand main apron, (Requirement : 15 aircraft stands).
(iv) installation of baggage claim conveyor, etc, (Requirement : Passenger terminal 13.000 m2 (sq.m) Cargo Terminal 6.400 m2 (sq.m) Car parking lot for 230 cars Catering facility 1.800 m2 (sq.m)),
(v) renew radio navaids equipment, building and cables for ILS, etc. and
(vi) install primary and secondary radar (Requirement : Cat I ILS).

Status : Financing is being sought.

September 1988

4.9.2 Study on New Harare Airport Terminal, Zimbabwe



Estimated Costs
Total : USD 0.5 million
Foreign : USD 0.5 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.5 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Ministry of Transport,
Zimbabwe
Start : 1987
Duration: 2 years

Objectives : There is a need of developing Harare International Airport in order to :

(i) Secure air safety with improved air navigation facilities;

(ii) Achieve a service level of international standard of terminal facilities;

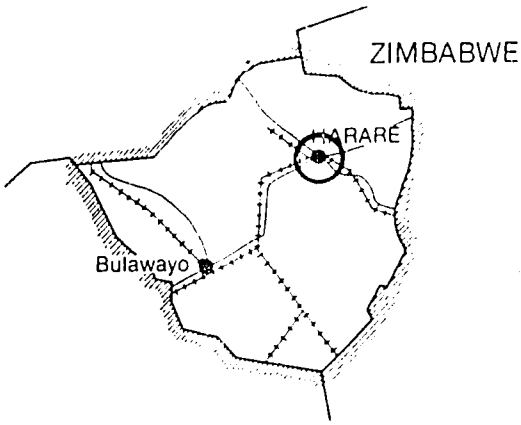
(iii) Make it possible for the airport to be a gateway to the landlocked Zimbabwe and partly also for SADCC region as a whole.

Description: This project 4.9.2 does only cover item (ii).
Item (i) is covered by project 4.0.8(1) and 4.9.3.
Item (iii) is included in a master plan study on the development of Harare airport. The outcome of this study will show if there is a need of constructing a new terminal building or if the reconstrucjtion of the existing terminal will be sufficient for the near future.

This project must be given high priority in the context of the co-ordinated and integrated traffic system in the SADCC region, as Harare is of central importance for overseas and regional air traffic. Therefore it must have a high capacity of transit handling.

Status : The study completed and final report submitted to the Cabinet. Decision expected before end of 1988.

4.9.3 Modernisation of AFTN Message Switching Centre at Harare International Airport



Estimated Costs
Total : USD 0.6 million
Foreign : USD 0.6 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap
Total : USD 0.6 million

Executing Agency:
Department of Civil Aviation

Start : 1989
Duration: 1 year

Objectives: To provide a reliable Aeronautical Fixed Telecommunications Network (AFTN) by introducing a modern simplified switching centre at Harare International Airport.

Description: The centre is ment to switch messages concerning air traffic movements. The types of messages are detailed in ICAO document Annex 10 to the Convention on International Civil Aviation. The messages are interchanged between international, Regional and Domestic destinations.

Department of Civil Aviation recommends computerised fully automatic AFTN system capable of:-

(i) handling not ledd than 180 messages per hour
(ii) producing local message output on a branch/department/office basis
(iii) utilising a wide range of terminals (not less than 20 ects.) and computer equipment as well as ability of change and growth according to user's requirements
(iv) providing accounting and statistical information on message traffic
(v) monitoring and displaying the input/output status of all communications part on the system
(vi) providing means of manually correcting unrecognisable rejected messages
(vii) automatic error correction if message is recognisable but incorrect
(viii) operating at a Band rate of 50
(ix) providing message priority facilities.

The equipment involves : -

(i) Central control equipment capable of handling incoming messages and routing messages to appropriate destinations
(ii) Domestic terminals equipment capable of receiving messages from Central Control and sending messages to Central Control

(iii) Terminal equipment must be able to error-correct any messages rejected by Central Control.

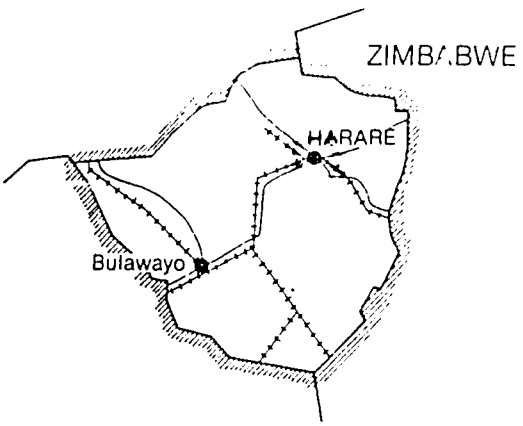
(iv) Installation of new domestic direct links to Kariba and then Masvingo.

According to ICAO recommendations, and AFTN system is a prerequisite to the operation of an International Airport.

Status : Implementation postponed awaiting ICAO decision regarding location of the COM Centre.

September 1988

4.9.4 Improvement and Expansion of Radar Coverage, Zimbabwe



Estimated Costs
Total : USD 8.0 million
Foreign : USD 8.0 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 8.0 million

Executing Agency:
Ministry of Transport,
Zimbabwe
Start : 1988
Duration: 2 years

Objectives : In order to improve the safety standards within Zimbabwe's busy airspace and at the same time to increase the capability of the Department of Civil Aviation to reliably operate and maintain its radar equipment, major investments in additional equipment and manpower training are required for radar coverage.

Description: In addition to improving the overall safety and reliability of air traffic control the project is required to increase the capability of Zimbabwe to detect and monitor flights and thus reduce the possibility of airspace violation. The proposed new secondary equipment provides automative aircraft identification of transponder equipped aircraft.

The capital equipment components of this project are in three phases :

Phase 1 (1988/89)

- Addition of Secondary Surveillance Radar (dual transmitter/receiver set) as an extension of the existing Primary System at Harare, including all spares, ancillary and test equipment.

- Provision of a new uninterruptible power supply (UPS) and air conditioning at the radar transmitter site.

Phase 2 (1989/90)

- Installation of Primary and secondary radar at Bulawayo with interlinking telecommunications to Harare.

Status : Tenders have been received and will be evaluated soon. The equipment manufacturers have been requested tp finance the project.

September 1988

Telecommunications

5.0.3 Study on AXE 10 Repair Centre

Estimated Costs
Total : USD 0.4 million
Foreign : USD 0.4 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.1 million

Financing Gap:
Total : USD 0.3 million

Executing Agency:
SATCC

Start : 1989
Duration: 2 Years

Objectives :
- To determine the feasibility of providing a telephone exchange equipment repair center in the region for the AXE 10, the cost involved, and advantages and disadvantages of such an investment.
- To provide software technical assistance to the maintenance of regional AXE MSC's and national transits.

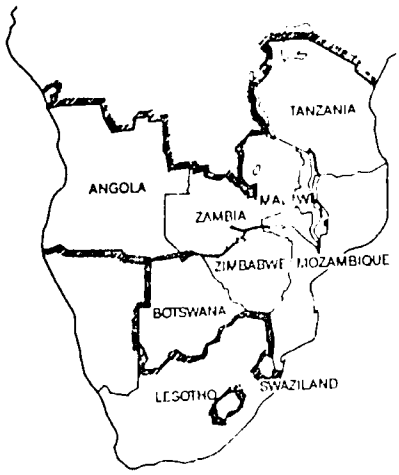
Description: The AXE 10 switching system is now operating in the region in many of the countries and others are planned in the short term.

- The Telecommunication Administrations agreed on the necessity of a study for a central repair facility to reduce dependence on the manufacturers, delay in spare replacement and depletion of foreign currency. The study will consider, among others, type and number of faulty boards, the appropriate level of local repair, integration with existing or planned repairing facilities in the region, manpower requirements, financial and administrative matters.
- This part of the project aims at providing at least two AXE 10 software engineers to be based in the region for a period of two years to assist in the specialised software maintenance of the software switching systems and counterpart training of regional staff.

Status : Financing is required to finance both aspects of the project.

September 1988

5.0.4 Implementation Study for Regional Earth Station Connectivity Project (1989-93)



Estimated Costs
Total : USD 21.0 million
Foreign : USD 21.0 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.5 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 20.5 million

Executing Agency:
SADCC

Start : 1989
Duration: 1 Year

Objective : Implementation study to permit smooth co-ordination of the introduction of Intermediate Data Rate (IDR) and Time Division Multiple Access (TDMA) technologies into the facilities of the Earth Stations in the Sub Region in order to permit regional satellite circuit interconnectivity.

Progress : SADCC countries are increasingly moving towards digitilisation of the national networks and in pace with this trend international satellite systems are also introducing digital techniques that will offer users an increase in capacity and data rate over analogue systems.

At the 1986 Conference of Earth Station Operations Representatives for the Atlantic Ocean Region, the SADCC member Administrations expressed a need to begin planning for the 1989 to 1993 time frame mainly because of the following factors :-

(i) evolution of Intelsat to a distributed system
(ii) delays in satellite launches
(iii) accelerating trend to digital carrier technologies

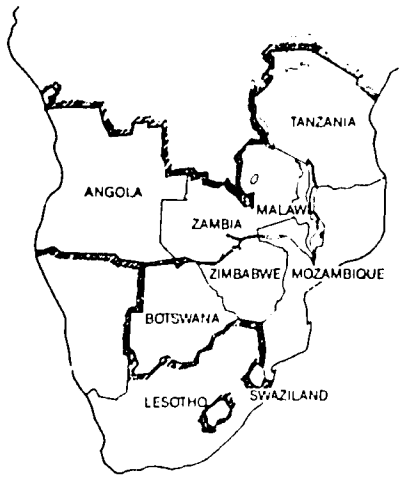
At the 7th SATA Conference in Gaborone, Administrations agreed to a development plan outlining the steps required for systems engineering and planning activities. The survey study has so far identified the following intermediate data rate (IDR) with digital circuit multiplication equipment (DCME):

COUNTRY	ITEM	COST (USD million)
ANGOLA, STBD	IDR/DCME	1.8
BOTSWANA, STDB	IDR/DCME	1.8
LESOTHO, STDB	IDR/DCME	2.0
MALAWI, STDB	IDR/DCME/Refurbishing	6.0
MOZAMBIQUE, STDA	IDR/DCME/HPA/Digital link	3.2
SWAZILAND, STDB	IDR/DCME/INA	2.0
TANZANIA, STDA	See SADCC Project 5.7.3	-
ZAMBIA, STDA	IDR/DCME/Digital link	2.7
ZIMBABWE, STDA	IDR/DCME -See SADCC P. 5.9.8	1.3
	TOTAL	20.0

Status : CIDA is financing the study under the auspices of the SADCC Technical Services Fund.
Financing is still required for the drawing up of the detailed specifications and project implementation.

September 1988

5.0.5 Study on the Harmonization of Telephone and Telex Tariffs for the Sub-Region.



Estimated Costs
Total : USD 0.2 million
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
SATCC

Start : 1988
Duration: 1 Year

Objective : To investigate international tariffs pertaining in the Subregion with a view to achieveing a rational tariff harmonization which will be used for the establishment and implementation of common telephone and telex structure in the sub-region.

Progress : Administrations in the sub-region use different types of accounting rates for the PANAFTEL intra-regional traffic. Some Administrations use the 1982 ARUSHA TARIFFS and in some relations the CCITT D200R and D201R are applicable. Bilateral tariff agreements are also being used in certain cases.

In order to harmonize the introduction of common telephone and telex tariff's, SATCC and ITU will undertake a study in consultation with the Administrations in order to :-

- Make recommendations on the most efficient tariff and accounting rate structure to be adopted in the Sub-region.
- Determine the impact of current Sub-regional alternative routing on the balance of payments between countries.
- Investigate the desirability and potential impact of lowering tariffs and accounting rates, especially on direct relations, with a view to the possible reduction of the level of outpayments while encouraging the growth of sub-regional traffic.

Status : The ITU is carrying out the study in conjunction with SATCC. SATCC tasks are being financed under the CIDA/SATCC Technical Services Fund.

September 1988

5.0.6 Study on the Development of a Regional Manufacturing Strategy

Estimated Costs
Total : USD 0.1 million
Foreign : USD 0.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.1 million

Executing Agency:
SADCC

Start : 1988
Duration: 1 Year

Objective : The project comprises a feasibility study to define a strategy on the establishment, development and or upgrading of local telecommunications manufacturing plants and associated industries in the region.

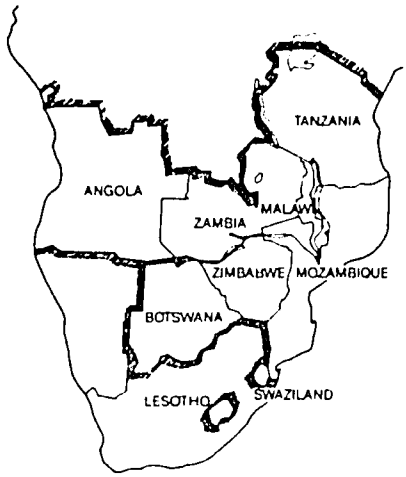
Description: The scope of work will involve visits and discussions with Administrations and Manufacturers and will include investigation of the following points which were indicated by the PATU, UNIDO and ITU findings :

- The market for various product types and ranges in the SADCC and PTA region to the year 2000.
- The market factors such as changes in technology forecasts, the competitive supply situation, existing PTC purchase policies, and trading policies.
- Existing experience in manufacture of electronics and/or related products in each SADCC country, and the availability of manpower and material resources.
- Cost and technological requirements necessary to manufacture each product.
- Infrastructural and economic policy factors relevant to the development of local industry in each country.

Taking into account the results of previous work by UNIDO, ITU and the current ITU/UNDP/RAF/87/170 project, the study would aim to set a strategic priority between products and locations for regional manufacturing, and to highlight the financial, industrial, and telecommunications policy issues which have a bearing on the growth of SADCC industries.

Status : Financing is requested to undertake the study.

5.0.7 Model Study on Maint Procedure and Scheds for PANAFTEL Terres trial Microwave Radio Systems



Estimated Costs
Total : USD 0.1 million
Foreign : USD 0.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.1 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
SADCC

Start : 1988
Duration: 1 Year

Objective : Study to determine standardized maintenance procedures and schedules on the inter-country PANAFTEL microwave links.

Progress : The study involves the collection of data and information from the tests carried out on the inter country links. The data will be analysed to determine maintenance procedures, tests and parameters which will be used to monitor the performance of the radio system.

Status : ITU Maintenance team is to undertake the study with funding from the UNDP.

September 1988

5.0.8 Regional Data Communication Strategy Study

Estimated Costs
Total : USD 0.1 million
Foreign : USD 0.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.1 million

Executing Agency:
SADCC

Start : 1989
Duration: 1 Year

Objectives : To investigate the market and technical aspects of the implementation of a regional data communication and packet switching network.

Description : There is an increasing demand and need for advanced telecommunications and informatics services. This demand necessitates the development of data switching networks. Zimbabwe Project No. 5.9.6, Packet Switching for data Network in Zimbabwe, aims to develop a Packet Switched network to cater for its advanced data and computer related telecommunications needs.

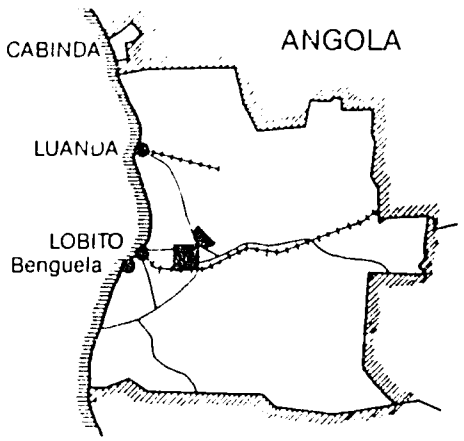
The regional study is necessary to take account of the following :

- the potential demand for packet switching and other data communication facilities in the SADCC region;
- the technical and economic feasibility of meeting regional requirements in accessing the, and making use of Zimbabwe's proposed network facilities; and
- development of a rationalised regional network and proposals for encouragement of informatics services regionally.

Status : Financing is required to carry out the study and implementation of the projects emanating from the study.

September 1988

5.1.1 Telecommunication Projects in the 10 Year Development Plan for Lobito Port Transp.System



Estimated Costs
Total : USD 35.1 million
Foreign : USD 35.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 35.1 million

Executing Agency:
Ministry of Transport and Communications, Angola
Start : 1988
Duration: 8 years

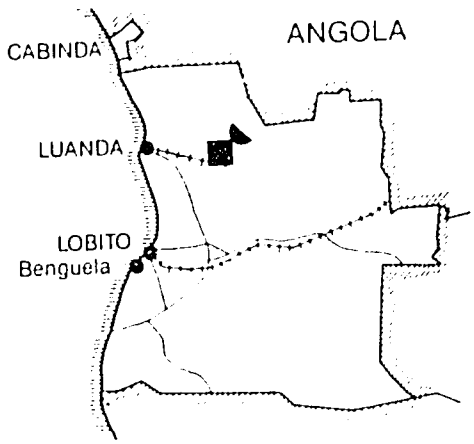
Objectives : Rehabilitation, upgrading and provision of telecommunication facilities serving the Lobito Port Transport System and the interconnection to the SADCC Countries.

Description: The Ten Year Development Plan for the Lobito Transport System includes the following telecommunications projects:

		Costs USD million
(T-M-1)	Technical Assistance to ENATEL	2.5
(T-MC-1)	Provision of HF Radio Maritime Communications to Lobito Harbour	0.8
(T-MC-2)	Expansion of Maritime Communication Facilities	1.8
(T-PT-1)	Microwave Link Benguela/Lobito-Luau	11.4
(T-PT-2)	Spur Routes along the Benguela/Lobito--Luau Corridor	5.9
(T-PT-3)	Extension/Rehabilitation of Switching and Outside Plant along the Corridor	9.1
(T-PT-4)	Rehabilitation of Troposcatter Link Malange-Saurimo-Luena-Zambia	1.3
(T-PT-5)	Microwave Link Luanda-Benguela/Lobito	2.3
	TOTAL	33.6

Status : A Technical Co-ordination Conference to discuss the plan is scheduled for February, 1989.

5.1.2 Expansion of International Telecommunication Services, Angola



Estimated Costs
Total : USD 38.0 million
Foreign : USD 32.4 million
Local : USD 5.6 million

Funding Secured
Foreign : USD 32.4 million
Local : USD 5.6 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Empresa Publica de Telecomunicacoes
Start : 1983
Duration: 6 Years

Objective : The project seeks to expand the capacity of the international telecommunication system which allow the establishment of direct circuits with African countries, namely Congo, Kenya, Tanzania, Zambia and Zimbabwe.

Progress : The project involves the provision of :

- extension to the Standard A earth station at Cacuaco.
- equipment for the existing standard B antenna.
- new telex exchange, 600 trunks.
- extensions for the ITSC, from the existing 90 to 800 trunks.
- no-break power supply.

The project is to include also installation and civil works.

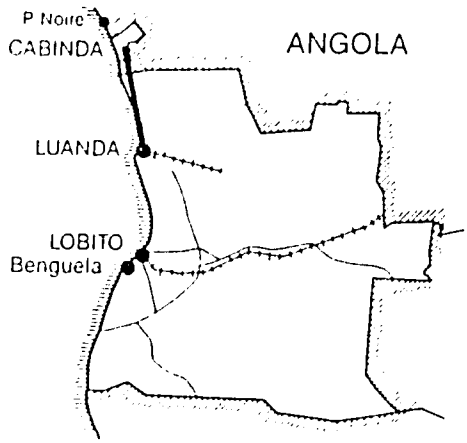
The project is ongoing with the various parts at a different stage of implementation.

- the provision for no-break power supply is now completed.
- expansion and modification of the A Antenna is completed.
- equipment for the B Antenna not yet defined, still some decisions to be taken on the basic concept.
- specification of telex exchanges approved and an international tender to be issued, expected RFS end 1989.
- specification under preparation for the International Switching Center in Luanda, desired RFS is first half of 1990.

Status : The project is financed by AfB for the foreign currency part and Angola for the local costs.

The project is envisaged to be completed by 1991 and will improve regional connectivity and the provision of International Subscriber dialling within the SADCC countries.

5.1.3 Microwave Link Luanda-Cabinda



Estimated Costs
Total : USD 5.1 million
Foreign : USD 4.1 million
Local : USD 1.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.2 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 4.9 million

Executing Agency:
Ministry of Transport and Communications, Angola
Start : 1988
Duration: 4 Years

Objective : The project seeks to provide a large capacity microwave system from Luanda to Cabinda, as part of the PANAFTEL terrestrial network which will give SADCC Countries access to the Central and Western African Subregion.

Description: Presently on the Panaftel section Luanda - Cabinda, a troposcater system is in operation.

The project calls for the implementation of a 960 channel system consisting of about 8 hops. The link will provide for the needs of the national, regional and international traffic, giving also access to the Panaftel network of the western countries of Africa.

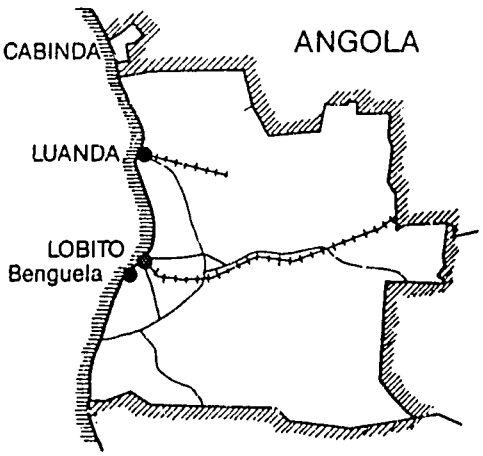
Status : At a preliminary planning stage. Survey data and details of the link are required for preparation of technical specifications.

Contract Agreement is to be signed by end of 1988 with Consultel for propagation survey and drawing up of technical specifications.

Financing is required for project implementation.

September 1988

5.1.6 Expansion of Telecommunication Training Centre, Angola



Estimated Costs
Total : USD 1.5 million
Foreign : USD 1.0 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.0 million

Executing Agency:

Start : 1988
Duration: 2 years

Objectives : The project consists of upgrading and expanding the existing National Telecommunications Training Centre to a combined ENAPTEL and EPTEL training school in order to provide the much needed skilled staff for the operation of the telecommunication network.

Description : The FNPTEL training centre had been operating since May, 1979 under funding from the UNDP in cooperation with the ITU. Training is given in Portuguese. The school is partially equipped with training equipment for illustrating switching, multiplexing and transmission principles.

The project is not yet fully defined but is to include :

- addition of several more classrooms to the training centre
- provision of boarding and lodging facilities to students
- provision of basic classrooms equipment
- basic reorganisation of the training programme
- provision of instructors.

A more detailed survey of project requirements is necessary before proceeding to project implementation stage; this might include the relocation of the site to allow for the buildings expansion and extensions.

Status : Financing is required both for the survey and project implementation.

September 1988

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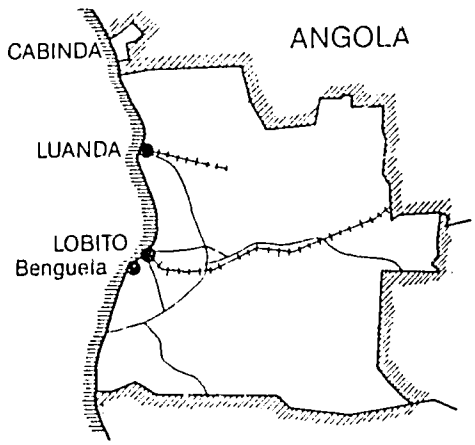
5.1.7 Expansion of Circuit Capaci- ties for Transmission Routes South Luanda, Angola



Estimated Costs
Total : USD 1.5 million
Foreign : USD 1.5 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.5 million

Executing Agency:

Start : 1988
Duration: 1 year

Objective : The proposed projects aims to expand the circuit capacity of the EANAFTEL Link from Luanda to southern angolan cities and to the proposed second satelite earth station in Benguela/Lobito by replacing the LUANDA-CONDE 300 channel tropescatter link with two links :

- a Cassoneca - Conde 600 channel tropescatter link;
- and a Luanda - Lobito 300 channel tropescatter link.

Description : The project will include :

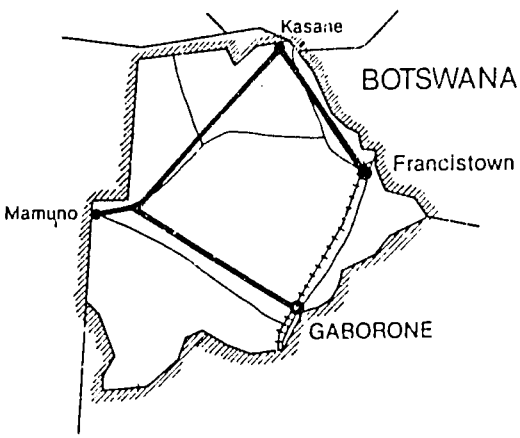
- provision of the required new tropescatter equipment including antenna systems;
- installation and commissioning of all facilities. Existing buildings and power systems at all sites are adequate for the proposed new links.

Surveys for both these new tropescatter links have been completed. Data and details are now available for the preparation of technical specification.

Status : Funds are sought for the implementation of the project.

September 1988

5.2.3 Expansion of the Microwave Trunk Network, Botswana



Estimated Costs
Total : USD 30.5 million
Foreign : USD 28.0 million
Local : USD 2.5 million

Funding Secured
Foreign : USD 13.0 million
Local : USD 2.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 15.0 million

Executing Agency:
Botswana Telecommunications Corporation, Botswana
Start : 1988
Duration: 6 Years

Objetives : To extend the Microwave Trunk Network with connections to neighbouring SADCC Countries.

Progress : Botswana has completed a microwave link between Francistown and Bulawayo. The country's telecommunications are undergoing a major National Main Development Programme which includes a new International Telephone Switching Centre (ITSC) in Gaborone.
The project comprises:

- Phase I (1987-1989)
  Expansion of the country's microwave trunk network with Francistown as Pilot Point stretching to Kasane via Tutume/Nata and Pandamatenga. This will provide direct regional connection to Zambia and Angola.

- Phase II (1988-1991)
  Extension of the microwave link from Kasane to Mamuno via Maun and Ghanzi to form the main backbone for future regional connection to Namibia.

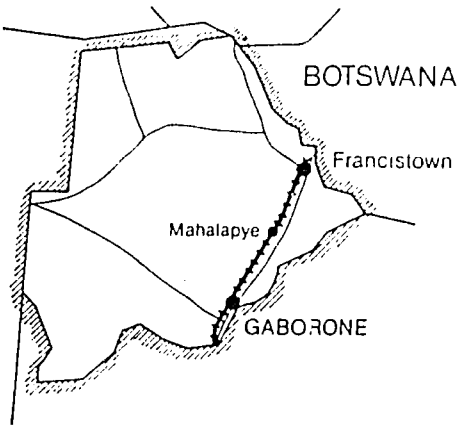
- Phase III (1990-1993)
  Extension of the Microwave Trunk Network to the west and south of the country, between Ghanzi and Gaborone, via Jwaneng to complete a ring network and provide a route for the EANAFTEL link to Namibia. The project will integrate the Southern Kalahari Region into the national network as well as providing ring diversity for Botswana's switching network.

The provision of complementary telephone exchange equipment will be handled by the Botswana Telecommunications Corporation.

Norad is financing phase I and part of phase II (extension from NATA to MAUN) completion of this section of the project is expected by end of 1990.

Status : NORAD has provided USD 13.0 million for the first part but financing is required for both preparation of specification and implementation of the phase III and part of phase II from Maun through Ghanzi to Mamuno and Gaborone through Jwaneng to Ghanzi.

5.2.5 Rural Telecommunications Development Study for Botswana



Estimated Costs
Total : USD 0.3 million
Foreign : USD 0.2 million
Local : USD 0.1 million

Funding Secured
Foreign : USD 0.2 million
local : USD 0.1 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:

Start : 1988
Duration: 1 Year

Objectives : The study seeks to determine and evaluate the technical and economic options for the development of rural telecommunications services throughout Botswana.

Progress : Recent network developments in Botswana have been aimed at providing modern digital facilities to the main population centres of the country along the eastern rim of the Kalahari desert. The main trunk network is composed of the existing backbone from Gaborone to Francistown and the proposed project 5.2.3. In the next 5-10 years it is planned to extend the digital trunk network into the northern, western, central and southern regions in order to provide telecommunication services to the vast proportion of rural communities in these areas.

The study will aim to analyse and make recommendations on the following:

- settlements to be served or to receive upgraded service;
- expected level of demand;
- appropriate technical solutions;
- cost and phasing of investments;
- most suitable financial and operating policies.

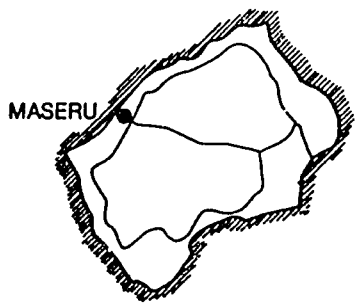
The Study will consider the social and economic aspects of providing services into rural areas, as well as all possible technical approaches and the financial implications. A detailed Five Year Investment Plan will be produced with a general strategy for long term development.

Terms of Reference for the study have been produced by the Botswana Ministry of Works and Communications.

Status : ADB is financing the study. Tenders have been received and evaluation is on-going and will be ready by end 1988. Feasibility study to be completed by end 1989.

5.3.2 Rural Communication System, Lesotho

LESOTHO



Estimated Costs
Total : USD 2.2 million
Foreign : USD 2.0 million
Local : USD 0.2 million

Funding Secured
Foreign : USD 0.1 million
Local : USD 0.2 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.9 million

Executing Agency:
Lesotho Post and Telecommunication Corporation
Start : 1988
Duration: 2 Years

Objective : The project aims at providing communication to the Clinics / Health centres, Post Offices / Postal Agencies, Police Stations and small business in the rural areas of Lesotho most of which are situated in the mountains which are less accessible by road.

The first step is to conduct a short feasibility study to define the scope and the time schedules of the various activities leading to implementation to be initiated in 1988. The project also includes training fellowships for technicians.

Description: The microwave backbone was installed and commissioned in July 1985 to provide telephone services to the district centres. But some scattered rural villages are not connected due to the mountainous nature of the terrain. It is very expensive to construct open wire carrier routes to these rural areas.

The rural system which is expected to be implemented consists of :

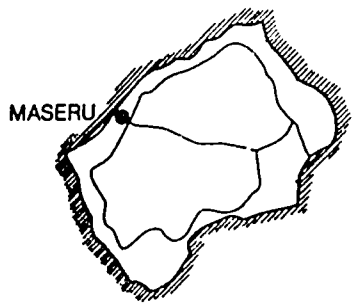
- central stations located at the main exchange of the districts;
- repeater stations capable to handle from 10 to 60 subscribers and connected to the central station with small capacity radio links (2 to 10 channels);
- remote stations located at the subscribers' premises in remote areas where there is no commercial power and in some cases difficult to reach by vehcile.

Status : Canadian International development Agency has provided financing for the feasibility study under the auspicies of the SATCC Technical Services Fund.

The study is expected to be completed by September 1987 following which it is envisaged the scope of the project will be fully defined. Financing will be required for the project implementation.

5.3.3 Rural Automatic Telephone Exchanges, Lesotho

LESOTHO



Estimated Costs
Total : USD 3.0 million
Foreign : USD 2.5 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 2.5 million

Executing Agency:
Lesotho Post and Telecommunications Corporation
Start : 1988
Duration: 1 Year

Objective : Provision of automatic rural telephone exchanges located at various rural centres in Lesotho.

Description: The project involves the provision of rural telephone exchange equipment to rural localities having a potential capacity of between 20 and 200 subscribers. Approximately 100 sites will be equipped throughout the country.

The project will provide :

- Solar panel power sources;
- Distribution frames and subscriber connections;
- Equipment installation and commissioning;
- Spare parts and
- Training of staff.

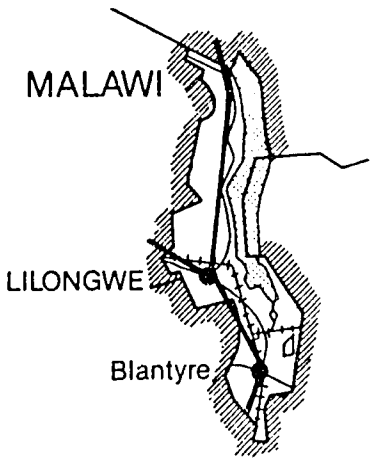
Lesotho Telecommunications Corporation will provide housing for the equipment.

Detailed technical requirements are yet to be defined. This project should be co-ordinated with project 5.3.2., Rural Telecommunications Study for Lesotho.

Status : Financing is sought for project implementation.

September 1988

5.4.2 Digitalization of the Trunk Network, Malawi



Estimated Costs
Total : USD 21.0 million
Foreign : USD 19.0 million
Local : USD 2.0 million

Funding Secured
Foreign : USD 19.0 million
Local : USD 2.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Department of Posts and Telecommunications, Malawi
Start : 1987
Duration: 2 Years

Objective : To replace due to age of the existing analogue equipment of the backbone Mzuzu - Lilongwe - Blantyre, that will carry PANAFTEL traffic from Zambia, Zimbabwe, Mozambique and Tanzania with a new digital (140 Mbit) radio equipment.

Progress : The microwave backbone link Mzuzu - Lilongwe - Blantyre is an integral part of the Malawi portion of the PANAFTEL network. It is connected to Zambia (Lilongwe - Chipata link); to Tanzania through the link Mzuzu - Mbeya which was commissioned in March 1987, and to Mozambique and Zimbabwe through the link Blantyre - Tete - Harare for which the installation is now in progress and due for completion by early 1989.

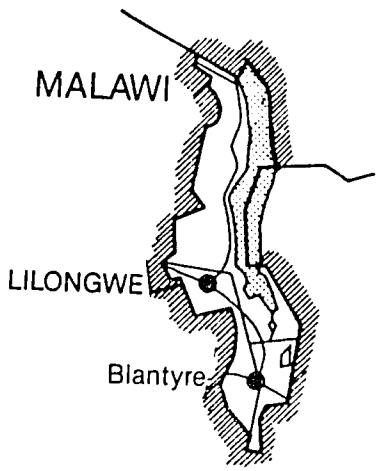
Digital radio equipment (140 Mbit) is being introduced in the network as Malawi is now well advanced in the technology.

The existing analogue equipment has been installed at the beginning of the 70's and has given satisfactory service. They need now to be replaced due to age.

Status : Financing has been secured from Japan for the sum of USD 19 million, and Malawi USD 2 million. Contract for the consultancy services has been signed with NEC of Japan. The project is under implementation by NEC of Japan and the digital trunk is expected to be commissioned by the end of 1989.

September 1988

5.4.3 Supply of Digital Equip. for the Expansion of Tele. Exchngs in Blantyre- Lilongwe-Zomba



Estimated Costs
Total : USD 20.6 million
Foreign : USD 19.4 million
Local : USD 1.2 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 1.2 million

Funding Under Negotiation
Total : USD 4.0 million

Financing Gap:
Total : USD 15.4 million

Executing Agency:
Malawi Dept. of Posts and Telecommunications
Start : 1988
Duration: 2 years

Objectives : Digitilization and expansion ofthe national telephone exchange centers comprising Blantyre, Lilongwe and Zomba in order to provide high quality switching capacity to the national, regional and international traffic along the PANAFTEL trunk network.

Progress : Provision of digital exchange equipment in each of the following national centres:

	Estimated Exchange Lines	Estimated Costs USD in Millions Total	Foreign	Local
PHASE I 1987-1990				
- Blantyre Implementation period 1989 - 1990	10.000	3.4	3.3	0.1
- Lilongwe Implementation period 1988 - 1990	9.000	7.6	7.4	0.2
- Zomba Implementation period 1988 - 1990	5.000	2.5	2.3	0.2
PHASE II 1990-1996				
- Blantyre	10.000	4.0	3.6	0.4
- Lilongwe	9.000	3.1	2.79	0.31

The project components comprise :

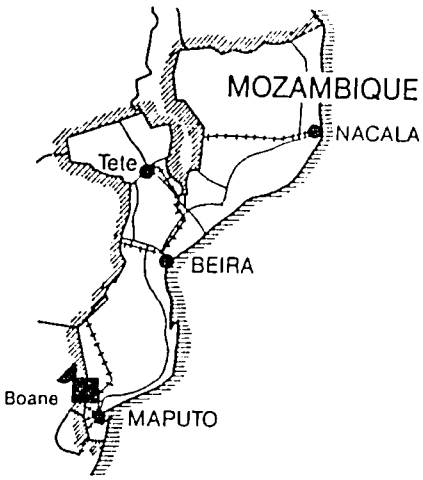
(i) Switching, PCM line equipment, plus associated power and test equipment, to cover expansion at the existing locations.

(ii) Installation, commissioning and training.

The Malawi Post Office will cover the costs of buildings and complementary projects.

Status : Financing for USD 4.0 million is under negotiation with Italy for extension and expansion, of the Blantyre exchanges. Financing is required for Lilongwe and Zomba.

5.5.1 National/Regional Satellite Communication System of Mozambique



Estimated Costs
Total : USD 20.6 million
Foreign : USD 20.1 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 19.1 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.0 million

Executing Agency:
Telecommunications of Mozambique
Start : 1984
Duration: 5 Years

Objectives : The project seeks to expand the international, regional and national trunk telecommunications transmission systems wich will enable Mozambique to improve its PANAFTEL and regional connectivity.

Progress : Part 1. Basic domestic satellite system in Mozambique.

Provision of 3 dedicated type earth stations in MAPUTO, BEIRA and NAMPULA to establish circuits between these locations. Space segment capacity of initially 9 MHZ will be leased from INTELSAT on a pre-emptible basis.
Part 2. Dual polarisation for the Boane A antenna.

Retrofit of Boane A antenna to comply with the INTELSAT mandatory specifications for dual polarization. Due to cost implications a new revised STDA was proposed for the Boane antenna.
Part 3. Additional domestic antenna Earth Stations.

Provision of two earth stations with small diameter antennas in Lichinga and Pemba, to be integrated in the basic system of part 1.
A further study is proposed to cover the rest of the domestic satellite requirements.

Status : Part 1

Financing was secured from France (13.2 million), Kuwait (4.3 million), local funds (6.4 million). The domestic satellite earth stations in Maputo, Beira and Nampula were comission in August 1986.

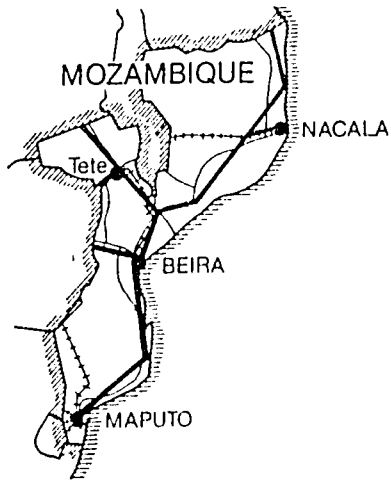
Part 2

Financing was secured from CIDA (USD 2.2 millions). The project was completed late 1987.

Part 3

Feasibility study is currently being undertaken by HN Engineering of Canada under the auspices of the SADCC Technical Services Fund which is being provided by CIDA. The study is completed. Financing is required for the further study and project implementation.

5.5.3 National Telecoms Development Proj.with Connections to Neighbouring Countries (Reg. Part)



Estimated Costs
Total : USD 347.7 million
Foreign : USD 307.9 million
Local : USD 39.8 million

Funding Secured
Foreign : USD 99.0 million
Local : USD 39.5 million

Funding Under Negotiation
Total : USD 26.2 million

Financing Gap:
Total : USD 183.0 million

Executing Agency:
Telecomunicacoes de Mozambique

Start : 1985
Duration: 7 Years

Objectives : Expansion of the telecommunications system up to 1995 in order to provide switching and transmission capability to SADCC countries.

Progress : The regional part of the programme consists of:

Phase I

Microwave backbone systems Maputo / Xai-Xai / Chokwe, Beira / Chimoio, Nampula / Nacala; International switching centre of Maputo and Beira;
Switching systems in Maputo, Beira, Nampula, Nacala, Chimoio with buildings and junctions.

As a separate project, a new telex exchange at Beira will be implemented so as to match the commissioning of the 1st phase of the present Telecommunication Development Project.

Phase II and III

The remaining part of the microwave backbone network, i.e. Xai-Xai / Massinga, Caia / Quelimane, Tete / Ulongwe, and the international extension Tete / Blantyre, Chimoio / Mutare, Tete / Katete, Nampula / Mtwara.

A number of plants of the National Telecommunications Development Plan, which are related to the Beira Corridor, have been extracted from the present project and grouped under the Project 5.5.5. Telecommunication Projects in Beira Port Transport System Development Plan.

Engineering design and technical specifications are yet to be defined for phase II and III before proceeding to the implementation stage.

Status : Phase I

Financing for the national and regional parts of the project have produced agreements with:

- Italy	USD 55.2	million, loan and grant
- ADB	USD 15.9	million, loan
- BADEA	USD 8.1	million, loan
- SWEDEN	USD 13.8	million, loan and grant
- GERMANY (FRG)	USD 2.2	million, loan
- NORWAY	USD 6.0	million, grant

Contracts for provision of equipment in Phase I have been signed and the projects are at various stages of implementation.

Negotiations for a further USD 24 million are ongoing with Italy part of which will provide financing for the extension of microwave link from Xai-Xai to Massinga.

Contract for the provision of a stand alone telex exchange in Beia has not been finalised with Germany (FRG) pending final agreement on the configuration of the switch.

Phase II and Phase III (1987-1994)

Financing is being sought for the implementation of this part of the project. CIDA under the SADCC Technical Service Fund is interested in carrying out a study to provide telecommunications Services to towns and locations bordering Zimbabwe by using some of the basic infrastructure in Zimbabwe.

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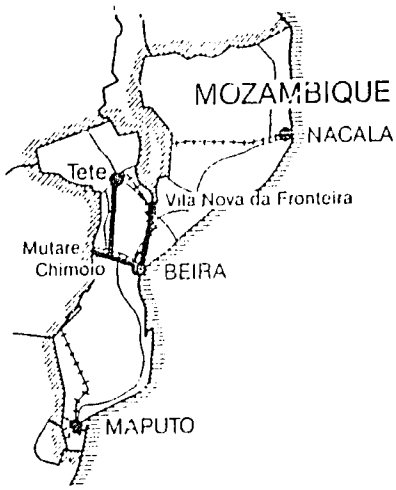
5.5.5 Telecommunications Projects in Beira Port Transport System Development Plan



Estimated Costs
Total : USD 20.1 million
Foreign : USD 18.1 million
Local : USD 2.0 million

Funding Secured
Foreign : USD 0.7 million
Local : USD 2.0 million

Funding Under Negotiation
Total : USD 0.1 million

Financing Gap:
Total : USD 17.3 million

Executing Agency:
Telecomunicacoes de Mozambique

Start : 1986
Duration: 10 Years

Objectives : To ensure international quality standard telecommunications to/from Beira for the correct operation of the port, railway and roads belonging to the Beira Port Transport System.

Progress : The National Telecommunication Development Plan for Mozambique contains all the projects of the telecommunication system of the Corridor of Beira. A number of these projects are ongoing as specified in the SATCC Projects 5.5.1 and 5.5.3.

The following projects will complete the System, ensuring also a proper operation of the plants.

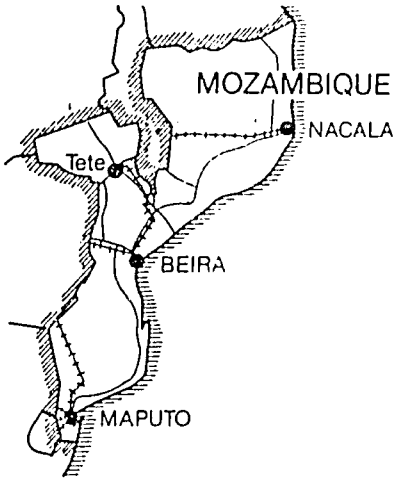
	Estimated Cost USD million		Former Ref No in SATCC Programme
	Total	Foreign	
- Technical Assistance to TDM	0.6	0.6	-
- Spur Routes Beira-Machipanda, Zimbabwe Corridor	3.7	3.3	5.5.3
- Crossborder section of the link Beira-Chimoio-Mutare (Zimbabwe)	0.8	0.7	5.5.3
- Digital Microwave link Beira-Caia-Tete	8.7	7.8	5.5.3
- Spur Routes Beira-Vila Nova da Fronteira, Malawi Corridor	6.3	5.7	5.5.3
TOTAL	20.1	18.1	

For details, see Beira Port Transport System 10-Year Development Plan.

Technical Assistance to TDM is being provided by SIDA and the ITU through financing by Portugal.

Status : Italy is providing support in financing the implementation of the Crossborder Section of the link Beira-Chimoio-Mutare (Zimbabwe). Financing is sought for the implementation of the other project items.

5.5.6 Maritime Radio Communication Project, Mozambique



Estimated Costs
Total : USD 2.5 million
Foreign : USD 2.3 million
Local : USD 0.2 million

Funding Secured
Foreign : USD 0.1 million
Local : USD 0.2 million

Funding Under Negotiation
Total : USD 0.1 million

Financing Gap:
Total : USD 2.1 million

Executing Agency:
Telecomunicacoes de Mozambique

Start : 1987
Duration: 3 Years

Objectives : The project aims at establishment of communications for the operation of the major ports Mozambique (Maputo, Beira and Nacala) and for the users located in the neighbouring countires, i.e.:

- short and long distance ship to shore communication
- port to port communication
- access to the public network
- co-ordination with the existing HF stations of TDM

Progress : The project comprises:

- 1 first category station for long distance connections;
- 2 second category stations for medium and short distance connections;
- 1 maintenance centre;
- on-board transceivers for 4 ships.

Each of the stations will be essentially formed by an HF transmitting centre (equipped with 2 HF KW transmitter) and a receiving centre (equipped with 3 HF receivers and 1 UHF 400 W transceiver). The stations will be equipped with proper antenna systems and will provide the following services:

- commercial telephony, telex, facsmile;
- marine services such as notice for ships, weather forecast, etc.

As a first step TDM is requesting consultancy services for:

- evaluation of the project in respect of the requirements and considering the existing facilities;
- preparation of the tender documents and evaluation of the proposals;
- supervision of the implementation of the contract;
- training;
- technical assistance.

Status : NORAD had made available NOK 300 000.00 for the consultancy services to undertake an assessment of the equipment already stored in Maputo.
The consultancy team from Norway some of has already visited the sites and the equipment is being installed.

Financing is required for a more detailed project evaluation, description and implementation.

Negotiations are ongoing with Consultel of Italy to undertake the study and project definition. Financing is sought for financing the projects emanating from the study.

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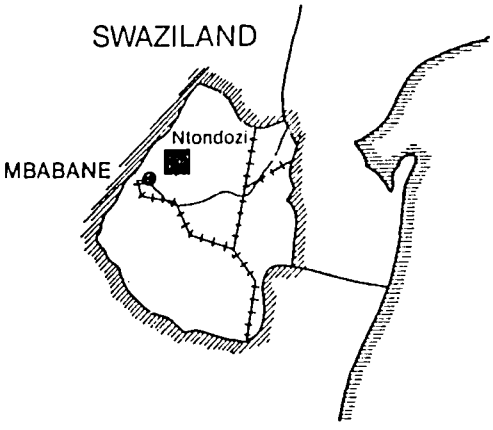
5.6.2 ITSC at Ntondozi, Swaziland



Estimated Costs
Total : USD 2.9 million
Foreign : USD 2.4 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 2.4 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Department of Posts and Telecommunications, Swaziland
Start : 1988
Duration: 2 Years

Objective : The project seeks to improve and expand international, regional and national trunk switching capability which will also ultimately provide International Subscriber Dialling within the SADCC countries.

Progress : The project comprises the supply and installation of a 4-wire (inter) national transit switching centre, ITSC, initially equipped for 1000 telephone channels and capable of handling a minimum of 40 routes (initially 19 national, 6 interterritorial and 5 international). The ITSC will also include automatic billing facilities and the project is to include training, installation and commissioning.

Presently all inter-urban, interterritorial and international telephone traffic is handled by the Mbabane C400 exchange on a 2-wire basis, which cannot meet CCITT performance standards on long distances. The centralized automatic message accounting unit associated with the Mbabane C400 exchange to handle internationaltraffic has a limited capacity and the Mbabane exchange does not offer interterritorial or international transit facilities.

This project is to be seen in connection with the earth station, Project No. 5.6.1. The ITC and the earth station will be located at Ntondozi the crosspoint for the 960 channel microwave system in Swaziland.

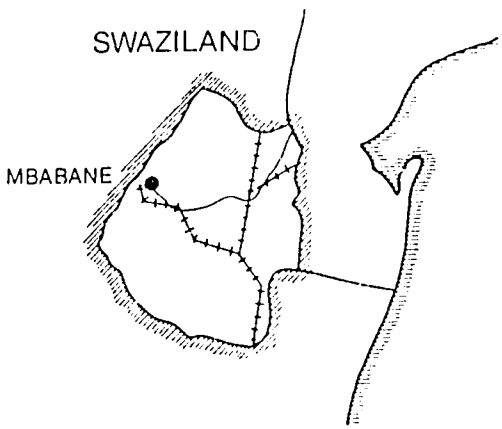
An initial feasibility study was carried out by an ITU traffic and tariff expert late 1980.

Specifications and tender documents were prepared by STDA consultants in liaison with the Department of Posts and Telecommunications.

Status : A feasibility study report has been submitted to Italy by Swaziland. Financing agreement with Italy has been finalised.

Contract for project implementation is with FATME of Italy and it is expected that project implementation to be completed by the end of 1989.

5.6.3 Expansion of the National Microwave Trunk Network, Swaziland



Estimated Costs
Total : USD 3.0 million
Foreign : USD 2.5 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 2.5 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Department of Posts and Telecommunications, Swaziland
Start : 1988
Duration: 2 Years

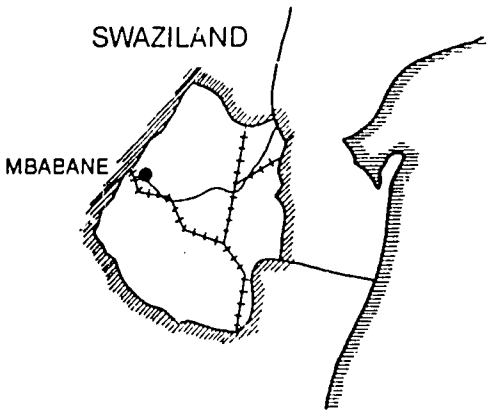
Objective : To expand the channel capacity of the microwave links for the trunk network of Swaziland in order to cater for an increase in international, regional and national trunk traffic.

Progress : This project covers the expansion and extension of the radio trunk backbone network. The additional links to Ntondozi in part relate to the Gateway Exchange, Project 5.6.2, and the provision of Group and Channel Translater Equipment Project at Ntondozi, Project 5.6.4.
The systems considered are as follows :

- Siteki - Maghiveni : Replacement of the existing UHF with a microwave radio link to upgrade the connection;
- Ntondozi - Matsapha : Additional Supergroups;
- Ntondozi - Earth Station (for Lobamba) : Additional supergroups;
- Piggs Peak - Bulembu : New microwave links;
- Ntondozi - Bhunya - Mhlambanyate : New microwave and UHF links;
- Ntondozi - Mankanyane : New UHF link;
- Ntondozi - Malhems : New UHF link;
- Ngomini - Luyumisa - Hluti - Kubuta : New UHF links;
- Multiple access Radio Equipment;
- Telegraph Bearer Equipment;
- Rural Subscriber Carrier Systems, 10 units.

Status : Planning of the related exchange projects etc., has commenced. SATCC has requested Italy to fund this project, and financing agreement has been finalised. An implementation contract is expected to be made effective by end 1988 with Telettra of Italy.

5.6.4 Provision of Group & Channel Translating Equip. at Ntondozi for ITSC, Swaziland



Estimated Costs
Total : USD 1.4 million
Foreign : USD 1.3 million
Local : USD 0.1 million

Funding Secured
Foreign : USD 1.3 million
Local : USD 0.1 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Department of Posts and Telecommunications, Swaziland
Start : 1988
Duration: 2 Years

Objectives : To provide additional multiplexing equipment for the new national/international telephone switching centre of Swaziland to cater for the increased international, regional and national traffic.

Progress : This project is to be seen in association with project No. 5.6.2 which covers the provision of the Gateway Exchange at Ndozi, the nodal point ofthe backbone microwave radio trunk network connects Mbabane with Manzini, Nhlangano, Nlatikulu, Soteki, Piggs Peak, Mozambique and South Africa.

All equipment for this network has been purchased from Telettra of Italy.

At the present all the microwave supergroups pass thorugh Ntondozi at intermediate frequency level. With the introduction of the gateway Exchange it will be necessary to bring down 20 supergroups to channel (audio) level so that these trunks can be switched. Total derived trunks circuits available for switching will be 1200.

Status : Planning of the additional trunk bearers to link other exchanges to the Gateway at Ntondozi has been commenced. Financing agreement with Italy has been finalized. Telettra Italy has been awared the contract to implement the project. The contract is due to be made effective by end 1988.

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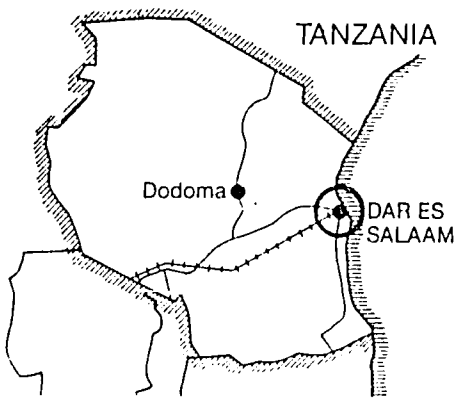
5.7.2 Extension of ITSC Capacity, Dar es Salaam, Tanzania



Estimated Costs
Total : USD 4.7 million
Foreign : USD 4.5 million
Local : USD 0.2 million

Funding Secured
Foreign : USD 4.5 million
Local : USD 0.2 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Tanzania Posts & Telecommunications
Start : 1989
Duration: 2 Years

Objective : Provision of a new digital international telephone Switching Centre in Dar es Salaam to augment or replace the existing cross-bar exchange in order to :

(i) cater for continued growth of international, regional and national traffic and improve the grade of service available to the international callers by providing additional circuits;

(ii) allow expansion of PANAFTEL terrestrial circuit groups with neighbouring SADCC countries and improve calling facilities through the introduction of international subscriber dialling (ISD).

Description: The project involves the supply and installation of a digital telephone exchange in Dar es Salaam with a capacity of 2000 trunks to augment the existing exchange capacity of 230 trunks, complete with power supply and standby battery.

Provision and installation of International Subscriber Dialling facility in the new exchange and the required ANI equipment in the existing exchanges.

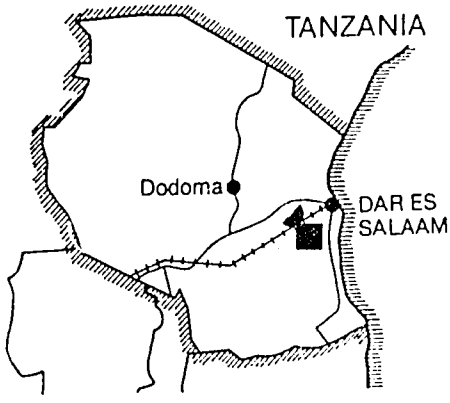
Equipment for CAMA and bill processing system.

Interworking equipment for IMC and analog exchanges.

Status : Sweden (SIDA) has shown interest in project definition and implementation. Contract for implementation is yet to be finalised.

The specification has been produced by Tanzania Posts and Telecommunications Corporation.

5.7.3 Standard A Earth Station Satellite Station at Dar es Salaam, Tanzania



Estimated Costs
Total : USD 12.0 million
Foreign : USD 11.5 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 11.5 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Tanzania Posts and Telecommunications Corporation
Start : 1989
Duration: 2 Years

Objective : Provision of a Standard A Satellite Station facing the Atlantic Ocean Region in order to :

(i) improve network security by the addition of and additional earth station antenna and backhaul facilities;

(ii) improve the telecommunications infrastructure in and available to, the SADCC countries;

(iii) improve the economic efficiency of the Tanzania P.T.C by providing more direct relations (thus reducing transit requirements and expensive hardpatch arrangements via Kenya).

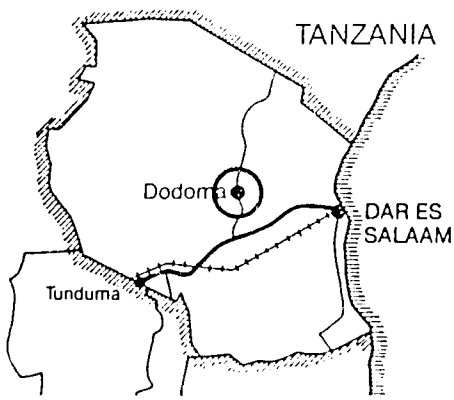
Progress : Tanzania has a Standard B Earth Station facing the Indian Ocean Region. This Station is inadequate to meet the international traffic because of limited capacity and because a substantial amount of traffic is with countries having antennas operating in the Atlantic Ocean Region. For this reason the above traffic is routed via Nairobi and London.

This project is related to the extension of the International Transit Switching Centres (ITSC) in Dar es Salaam. Therefore the project must be scheduled so as to match the commissioning of project 5.7.2.

Status : Financing for the implementation of the project is being provided by Italy, USD 11.5 millions. Completion is expected by early 1990.

September 1988

5.7.4 New Transit Digital Telephone and Telex Exchanges for Dodoma Tanzania



Estimated Costs
Total : USD 3.1 million
Foreign : USD 2.4 million
Local : USD 0.7 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.7 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 2.4 million

Executing Agency:
Tanzania Posts and Telecommunications Corporation
Start : 1989
Duration: 2 Years

Objectives : The project is to provide new transit telephone and telex exchanges in Dodoma for routing international, national and local traffic. Dodoma is on the intersection of the PANAFTEL microwave network in Tanzania.

Description: PART I, Telephone Exchange :
At present the existing switch in Dodoma handles national traffic. The proposed exchange would be required to switch international traffic as well as national traffic at the important intersection of the PANAFTEL network. The sizing of the exchange is partly dependent on the implementation of the Dar es Salaam to Dodoma microwave system, Project 5.7.5. The exchange has to interconnect with the new international exchange in Dar es Salaam, Project 5.7.2.

The new digital telephone exchange will be equipped as follows :

- 2000 trunks;
- 6000 local lines;
- 18 position auto-manual board;
- a rectifier and battery plant sized up to the proposed switch.

Air conditioned accommodation and standby power would be provided by the Tanzania Posts and Telecommunications Corporation.

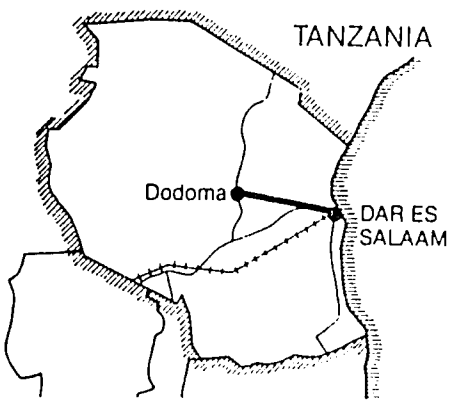
PART II, Telex Exchange :
The proposed new switch will be used initially to off load approximately 30-40% of the total subscribers from the existing single ESK telex switch in Dar es Salaam.

The new switch will serve subscribers in Dodoma, Mwanza, Arusha, Mbeya and also be capable of routing regional and international telex messages on the PANAFTEL routes through Dodoma.

The project will include supply and installation, all relevant spares and test equipment, and training for operations and maintenance staff.

Status : Italy has been approached to finance the implementation of both telephone and telex exchanges.

5.7.5 Digital Microwave Link Dar - Dodoma - Zanzibar and Exp. of Multiplex Equip. at Dodoma



Estimated Costs
Total : USD 8.6 million
Foreign : USD 8.1 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 8.1 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Tanzania Posts and Telecommunications Corporation
Start : 1989
Duration: 2 Years

Objectives : The project comprises:

- the provision of a new digital radio system to parallel the existing analogue microwave system between Dar Es Salam and Dodoma on the PANAFTEL route, and extension of the link from Dar es Salaam to Zanzibar and Pemba.

- the study to determine the traffic, equipment and financial requirements necessary for the expansion of the multiplex circuits at Dodoma.

Description: Part I

The projects involves the provision, installation and commissioning of a new digital microwave system equipped initially with one bearer operating at 140 M bits. The equipment to be supplied is to include:

- radio and multiplex equipment;
- antenna systems;
- towers at the new sites;
- power systems (solar power systems are proposed at the new repeater sites).

The civil works including site preparations, buildings and road construction would be provided locally.

Part II

Dodoma is at the intersection of four major microwave trunk routes of the PANAFTEL network:

- the trunk from Zambia and South Western Tanzania;
- the trunk from Tabora, Mwanza and Western Tanzania with planned extensions to Rwanda, Burundi and Uganda;
- the trunk to the east through Morogoro to Dar Es Salaam.

The microwave systems are all designed for 960 channel capacity but, except for the system to Dar Es Salaam, are currently not fully equipped. Congestion is experienced on most of these routes. Traffic is expected to increase as Dodoma further develops as a regional centre.

This part of the project involves a study:

- to determine the existing and projected traffic;
- to determine the equipmenttypes currently in use on these microwave systems;
- to define an overall multiplex plan;
- to determine the availability and cost of suitable multiplex equipment;
- to work out an implementation plan.

Tanzania Posts and Telecommunications Corporation has undertaken a survey of the route in Part I and a report is in preparation. The contractor will be required to verify the results of the route survey before project implementation.

Status : Italy has been approached to finance the implementation of the project.

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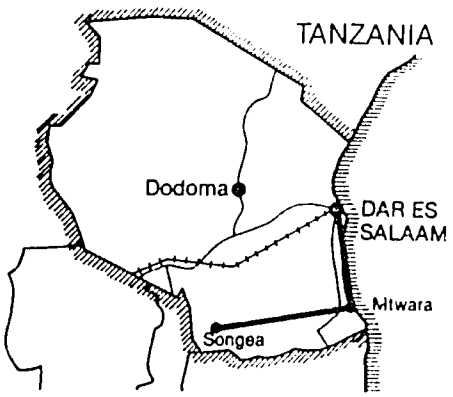
5.7.7 Provision of Digital Microwave Link Dar es Salaam-Mtwara- Songea and Exchange at Songea



Estimated Costs
Total : USD 0.2 million
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.2 million

Executing Agency:
Tanzania Posts and Telecommunications Corporation
Start : 1988
Duration: 3 Years

Objective : The study seeks to determine the technical and financial requirements in order to provide :

- a new digital microwave link from Dar es Salaam south along the coast to the port of Mtwara.
- a new digital microwave link from the port of Mtwara to Songea into the PANAFTEL network; and
- a combined digital transit and local exchange at Songea for traffic routing from this new link onto the PANAFTEL network.

Description: Telephone trunking between the Mtwara area and Dar es Salaam is presently provided by a 120 channel tropescatter system. Songea 500 km to the east of Mtwara will be connected to the North-South PANAFTEL network by a 2 ghz 960 channel microwave system presently under contract.

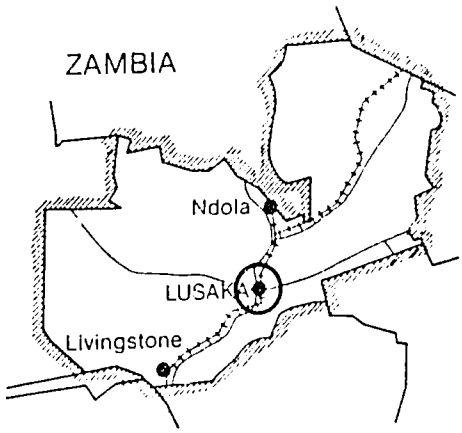
The proposal is to provide a new digital microwave system to link Dar es Salaam, Mtwara and Songea and thence from Songea to the main North-South PANAFTEL system, and also form part of the PANAFTEL network to interlink with Mozambique.

A new digital exchange is proposed for Songea to replace the existing manual exchange. Transmission systems from other communities in the area centre on Songea and hence the switch should be equipped for both transit and local traffic.

A survey of the proposed microwave routes with the analyses has been completed by the Tanzania Posts and Telecommunications Corporation. A traffic analysis for the System is currently being conducted, as part of the national traffic survey. The initial proposal is for 34MBit digital microwave system.

Status : Financing is being sought for the study and the envisaged projects which will be developed from the study.

5.8.1 Extension of the International Telephone Switching Centre (ITSC) in Lusaka, Zambia



Estimated Costs
Total : USD 2.5 million
Foreign : USD 2.5 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 2.5 million

Executing Agency:
Zambia Posts and Telecommunications Corporation
Start : 1989
Duration: 2 Years

Objective : Provision of an extension unit and 10 modern computerized switchboards to the International Switching Centre in Lusaka.

Description: The project comprises of :

- Supply and installation of an extension unit for the AXE 10 digital international telephone exchange with an additional capacity of 500 trunks to augment the existing exchange capacity of 824 trunks.

- Provision of computerized switchboards with automatic change and information storage to replace the manual switchboards currently connected to older portion of the ARMIO International exchange.

- Interworking equipment for ITMC and other digital and analogue exchanges will also be required.

As Zambia is designated as a regional traffic collection centre, a detailed traffic analysis is required to determine the final capacity of the switch. The exchange should also be able to provide transit switching facilities to regional and international telephone traffic.

Status : Financing is required for implementation of the project.

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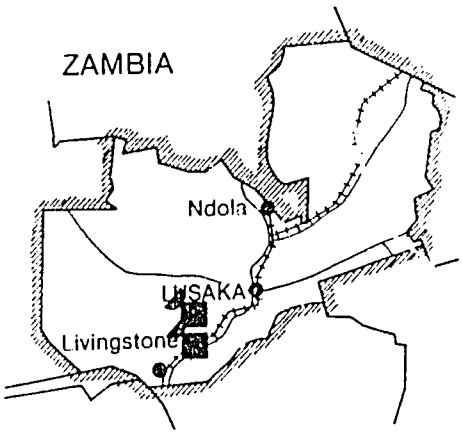
5.8.2 Expansion of the Earth Station at Mwembeshi, Zambia



Estimated Costs
Total : USD 25.0 million
Foreign : USD 23.0 million
Local : USD 2.0 million

Funding Secured
Foreign : USD 7.1 million
Local : USD 2.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 15.9 million

Executing Agency:
Zambia Posts & Telecommunications Corporation
Start : 1989
Duration: 3 Years

Objectives : Expansion of the capacity at the existing satellite earth station at Mwembeshi in order to :

- meet traffic growth on international routes
- free captive traffic handled by other transit centers
- improve diversity of routes out of Zambia
- improve the interconnectivity of the satellite earth stations in the region.

Progress : The project consists of :

PHASE I

- installation of a new standard A antenna (Mwembeshi II) antenna facing AOR primary satellite, with SCPC and CFDM carriers.

PHASE II

- installation of a standard B (Mwembeshi III) antenna facing AOR major path 2 satellite, with SCPC and CFDM carriers, and IDR/MD chains for major relations.

- provision of new transmitting and receiving carriers FDM and CFDM for the existing standard A antenna (Mwembeshi I) facing IOR primary satellite; and also refurbishing of the antenna.

- provision of new light capacity digital Microwave backhaul link from Mwembeshi to the LUSAKA International Terminal Equipment Station.

Status : An agreement was signed with CIDA (USD 12.0 millions) for financing of phase 1, and Spar Aerospace of Canada completed implementation of the project end 1987.

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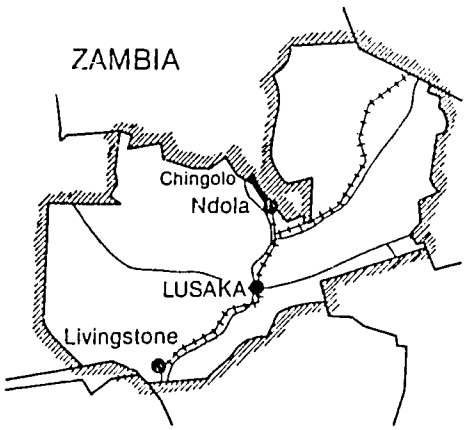
Phase II of the project is to be part of regional project 5.0.4, Implementation Study for Regional Earth Station Connectivity, which is being funded by CIDA under the auspicies of SATCC Technical Services Fund. The Study will be undertaken by Teleconsult of Canada; the Study is expected to be completed by mid 1988, following which a number of specific projects will be developed for implementation when funds are available.

To proceed with phase II of the project, agreement on the basic concept has to be reached by the Administrations concerned. INTELSAT has agreed to the allocation of the necessary circuit capacity for these changes.

September 1988

5.8.3 Microwave Terminal at Chingola to Complete the Link Zambia - Zaire



Estimated Costs
Total : USD 0.2 million
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.2 million

Executing Agency:
Posts and Telecommunications Corporation
Start : 1989
Duration: 2 Years

Objectives : Provision of a microwave radio relay system between Zambia and Zaire to provide a gateway to Central and Western Africa subregion for the SADCC countries.

Description: The project involved the supply, installation and commissioning of a 960 channel microwave link which is between Chingola (in Zambia) as part of the PANAFTEL Network. The project involves two terminal stations at each end and two repeater stations within Zaire.

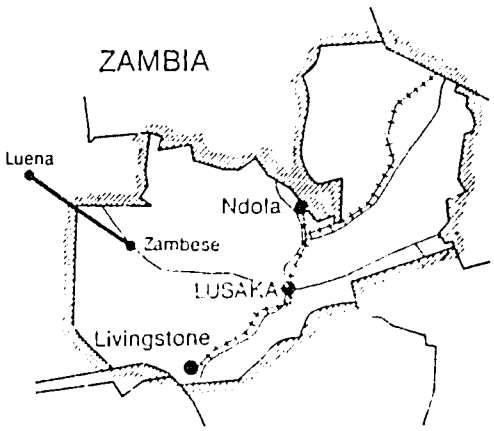
Technical specifications for the 960 channel microwave radio system has been prepared by ITU. A bilateral project agreement was signed late 1985 between Zambia and Zaire.

As an interim arrangement a 120 channel radio system between Chingola (Zambia) and Lubumbashi (Zaire) has been installed and commissioned in April 1987. Most of the circuit of the interim link are made for local Zairean and cross-border traffic and are not enough to carry regional and international traffic from SADCC countries.

Status : Norway has been approached to finance the project.

September 1988

5.8.4 Microwave Link Zambezi-Luena, Zambia



Estimated Costs
Total : USD 4.0 million
Foreign : USD 3.8 million
Local : USD 0.2 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.2 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 3.8 million

Executing Agency:
Posts and Telecommunications Corporation, Zambia
Start : 1989
Duration: 2 Years

Objective : The project aims to provide a microwave radio relay system between Zambia and Angola which will improve access of SADCC Countries to Angola through the Zambia PANAFTEL network.

Description: Installation of a microwave link with a capacity of 360 telephone channels from Zambezi to Luena, Angola, across the border to give Angola a direct access to the terrestrial PANAFTEL network.

Since the section east of Luena presents logistical problems, the implementation of a troposcatter system linking Luena and Zambezi is envisaged until such time that a multi-hop microwave system can be installed.

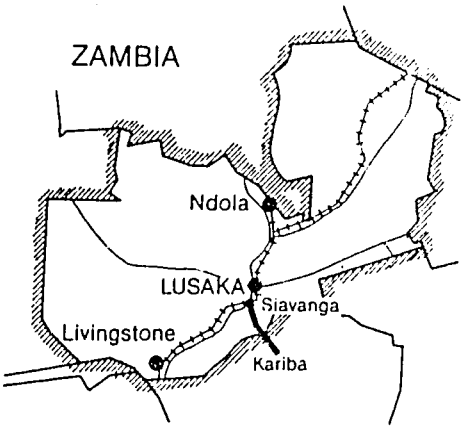
Status : On the Zambia side the network expansion programme in the north western areas provides high capacity 960 channel microwave link up to Zambezi funded by NORAD.

Angola is in the process of expanding the national network with microwave and troposcatter radio relay systems up to Luena.

Financing remains to be secured for the provisional troposcatter link between Luena and Zambezi and provision of large capacity microwave radio system.

September 1988

5.8.6 Microwave Link Kariba (Zimb.) - Siavonga (Zambia) - Lusaka



Estimated Costs
Total : USD 1.6 million
Foreign : USD 1.6 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 1.6 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Posts and Telecommunications Corporation, Zambia
Start : 1989
Duration: 2 Years

Objective : Provision of microwave system between Zambia and Zimbabwe, linking directly Harare and Lusaka, having also capacity for the future terrestrial traffic Mozambique - Zambia.

Progress : The project involves the installation of a microwave link, 960 channels, from Lusaka to Siavonga and across the Zambia - Zimbabwean border to Kariba.

The existing backbone microwave link i.e. Lusaka - Livingstone which carries traffic to Zimbabwe, Botswana and other parts of Southern Africa is congested with the international traffic in the subregion. In order to meet the traffic demand and at the same time provide diversity, it is necessary to provide this terrestrial link.

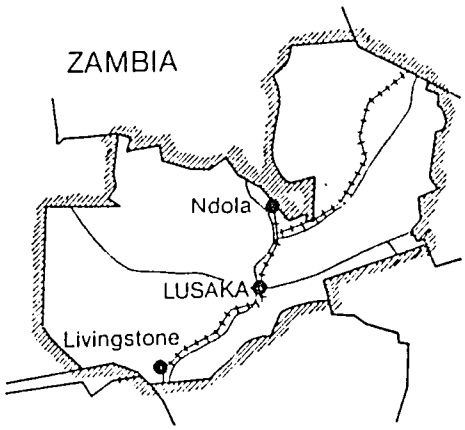
Currently there is a 120 Channel UHF radio link operating between Lusaka and Siavonga and no civil works are involved. A 300 Channel system has been installed between Kariba and Harare at the Zimbabwean end.

The cost of the Zambia part of the project is estimated at USD 1.5 million whereas Zimbabwe would need a terminal at Kariba.

Status : The Italian Government has made available financing for the project. An implementation contract has been signed with GIE/SIEMENS for the supply, installation and commissioning of the link. The contract is to be made effective once the Financing Agreement has been finalised.

September 1988

5.8.7 Message Switching System in Lusaka, Zambia



Estimated Costs
Total : USD 0.8 million
Foreign : USD 0.8 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.8 million

Executing Agency:
Zambia Posts and Telecommunications Corporation
Start : 1989
Duration: 1 Year

Objective : Provision of an electric message switching centre in Lusaka for the national and international telegram services.

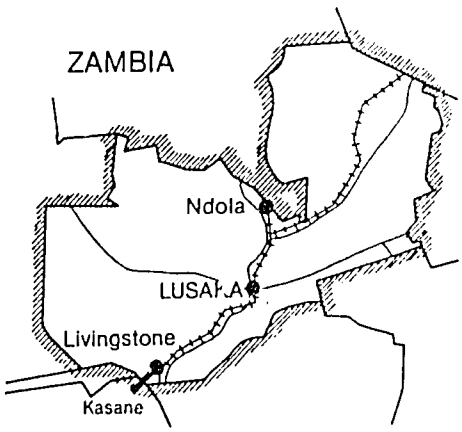
Description: The present system of operating the telegram service is based on a torn-tape principle. Traffic from local and international destinations terminates at a central tape relay console. Transfer of messages from national to international is manual. A computer controlled electronic message switch will process and route telegrams automatically thus increasing efficiency and interconnectability.

The project comprises the provision of a 100 line message switching centre including teleprinters. Installation, spares and technical training shall be included.

Status : Financing is sought for the implementation of the project.

September 1988

5.8.8 Livingstone-Kasane (Botswana) Microwave Link



Estimated Costs
Total : USD 0.8 million
Foreign : USD 0.7 million
Local : USD 0.1 million

Funding Secured
Foreign : USD 0.7 million
Local : USD 0.1 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Zambia P.T.C. and Botswana Telecoms
Start : 1989
Duration: 1 Year

Objectives : Provision of a two hop 960 channel microwave link from Livingswtone to Kasane to provide extension of the PANAFTEL Network between Zambia and Botswana.

Progress : The project comprises of the installation of a 960 channel system which will eventually carry regional traffic from Botswana. The link will serve cross-border traffic between Livingstone and Kasane and between Kasane and Victoria Falls (Zimbabwe).

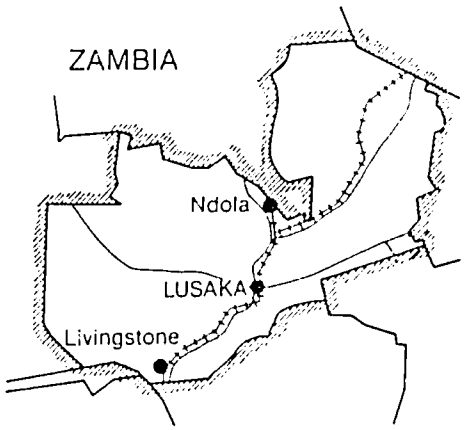
The project comprises hot-standby 960 channel radio, multiplex for the initial 120 channels, one repeater station with associated tower, building and power supply.

Multiplex expansio for the existing Livingstone - Lusaka microwave link will be provided under the same project.

The first stage of the link from Livingstone will be part of the Livingstone - Seshcke to Namibia PANAFTEL network of which Italy is financing.

Status : NORAD has allocated funds as part of Project 5.9.3, Bulawayo - Livingstone Microwave system for the implementation of the link, and multiplex expansion of the Livingstone - Lusaka microwave link. NERA of Norway is contracted to implement the project.

5.8.9 Masterplan Study and Fundamental Planning Unit for Zambia



Estimated Costs
Total : USD 0.4 million
Foreign : USD 0.4 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.4 million

Executing Agency:
Posts and Telecommunications Corporation, Zambia
Start : 1989
Duration: 2 Years

Objective : The preparation of a Long Range Master Plan for the development of the national telecommunications infrastructure, and the setting up of a Fundamental Planning Unit for supporting future network and corporate planning activities.

Description: (1) Preparation of a switching network review, including :

- interim planning proposals for the period to 1990, in order to recommend solutions for the most urgent outstanding expansion requirements
- an integrated concurrent fundamental planning consisting of a medium and long range national demand study
- preparation of a national switching network plan covering the period to year 2005.

(2) Identify, define, configure and appraise expansion projects in order to meet :

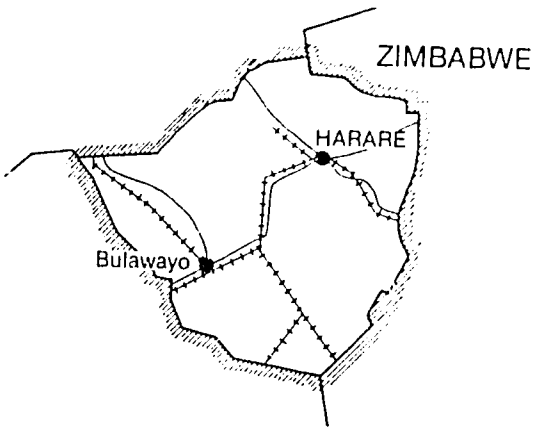
- the technical and economic guidelines of the national network plan
- the financial and economic criteria appropriate to the commercial requirements of the PTC and to the PTC's social responsibility of contributing to national development.

(3) Set up a Fundamental Planning Unit whose functions should include following activities :

- demand and traffic analysis
- network development startegy
- economic analysis
- investment plan preparation and project identification.

Status : Financing and Technical assistance is sought in order to proceed with the study.

5.9.6 Provision of Packet Switching for Data Network in Zimbabwe



Estimated Costs
Total : USD 3.6 million
Foreign : USD 3.2 million
Local : USD 0.4 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.4 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 3.2 million

Executing Agency:
Posts and Telecommunications Corporation, Zimbabwe
Start : 1988
Duration: 1 Year

Objectives : The project is for the provision of DATA PACKET SWITCHING in order to cater for fast and low cost data communications for national, regional and international traffic.

Description: Zimbabwe has already established links with other international countries through the UK International Packet Switching System, (IPSS).

The development of data communication in Zimbabwe and traffic demand to Europe, America, SADCC and non-SADCC countries requires the eventual cost saving packet system.

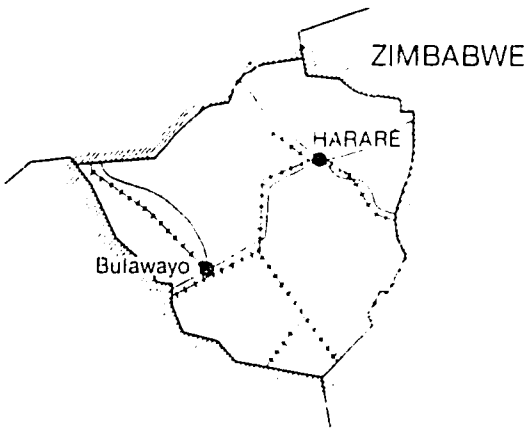
The demand for data communication in Zimbabwe has doubled during the past year and is expected to quadruple its current size by 1990.

The project will involve the provision of a data Packet Switch and the associated modems in Harare and nodes in Bulawayo, Gweru, Mutare and Masvingo. Local staff training will form part of the project.

Status : Funds are now being sought for the implementation of the project.

September 1988

5.9.7 Supply of Digital Telephone Exchanges in Zimbabwe



Estimated Costs
Total : USD 52.6 million
Foreign : USD 47.5 million
Local : USD 5.1 million

Funding Secured
Foreign : USD 7.5 million
Local : USD 5.1 million

Funding Under Negotiation
Total : USD 40.0 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Posts and Telecommunications Corporation, Zimbabwe
Start : 1988
Duration: 3 Years

Objective : Digitalization of the five national telephone exchange zone centers comprising Gweru, Bulawayo, Masvingo, Mutare and Harare in order to provide high quality switching capacity and capability to the national regional and international traffic along the PANAFTEL trunk network.

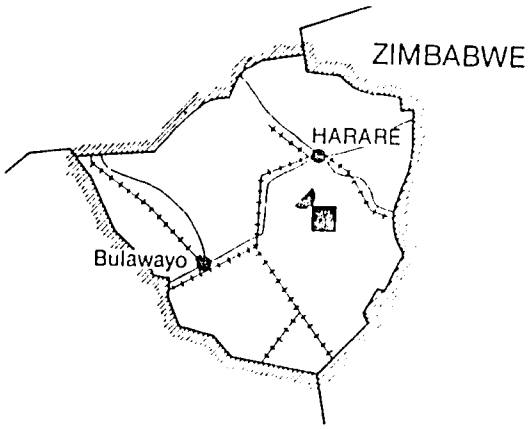
Progress : Provision of digital telephone exchange equipment in each of the following regions:

Phase I, 1987-1992				
- Mashonaland/Manicaland Implementation period 1991-1992	65.000	21.738	19.5642	2.1738
- Matabeleland Implementation period 1991-1992	10.000	21.738	3.	0.3
- Midlands/Masvingo	18.000	5.58	5.	0.58
Phase II, 1992-1995				
- Mashonaland/Manicaland Implementation period 1993-1994	45.000	15.	13.5	1.5
- Matabeleland implementation period 1993-1994	13.000	4.2	3.78	0.42
- Midlands/Masvingo Implementation period 1994-1995	9.000	2.79	2.511	0.279

Status : For the five year programme 1987-1992; three national exchanges at gweru, Bulawayo and Masvingo are either funded or completed. The funding of Mutare is required while Harare is partly financed. Bulawayo main digital exchange was funded (USD 7.5 million) by IEB, International European Bank.

Evaluation of tenders for Mashonal and/Manicaland has been completed. Japan is financing the project with implementation by Fujitsu.

5.9.8 Expansion of the Earth Station at Mazowe, Zimbabwe



Estimated Costs
Total : USD 11.5 million
Foreign : USD 10.5 million
Local : USD 1.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 1.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 10.5 million

Executing Agency:
Posts and Telecommunications Corporation, Zimbabwe
Start : 1988
Duration: 2 years

Objective : Expansion of the capacity at the existing satellite earth station at Mazowe in order to provide regional satellite connectivity by 1989 and improve diversity of routes outside Zimbabwe by taking into account :

- delays to the INTELSAT VI Satellite launches
- evolution of INTELSAT to a distributed system
- and the accelerating trend towards IDR and TDMA digital carrier technologies.

Description: PHASE 1

- reorientation of the Standard A earth station antenna at Mazowe, Zimbabwe onto the 335.5 E Atlantic Satellite, and progressive conversion to IDR, Intermediate Data Rates, carrier operation over the 1989-1983 time frame.

PHASE 2

- construction of a second revised Standard A earth station at Mazowe in the Indian Ocean region, with TDMA carrier operation in the 1992-1994 time frame.

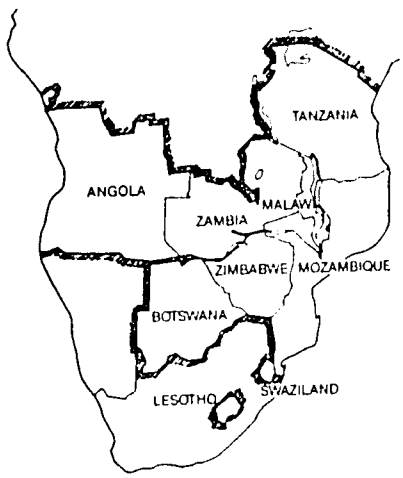
Estimated Costs:	Total USD	Foreign USD
Phase 1	USD 1.5 million	USD 1.5 million
Phase 2	USD 10 million	USD 9 million

This project should be co-ordinated with Project 5.0.4, Implementation Study for a regional Earth Station Connectivity Project.

Status : Funds are sought for the implementation of the project.

Meteorology

6.0.1 Meteorological Expert Services and Fellowships



Estimated Costs
Total : USD 4.5 million
Foreign : USD 4.5 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.8 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 2.8 million

Financing Gap:
Total : USD 0.9 million

Executing Agency:
National Meteorological Services
Start : 1988
Duration: 5 years

Objectives : The prime aim of this project is to increase the number of well educated and trained staff members of the meteorological services in the region.

Description: Emphasis is, for the time being, placed on agrometeorology, data processing, equipment maintenance and telecommunications. In order to increase the ability of the services to produce more user oriented meteorological information of various kinds, the service of experts from abroad for a limited period of time is regarded to be an efficient tool to reach the objectives. Training of staff members will be accomplished by the provision of fellowships.

Status : Financing is partly secured by Finland and the implementation is going on. Negotiation with Finland is envisaged in order to obtain further support under the second phase of the SADCC/FINNIDA/WMO Project.

September 1988

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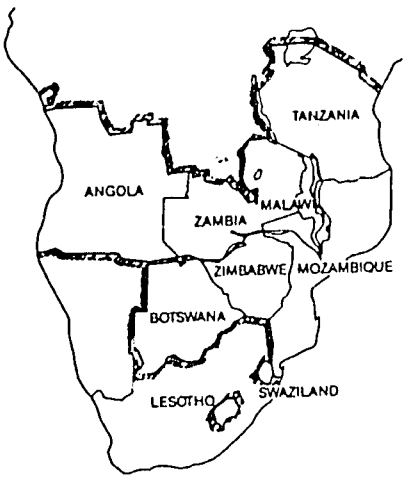
6.0.2 Regional Drought Monitoring Centre, Harare



Estimated Costs
Total : USD 1.8 million
Foreign : USD 1.7 million
Local : USD 0.1 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.1 million

Funding Under Negotiation
Total : USD 1.7 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
WMO

Start : 1988
Duration: 5 Years

Objectives : Being the Southern Africa part of the UNDP/WMO project "Assistance to Drought Stricken Eastern and Southern African Countries in the Field of Agrometeorology and Hydrology" (RAF/84/002), its main objectives are to prepare and issue meteorological information etc. of vital importance for both planning and operational measures within the field of agriculture. In this sense the centre is also supposed to cooperate closely with the SADCC "Regional Early Warning System for Food Security", also located in Harare.

Description : The establishment of the RDMC is expected to result in the following achievements :

- readily available meteorological, agrometeorological and hydrological information in data banks designed for computer processing;
- development of drought monitoring and mitigation capabilities by assisting member services in establishing similar, national data banks. This will be done by providing both expert services and fellowships.
- provision of analytical agrometeorological and hydrological products at regional and national levels.

The estimated costs are related to the rpovision of both equipment and expert services. Necessary funds for the provision of fellowships (USD 570.000) are contained in 6.0.1, "Funding under Negotiation".

Status : The first phase, of the construction of the building space (approx. 150 sq. meters) is already completed.

External funding is being negotiated with UNDP and British ODA.

September 1988

6.0.3 Regional Meteorological Telecoms Hub and Data Exchange, Lusaka

Estimated Costs
Total : USD 2.2 million
Foreign : USD 1.7 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.2 million

Funding Under Negotiation
Total : USD 0.5 million

Financing Gap:
Total : USD 1.5 million

Executing Agency:
Meteorological Department, Zambia
Start : 1988
Duration: 5 Years

Objectives : Lusaka has been designated by the WMO's Association for Africa as the location of a Regional Telecommunications Hub (RTH) for Southern Africa. The responsibility of a RTH is to operate a system for rapid collection and dissemination of meteorological data for national, regional and intercontinental use.

The main objective for the project is to develop the RTH Lusaka in such a way that it can reach a level of service acceptable to all users of meteorological data.

Description: The development of the RTH Lusaka is proposed to be accomplished in three ways :

(i) Establishment of a computerised telecommunications message switching system;

(ii) Improvement of the telecommunications links between RTH and the National Meteorological Services (NMS) as well as with neighbouring RTH's for connection with the Global Meteorological Telecommunications System (GTS). (See also Project 6.0.7).

(iii) Training in the fields of telecommunications engineering and software maintenance.

Status : A full scale project document has been prepared under FINNIDA funding arrangements. The project proposal has been approved by the Directors of Meteorological Services of SADCC Countries, who requested SADCC to submit the project proposal to potential donors for funding. Negotiation with Finland is envisaged regarding provision of some minor equipment for a back-up system.
The Government of Zambia has allocated funds for the commencements of the construction of a building to house the RTH, and is expected to provide additional funds for the completion.

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6.0.4 Regional Maintenance Support of Meteorological Services

Estimated Costs
Total : USD 0.3 million
Foreign : USD 0.3 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.3 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
WMO and the SADCC Meteorology Services
Start : 1988
Duration: 5 years

Objectives : The main objective is to improve the possibility within the Region to maintain, repair and calibrate meteorological traditional measuring as well as high technology equipment.

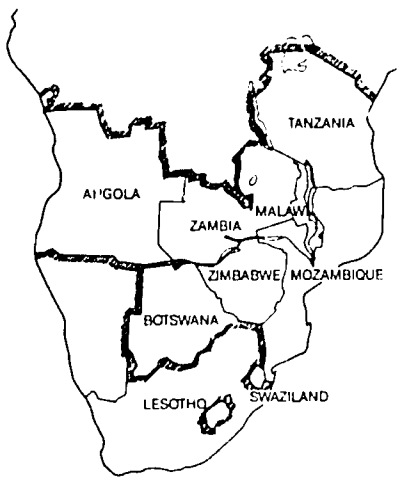
Description : Rehabilitation and up-grading of certain maintenance facilities is in progress at National Meteo Services as a result of FINNIDA partial funding (Project 6.0.6). In order to make the services in question capable of maintaining at list less complicated equipment, it is now proposed that this rehabilitation should be completed. The external funds needed are estimated at USD 0.3 million.

At the SADCC Meteo Directors Meeting recently, it was agreed that a consultant should be hired to define equipment, tools, spare parts and manpower requirements, as well as investment, operational costs and institutional framework necessary for a regional support facility.

Status : Negotiation with Finland is envisaged for allocation of funds to be made available during Phase II of the SADCC/FINNIDA/WMO Meteorology Project.

September 1988

6.0.5 Data Processing in Meteorological Services



Estimated Costs
Total : USD 1.7 million
Foreign : USD 1.7 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.4 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.5 million

Financing Gap:
Total : USD 0.8 million

Executing Agency:
National Meteorological Services
Start : 1988
Duration: 5 Years

Objectives : For various purposes in the society, such as urban extension and rural resettlement, agriculture, energy resources assessment etc., ready available meteorological data and statistics are of vital importance. This can be accomplished in an effective manner using computers in non-real-time applications.

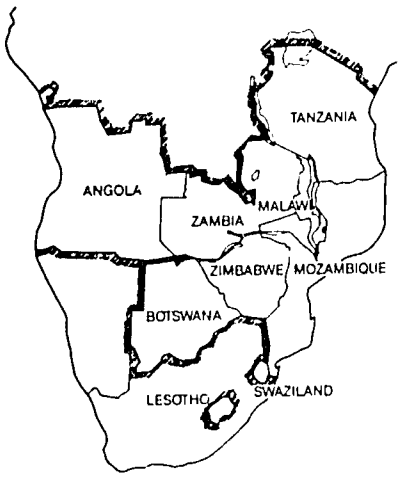
Other sectors need rapid information on actual weather conditions as well as reliable forecasts. For this purpose suitable computer-programmes and computers directly accessible for real-time operations are required.

The main objective of this project is to provide the meteorological services of the Region with both trained manpower and equipment to facilitiate these operations.

Description : Under Phase I of the FINNIDA support, most of the member services were furnished with the CLICOM system. It is now proposed, that one more country should be provided with this facility, and that some smaller enhancement be made in two other countries. It is furthermore proposed, that micro-computers for real-time data processing should be made available for some of the services.

Status : The installation of CLICOM-computers and the training of staff members is going on.
Negotiation with Finland is envisaged regarding allocation of necessary funds under the Phase II, of its support to cover the costs of both the finalization of the CLICOM project and the provision of some micro-computers for real-time data processing intended for Angola, Lesotho and Malawi.

6.0.6 Meteorological Observational Networks



Estimated Costs
Total : USD 6.5 million
Foreign : USD 6.5 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 1.5 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 3.3 million

Financing Gap:
Total : USD 1.7 million

Executing Agency:
National Meteorological Services
Start : 1988
Duration: 5 Years

Objectives : The project has two main objectives :

(i) upgrading and rehabilitation of certain facilities at observing sites in order to secure better and more reliable meteorological data;

(ii) strengthening and widening of the regional observing network to meet certain prerequisite inputs for the preparation of required meteorological end-user products.

Description : During the on-going Phase I of the FINNIDA support, a partial rehabilitation of observing as well as maintenance facilities will take place. It is now proposed, that this process should be continued and widened. This is expected to be achieved in three ways :

(1) Establishment of 22 new stations in the Region (6 of these equipped with radiosonde facilities).

(2) Establishment of agrometeorological and automatic weather observing stations, provision of instruments for continued rehabilitation purposes.

(3) Provision of vehicles for inspection of meteorological observing sites.

Status : Negotiation with Finland is envisaged concerning allocation of necessary funds for continued work in this area under Phase II of the SADCC/FINNIDA/WMO Project.

September 1988

6.0.7 Meteorological Telecommunications

Estimated Costs
Total : USD 3.1 million
Foreign : USD 3.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.6 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 1.1 million

Financing Gap:
Total : USD 1.4 million

Executing Agency:
National Meteorological Services
Start : 1988
Duration: 5 Years

Objectives : Upgrading and improvement of the telecommunications facilities at the Meteorological services in order to ensure a fast and reliable collection of meteorological observations as well as dissemination and exchange of meteorological data. (see also Project 6.0.3).

Description: A substantial rehabilitation and upgrading of the various national meteorological telecommunications facilities is in progress as a result of FINNIDA financing arrangements. However, additional external funding is required to complete the modernization and strenghtening of the telecommunication units at most of the services.

In addition to these requirements, needs are also identified for faster and more efficient dissemination of meteorological data, when the RTH, Lusaka, (Project 6.0.3) has become operative. Requirements of this kind can be met by installation of automatic message switching devises at the Member Services. It is proposed that experts should be hired to investigate suitable type of equipment and to prepare an implementation plan.

Requested funds for the provision of expert services and fellowships (USD 350.000) are contained in 6.0.1.

Status : Financing is partly secured by Finland and the implementation is in progress. Negotiation with Finland is envisaged with respect to another, partial funding under the Phase II, of the SATCC/FINNIDA/WMO Project.

September 1988

6.0.8 Data Rescue Project

Estimated Costs
Total : USD 0.5 million
Foreign : USD 0.5 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.5 million

Executing Agency:
WMO and National Meteorological Services
Start : 1988
Duration: 2 Years

Objectives : In many countries a large part of the meteorological data are in highly perishable form and rapidly deteriorating due to poor storage conditions. The prime aim of the global DARE Project, launched by WMO, is to microfilm the original data manuscripts in order to save this irreparable information for the future.

Description: The global project is proposed to be implemented during the years 1987-1992, and will comprise 42 countries in Africa. In addition to regional and national components, a planned International Data Rescue Co-ordinating Centre (IDCC) should be responsible for the overall supervision of the project jointly with WMO. It is hoped that it could be established in Brussels and financed from a Belgian trust fund with WMO.

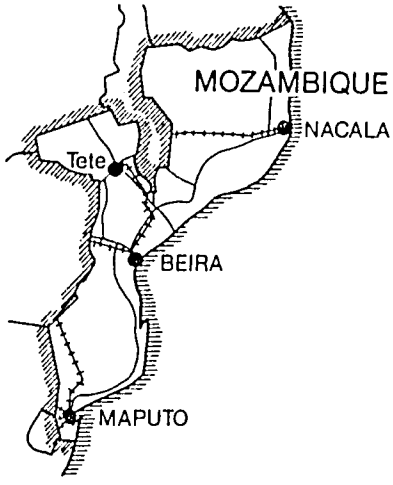
The SADCC project covers the regional and national components of the SADCC Region. The regional centre is proposed to be established in Harare covering the SADCC countries and Comores, Madagascar and Mauritius. The cost of establishing and operating this centre during the period 1987-1992 is estimated to approximately 320.000 USD.

At the national level certain microfilm equipment should be provided for the national meteorological services at a cost of approximately 20.000 USD for each, or for the nine SADCC countries together, 180.000 USD.

Status : Financing of the regional and national components to be sought.

September 1988

6.5.1 Meteorological Buoys for Mozambique



Estimated Costs
Total : USD 0.1 million
Foreign : USD 0.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.1 million

Executing Agency:
Ministry of Transports and Communications, Mozambique
Start :
Duration: 2 Years

Objectives : Mozambique is responsible for safety in the Mozambique Channel and has to issue warnings for shipping purposes. The lack of data from the sea is one of the major problems and effects the quality of forecasts, mainly during cyclone seasons.

Acquisition and installation of moored meteorological observing buoys at some places in the Mozambique Channel would greatly help in obtaining necessary data from this area.

Description: The intention is to equip the buoys with sensors that will provide measured data on air temperature, atmospheric pressure, wind speed and direction , and water temperature.

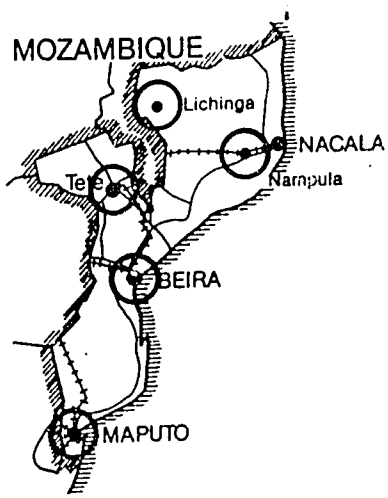
The project also comprises

- installation
- adequate telecommunications for data transmission
- spare parts.

Status : The implementation of the project postponed pending further investigations.

September 1988

6.5.2 Aeronautical Equipment for Airports in Mozambique



Estimated Costs
Total : USD 0.7 million
Foreign : USD 0.7 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.7 million

Executing Agency:
Ministry of Transports and Communications, Mozambique
Start : 1988
Duration: 5 Years

Objectives : Old and partly obsolete meteorological measuring equipment at the main airports of Mozambique have to be replaced in order to safeguard the quality of the meteorological information provided for aviation.

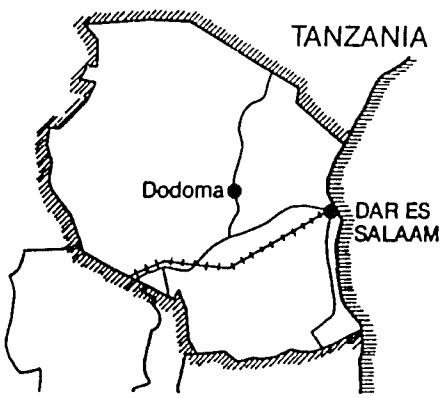
Description: The project includes the following aeronautical, meteorological equipment :

- Two devices for measuring the Runway Visibility Range at the international/regional airports of Maputo and Beira
- Seven pieces of equipment for measuring the visibility
- Two pieces of equipment for detection of wind shear in the lowest 1000 metres
- Miscellaneous components

Status : Financing is being sought.

September 1988

6.7.1 Meteorological Buoys for Tanzania



Estimated Costs
Total : USD 0.4 million
Foreign : USD 0.4 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.4 million

Executing Agency:
Ministry of Communications
and Works, Tanzania
Start : 1988
Duration: 2 Years

Objectives : With a view to get more adequate meteorological coverage of the Indian Ocean, at least 3 meteorological measuring buoys have to be acquired and installed in the data sparse areas of the Indian Ocean facing Tanzania.

Description: The buoys should be equipped with sensors for measuring air temperature, atmospheric pressure, wind speed and direction, and water temperature.

The project comprises the following elements :

- acquisition and installation of 3 buoys;
- adequate telecommunications equipment for data transmission; and
- spare parts.

Status : Financing is being sought.

September 1988

Postal Services

7.0.1 Postal Training Development Programmes

Estimated Costs
Total : USD 1.1 million
Foreign : USD 1.0 million
Local : USD 0.1 million

Funding Secured
Foreign : USD 0.2 million
Local : USD 0.1 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.8 million

Executing Agency:
SATCC

Start : 1987
Duration: 3 years

Objectives : To promote the development of training and training facilities, including Management Courses, for the Postal Administrations in SADCC Member States and provision of technical assistance, including small equipment.

Description: The project includes the following :

(i) Management Courses;
(ii) Refresher Course for Instructors;
(iii) Languages Courses Portuguese/English;
(iv) Meetings of a training Subgroup reporting to the Meetings of Directors of Postal Services;
(v) Revision of regulation books and related matters;
(vi) Equipment, both hardware and software for postal training;
(vii) Technical assistance and scholarships for training purposes;
(viii) Development of special courses on postal systems for example International Accounting, Statistics, Postal Management, Planning, Marketing, Philately, etc.

The project is in principle based on a SATCC/TU Report on Postal Training Development of Basic and Further Education and Training of Instructors (July, 1986).

Status : A Refresher Course for Instructors, developed by SWEDPOST and financed by NORAD Technical Services Fund, was held in Dar es Salaam, Tanzania, 1987.

A Training Subgroup has been established and has prepared a Training Programme which in principle has been accepted by the Meeting of Directors of Postal Services.

In 1986 and 1987 the Post and Telecommunications of Finland arranged a Postal Management Course, fully financed by FINNIDA.

FINNIDA has agreed to finance a three week study cycle on Postal Planning and Marketing for Portuguese speaking African countries in April, 1989. The study cycle will be effected by FINNPOST in cooperation with the Portuguese consulting company Tecnologia Das Comunicacoes (TDC) in Lisbon, Portugal. The vast majority of the seats will be directed to Angola and Mozambique, 5 each.

In its plans for 1990 FINNPOST has included an eight week postal management course in English to be arranged in Finland. The majority of the course seats will be given to participants from the SADCC countries.

The contents of the training programmes are being developed further.

September 1988

7.0.2 Feasibility Study on the Introduction of a Postal Giro System in the SADCC Countries

Estimated Costs
Total : USD 0.2 million
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.2 million

Executing Agency:
SADCC

Start : 1989
Duration: 10 months

Objectives : Evaluation of effects of the possible introduction of a postal giro system in SADCC countries and of the feasibility of such a system.

Description: The study will evaluate the effects of the planned postal giro system on :

(i) cash in circulation and and payment of bills;
(ii) savings;
(iii) banking services to both urban and rural population, government institutions, public utilities and business enterprises;

and make an assessment of
(iv) the facilities needed for the introduction of such services; and
(v) of the costs involved and benefits;

and make recommendations based on the findings of the study on the viability of the proposed system.

Status : Terms of Reference have been prepared.
Funds are being sought.

September 1988

7.0.3 Technical Assistance to Postal Services

Estimated Costs
Total : USD 1.4 million
Foreign : USD 1.0 million
Local : USD 0.4 million

Funding Secured
Foreign : USD 0.4 million
Local : USD 0.1 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.9 million

Executing Agency:
SADCC

Start : 1989
Duration: 3 years

Objectives : Assistance by postal experts for more efficient mail handling at the sorting centres by introducing new methods, proper equipment, training (mainly on the job), management and efficient operations in all SADCC Member States (separate arrangements have been made for Mozambique and Zimbabwe).

Description : The Project (37 manmonths) includes among other things the following :

- management, organisation and control;
- training of supervisors and instructors;
- statistics;
- manpower, planning and manning;
- service and quality;
- mail handling and routing - internal;
- mail handling and routing - external;
- mail transports including express Mail Service, EMS and Surface Air Lifted, SAL;
- international accounting;
- premises and technical equipment.

Status : A Survey on the Needs for Technical Assistance to Postal Services, was completed in May 1988, covering all SADCC countries, except Mozambique.

For Mozambique a project for improvement of the sorting activities and transit centres in Maputo and Beira will be financed by SIDA, as a separate project. It will be conducted by SWEDPOST.

A corresponding project has started in May 1988, in Zimbabwe. The project is financed by German aid and is being carried out by DETECON, German Telepost Consulting Ltd.

September 1988

7.0.4 Regional Programme for the Development of Postal Terminals

Estimated Costs
Total : USD 27.7 million
Foreign : USD 16.3 million
Local : USD 11.4 million

Funding Secured
Foreign : USD 0.6 million
Local : USD 10.3 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 16.8 million

Executing Agency:
SADCC

Start : 1989
Duration: 5 years

Objectives : Construction, establishment and organisation (including equipment) of Postal Regional Sorting and Transit Centres in the SADCC Countries for mail handling and routeing of mail in accordance with the SADCC goals.

Description : The sorting of mail, both local and international, in the SADCC Countries is concentrated to some important centres.

In a report "Technical assistance to Postal Services", May 1988, the actual situation has been illustrated. The rational handling of mail at many of these centres is hindered by inadequate premises.

To achieve a better mail handling service which can fulfil the expectations of the customers of other Postal Administrations around the world, and to make it possible to route the mail in accordance with SADCC goals, there are immediate needs for investments to premises and equipment to provide better working conditions and to cope with expected mail volumes.

The Project consists of following Terminals :

		COST (USD) million Total	Foreign
(i)	Postal Terminal in Luanda	12.6	10.0
(ii)	Postal Terminals in Gaborone and Francistown	1.2	0.4
(iii)	Postal Terminals in Maseru and Quacha's Nek	3.0	1.0
(iv)	Postal Terminal in Lilongwe	1.1	1.0
(v)	Postal Terminal in Beira	1.7	1.0
(vi)	Postal Terminals in Mbabane and Manzini	0.6	0.2
(vii)	Postal Terminal in Dar es Salaam	3.0	1.0
(viii)	Postal Terminals in Lusaka and New Kapiri Mposhi	0.5	0.1
(ix)	Regional Postal Terminal in Harare	4.0	1.6
		27.7	16.3

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Status : Angola :
A description of the project has been made. The Postal Administration has asked for tenders about a Feasibility Study. Financing of a study, estimated cost USD 300 000, is being sought.

Botswana :
A new Postal Terminal in Gaborone financed by own resources will be ready in 1989 (March). There is however, still need for technical assistance

(organization, methods, equipment, training, etc).

Lesotho :
Project descriptions are being prepared.
Malawi :
Design study has to be made.

Mozambique :
The Plan for a new terminal in Beira is based on a study carried out by SOFREPOST in 1985 and a report on short term activities prepared by SATCC in 1987. Denmark has been approached.

Swaziland :
A feasibility study has been completed showing that the planned offices will be fully utilized.

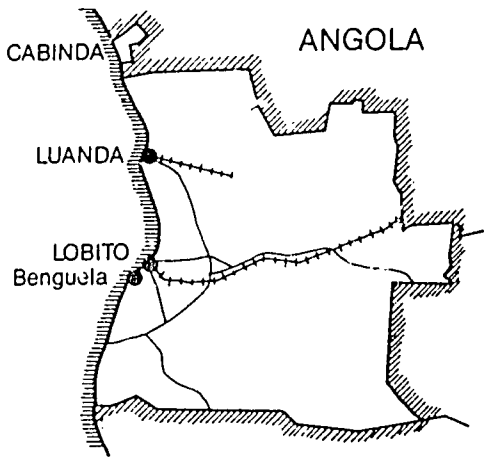
Tanzania :
A study should be carried out as the first step of implementation. Terms of Reference for a study have been prepared.

Zambia :
Project descriptions have been prepared.

Zimbabwe :
Terms of reference for a Feasibility study have been prepared. SIDA has been approached for funding of the project and agreed to finance the Feasibility Study. Tender documents are being prepared (June 1988).

September 1988

7.1.2 Development of Postal Training in Angola



Estimated Costs
Total : USD 2.7 million
Foreign : USD 2.2 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 2.2 million

Executing Agency:
Ministry of Posts and Telecommunications, Angola
Start : 1988
Duration: 3 years

Objectives : Establishment of a national training school for postal and telecommunications services and revision and documentation of basic and other postal courses in Angola.

Description: The aim is to provide adequate facilities for basic and middle management training. A postal training school will progressively improve the quality of postal services.

The project is composed of two parts, namely :

	Cost (USD million) Total	Foreign
(i) Establishment of a national training school;	2.5	2.0
(ii) Revision and documentation of basic and other courses	0.2	0.2
Total	2.7	2.2

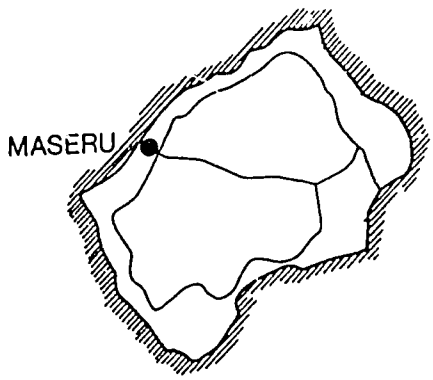
The present training facilities are inadequate. In addition to new premises, training equipment, furniture and vehicles are needed.

The development of training courses is planned to be carried out in co-operation with the Angolan training instructors.

Status : Financing is being sought to begin with for a study on the new training school, the estimated cost of which is USD 0.05 million.

7.3.1 Postal Training School, Lesotho

LESOTHO



Estimated Costs
Total : USD 0.2 million
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 0.2 million

Executing Agency:
Department of Postal Services, Lesotho
Start : 1989
Duration: 1 year

Objectives : Provision of furniture, equipment and transport for the new training school.

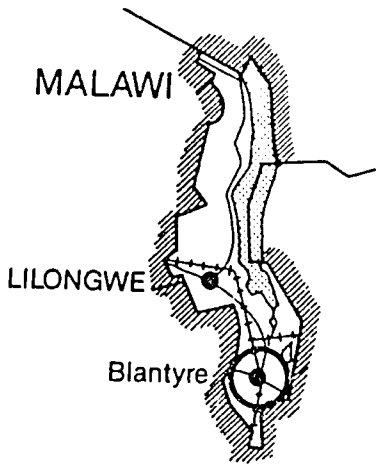
Contents : Hitherto, the Post Office staff/participants attending courses at the present Training School are not provided with any kind of accommodation throughout the duration of their stay in Maseru.

There are some outstanding issues pertaining to the project. These are furniture and equipment and a commuter vehicle, which formen important element of the project. The new school will be located some 10km out of the town centre of Maseru.

Status : Project description has been prepared. Financing is being sought.

September 1988

7.4.2 Upgrading of Postal Wing of the MCTC in Blantyre, Malawi



Estimated Costs
Total : USD 0.2 million
Foreign : USD 0.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.2 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
Department of Posts and Telecommunications, Malawi
Start : 1989
Duration: 1 year

Objectives : Upgrading of courses and premises (additional classrooms and hostel accommodation) of the Multi-country Training Centre (MCTC) in Blantyre.

Description: Intermediate training is provided for staff from Botswana, Lesotho, Malawi and Swaziland at the Blantyre Training Centre.

Five different courses are run, related to supervision, accounting, correspondence, training and junior management. At present the courses cover about 400 trainees weeks. Two new courses are in the programme. Therefore the capacity of the centre has to be increased to cover 1400 trainee weeks per annum.

The project includes the following :

(i) two additional classrooms;
(ii) two additional hostel blocks, each with eight rooms;
(iii) additional equipment; and
(iv) provision of a management expert and fellowships to the amount of USD 170.000.

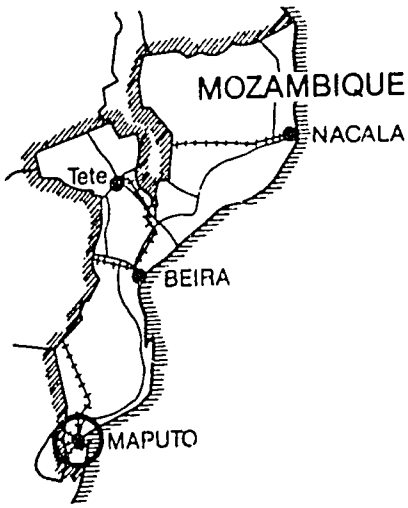
The training activities are supported by EEC under Lome II and III funds.

Status : A study was carried out on the development of the centre a few years ago by the UPU. A project description has been prepared.

EEC has expressed interest in financing the project. Plans are being made to develop the Centre to serve all SADCC Member States.

September 1988

7.5.1 Sorting Centre and Stamp Printing Facilities in Maputo, Mozambique



Estimated Costs
Total : USD 2.3 million
Foreign : USD 2.0 million
Local : USD 0.3 million

Funding Secured
Foreign : USD 0.2 million
Local : USD 1.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.1 million

Executing Agency:
Postal Department, Mozambique

Start : 1988
Duration: 2 years

Objectives : Upgrading of the Postal Terminal in Maputo and improvement of the present printing facilities.

Description: The project includes the following:

		Cost (USD, million) Total	Foreign
(i)	Rehabilitation and upgrading of the facilities at Maputo postal terminal; and	1.3	1.0
(ii)	Improvement of the existing stamp printing facilities	1.0	1.0
	TOTAL	2.3	2.0

Due to the increase of the volume of mail the existing facilities in Maputo are inadequate. The sorting shall be improved and facilities and equipment provided for a mechanized handling system. The premises will be upgraded.

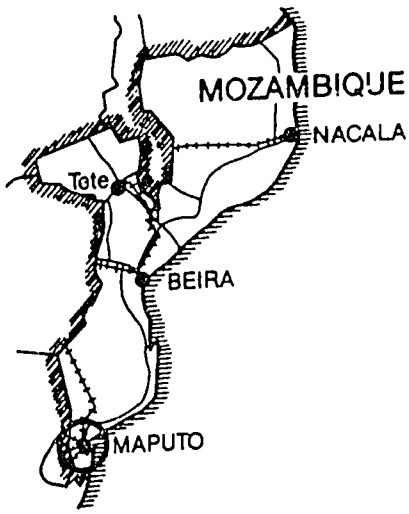
To improve the quality of stamps and to increase capacity the following equipment is needed for stamp printing: offset machine for printing of stamps, repetex machine, press machine and elarod machine.

Status : SIDA, Sweden, has agreed to finance technical assistance by SWEDPOST of the Postal Sorting Centre in Maputo.

New machinery for stamp printing have been installed financed by Mozambique's own resources.

Additional funds are being sought.

7.5.2 Development of Postal Training in Mozambique



Estimated Costs
Total : USD 1.0 million
Foreign : USD 1.0 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.0 million

Executing Agency:
Postal Department, Mozambique

Start : 1988
Duration: 1,5 years

Objectives : The project aims at improving the performance of the existing training centre by provision of instructors and purchase of training equipment.

Description: To meet increased staff requirements and to eliminate the acute shortage of skilled postal staff it has become necessary to improve training and training facilities in Maputo.

Following activities are included in the plan :

- modification of existing space to provide an auditorium;
- provision of a dummy office for practical training;
- procurement of training equipment;
- technical assistance for the development of training courses, and training of instructors, personnel dealing with international dispatches etc;

Status : By own resources the rehabilitation of the Postal School in Maputo has already started. One postal training course has been carried out (june 1988) supported by Portugal.

A detailed implementation plan has been prepared. Funds are being sought for implementation.

September 1988

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Section Three

Criteria and Proceedures for the Selection and Approval of Projects

Annex 1

CRITERIA AND PROCEDURES FOR THE SELECTION AND APPROVAL OF PROJECTS

1. Introduction

These criteria and procedures for the selection and approval of projects are intended to safeguard the coherence and integrity of the SATCC programme within the framework of the objectives of SADCC. They shall,therefore, guide the SADCC member States, the Sector Coordinator and Cooperating Partners in the preparation and presentation of project proposals for inclusion in the SATCC programme.

2. General Criteria

The Sector of Transport and Communications has been identified as a key element in achieving the overall objectives of SADCC. Projects in this Sector play a vital role in national and regional economic development. Hence, the first requirement for a project to be eligible for inclusion in the SATCC programme is that it is consistent with the overall objectives of SADCC, and that it contributes to the solution of national and regional transport and communications problems.

The following general criteria shall be applied in assessing projects for inclusion in the SATCC programme:

i) in keeping with overall SADCC objectives, projects should aim at the reduction of economic dependence of the member States, and/or the enhancement of genuine and equitable regional integration;

ii) reflecting the regional character SADCC, projects should be able to benefit more than one member State;

iii) to ensure consistence with national development objectives, and to assure government commitment, projects proposed for regional cooperation should also be part of the National Development Plans of the member States concerned;

iv) to ensure the comprehensiveness of the overall programme, all projects of regional benefit should be included in the programme, even if additional outside financing is not required;

v) in specific transport modes, projects should generally aim at improvement of facilities and services defined as regional (e.g. regional ports, railways, trunk road network, etc.);

vi) minor transport elements of projects in other sectors should generally be dealt with as integral parts of the projects of those sectors, and thus not included in the SATCC programme.

3. Guidelines for Project Preparation

While the project proposals should first satisfy the above general criteria, they should further be assessed in terms of their specific objectives, priority status in the regional system of transport and communications, potential benefits and probability of successful implementation. To permit such an assessment to be made in an adequate manner, the following criteria should be considered in the course of preparation of projects:

i) cost reduction, improvement of service and institutional strengthening;

ii) relationship and compatibility with existing or planned national transport an communications systems;

iii) relationship and compatibility with existing or planned regional transport an communications systems;

iv) financial implications of the project, including costs of both implementation and subsequent operation, and the measures for securing the necessary funds, particularly member States' provision for local costs;

v) manpower requirements, both for implementation and subsequent operation, and where inadequate manpower is anticipated, provisions should be made to accommodate this deficiency.

4. Procedures

4.1 Admission of New Projects

i) The member State/Entity proposing a new project should, as a rule, present the project to SATCC at least six months in advance of the meeting where it will be considered, with adequate documentation and information to cover the aspects set out in Sections 2 and 3 above;

ii) The project proposal should be presented in the standard form used for SATCC project documentation, and circulated to the member States by SATCC well in advance of the meeting where it is to be considered;

iii) Only in exceptional circumstances, such as in case of emergency projects, could the procedures in (i) and (ii) above be waived;

iv) Member States/Entities proposing new projects may request technical assistance from the SATCC Technical Unit for the preparation of project documentation, if required;

v) All proposals presented to SATCC should include an evaluation and recommendations by the SATCC/Technical Unit;

vi) Each proposal shall be considered by the Coordinating Committee, which shall make appropriate recommendations to the Committee of Ministers, taking into account the information presented, the recommendations of the Technical Unit, and the concrete circumstances relevant to the project;

vii) The final decision on the admission of a new project shall rest with the Council of Ministers, on the recommendation of the SATCC Committee of Ministers.

4.2 Review of Existing Projects

i) All projects already in the programme, which are not being implemented, should be reviewed from time-to-time on the basis of the criteria in Sections 2 and 3 above.

ii) Projects considered to be no longer fulfilling the criteria should be withdrawn from the programme. The decision on the removal of projects from the programme shall rest with the Council of Ministers, on the recommendation of the SATCC Committee of Ministers.

iii) Concerning on-going projects where major changes are occurring, e.g. increases in costs, such changes should be communicated to SATCC by the member State(s) concerned, to facilitate new funding and other appropriate arrangements.

5. Procedure for Contacts with the Cooperating Partners

5.1 Sectoral programmes and projects are, generally communicated through the sectoral programme document produced for the Annual Consultative Conference. However, in between Annual

Consultative Conferences, specific projects may be communicated to interested cooperating partners directly.

In the case of a project located in one country, the member State which is host for the project, assisted by the SATCC Technical Unit, will coordinate contact with interested cooperating partners. Both the SATCC Technical Unit and other interested member States must be kept fully informed of progress in consultations on the implementation of projects, either by direct contact or usually through progress reports submitted to Sectoral meetings. In the case of projects involving more than one country, and general coordination activities or projects involving all member States, the SATCC Technical Unit, assisted as appropriate, by the member States, will coordinate contacts.

6. Agreement and Contract Procedures

The Council of Ministers has agreed that as a matter of general principle, SADCC project agreements should be signed by the member States directly involved and cooperating partners, and witnessed by the SATCC. Such agreements should spell out the rights and obligations of all parties and, in particular, should indicate clearly the reporting and monitoring procedures.

7. Project Implementation, Operation and Monitoring

Implementation refers to the preparation and execution of a project, but does not include subsequent operation and maintenance (e.g. of a plant).

Member States involved in each project, with the assistance of the SATCC Technical Unit, are responsible for its implementation and operation, through their appropriate institutions.

The SATCC Technical Unit will provide the required assistance to member States in all stages of the project.

Financial responsibility for each project will be of the member State(s) involved, and each member State will be responsible for servicing its financial commitments.

It will, in a number of cases, be necessary to have a project steering committee, which is responsible for overseeing and monitoring the implementation of the project and serves to give policy guidance and control. The steering committee would have the following members:

- representatives of the Member Government(s) responsible and involved;

- a representative of the cooperating partners supporting the project;

- and, a representative of SATCC Technical Unit.

The executing agency, implementing the project, will not be a member of the committee, but will participate in the meetings for reporting and liaison purposes.

When a project involves simultaneous and inter-dependent implementation in more than one country, the steering committee will ensure the overall coordination of the implementation of the various parts of the project.

The Sector Coordinating country is responsible for reporting on the status and progress of sectoral programme and project implementation and related activities to the Coordinating Committee and the Committee of Ministers; and to the Council of Ministers and Summit of Heads of State and Government, at the scheduled meetings.

Table 1: Summary of Costs and Funding (All amounts in USD Million)

SUB-SECTOR	NO.	TOTAL COST US$	FOREIGN US$ MIL	LOCAL US$ MIL	FUNDING SECURED US$ MIL	%	FUNDING UNDER NEGOTIA-TION	%	FUNDING GAP US$ MIL	%
Regional Operational Coordination Projects	27	80.60	79.80	0.80	30.90	38.34	0.10	0.12	49.60	61.54
Training Projects	18	68.90	64.50	4.40	40.30	58.00	11.00	16.00	17.60	26.00
Maputo Port Transport System Projects	19	757.90	666.40	91.50	278.30	36.00	66.10	9.00	413.50	54.00
Beira Port Transport Sysem Projects	7	676.50	614.30	62.20	337.60	50.00	106.90	16.00	232.00	34.00
Nacala Port Transport System Projects	5	293.70	250.00	43.70	261.10	89.00	0.0	0.00	32.60	11.00
Dar-es-Slam Port Transport Sysem Projects	6	612.80	535.80	77.00	426.50	70.00	28.40	4.00	157.90	26.00
Lobito Port Transpot System Projects	7	575.80	575.80	0.00	13.80	2.00	0.00	0.00	562.00	98.00
Intra-Regional Surface Transport Projects	32	592.70	511.10	81.60	170.10	28.70	0.50	0.10	422.10	71.20
Civil Aviation Projects	19	234.00	221.60	12.40	37.50	16.00	0.00	0.00	196.50	84.00
Telecommunications Projects	34	688.60	620.70	67.90	330.60	48.00	26.40	4.00	331.60	48.00
Meteorology Projects	10	17.30	16.70	0.60	3.10	17.00	1.70	9.00	12.80	74.00
Postal Services Projects	4	31.60	19.50	12.10	12.60	40.00	0.00	0.00	19.00	60.00
TOTAL	188	4630.40	4176.20	454.20	1942.40	41.95	241.10	5.20	2447.20	52.85

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
TRANSPORT AND COMMUNICATIONS								
TABLE 2(A): REGIONAL OPERATIONAL COORDINATION PROJECTS								
MULTIMODAL								
0.0.1	Technical Assistance to the SATCC	10.00	9.70	0.30	8.50 (NORDICs) 1.00 (ITA) 0.10 (CAN) 0.10 (FRA) 0.30 (ITU)	-	-	Period 1981-89.
0.0.2	Operational Coordination Development Programme	(3.2)	(3.2)	-	(2.8)	(0.4)	-	Period 1983-1990.
(1)	Road Infrastructure	0.50	0.50	-	0.50 (DEN)	-	-	Period 1985-88
(2)	Road Traffic & Transport	1.10	1.10	-	1.10 (NOR)	-	-	Period 1984-90
(3)	Railway Administrations	0.80	0.80	-	0.80 (DEN)	-	-	Period 1985-88
(4)	Civil Aviation Administration & Spare Parts Task Group	-	-	-	-	-	-	Financed under Project 0.0.1 from July 1987.
(5)	National Airlines	-	-	-	-	-	-	Financed under 0.0.1 from July 1985
(6)	Port Administration	0.60	0.60	-	0.60 (NOR)	-	-	Period 1985-90.
(7)	Shipping, Clearing and Forwarding	-	-	-	-	-	-	Financed under Project 0.0.1
(8)	Telecomunications (SATA)	(0.2)	(0.2)	-	(0.2) (CAN)	-	-	Financed under Project 0.0.5.
(9)	Meteorology	-	-	-	-	-	-	Financed under Project 0.0.1.
(10)	Postal Services	-	-	-	-	-	-	Financed under Project 0.0.1.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(11)	Survey for Regional Frequency Management and Radio Monitoring	0.30	0.30	-	-	-	0.30	
0.0.4	Transit Transport Project	4.80	4.80	-	3.50 (UNDP) 1.30 (USA)	-	-	Covers period 1984-91
0.0.5	SATCC Technical Services Funds	11.40	11.40	-	11.00 (CAN) 0.40 (NOR)	-	-	Period 1985-91
0.0.6	SATCC Transport Statistics Data Base	(0.10)	(0.10)	-	(0.10)(CAN)	-	-	Financed under Project 0.0.5.
0.0.7	SATCC Housing in Maputo	2.20	2.20	-	-	-	2.20	Funding sought.
0.0.8	Regional Transport Operations Plan	(0.30)	(0.30)	-	(0.30)(CAN)	-	-	To be financed under Project 0.0.5.
ROADS								
1.0.1	Package of Road Safety Programmes	14.00	14.00	-	-	-	14.00	Preparation of country programmes is ongoing
(3)	Lesotho	(2.0)	(2.0)	-	-	-	(2.0)	Programme prepared.
(4)	Malawi	(2.0)	(2.0)	-	-	-	(2.0)	Programme prepared.
(6)	Swaziland	(1.8)	(1.8)	-	-	-	(1.8)	Programme prepared. Funding sought.
(7)	Tanzania	(1.6)	(1.6)	-	-	-	(1.6)	Programme prepared. Funding sought.
(8)	Zambia	(1.8)	(1.8)	-	-	-	(1.8)	Programme prepared. Funding sought.
1.0.2	Package of Weighbridge Programmes	2.10	1.80	0.30	0.30 (SADCC)	-	1.80	Descriptions have been prepared.
(1)	Angola	(0.4)	(0.3)	(0.1)	(0.1) (ANG)	-	(0.3)	

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(2)	Botswana	(0.2)	(0.2)	-	-	-	(0.2)	
(3)	Lesotho	(0.1)	(0.1)	-	-	-	(0.1)	
(4)	Malawi	(0.2)	(0.2)	-	-	-	(0.2)	
(5)	Mozambique	(0.2)	(0.2)	-	-	-	(0.2)	
(6)	Swaziland	(0.3)	(0.2)	(0.1)	(0.1) (SWA)	-	(0.2)	
(7)	Tanzania	(0.2)	(0.2)	-	-	-	(0.2)	
(8)	Zambia	(0.2)	(0.2)	-	-	-	(0.2)	
(9)	Zimbabwe	(0.3)	(0.2)	(0.1)	(0.1) (ZIM)	-	(0.2)	
1.0.3	Implementation of Harmonized Road Maintenance Management System in SADCC Countries	2.60	2.40	0.20	0.20	-	2.40	Funded under Project 0.0.5.
RAILWAYS								
2.0.4	Study on Railway Telecommucications and Signalling	(0.2)	(0.2)	-	(0.2) (CAN)	-	-	Study is ongoing. Financed under Project 0.0.5
2.0.5	Study on Railway Wagon Manufacture	(0.2)	(0.2)	-	(0.2) (CAN)	-	-	Study is ongoing. Financed under Project 0.0.5
2.0.7	Seminar on Marketing for the SADCC Port and Railway Administration	(0.10)	(0.10)	-	(0.10)(CAN)	-	-	Funded under Project 0.0.5.
2.0.8	Study on Rail Wagon Standardization & Wagon Spare Parts	(0.20)	(0.20)	-	-	-	(0.20)	Proposed for funding under Project 0.0.5.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
PORTS AND WATER TRANSPORT								
3.0.1	Regional Cooperation in Shipping	0.60	0.60	-	0.60 (ITA)	-	-	Phase 1 completed. Funding sought for Phase 2. Duration one year from agreement.
3.0.3	Marine Safety Development Programme for SADCC Coastal States	0.30	0.30	-	-	-	0.30	TOR revised to cover all SADCC Coastal Countries. Financing being sought.
CIVIL AVIATION								
4.0.1 (2)	Expansion of DCA Flight Calibration Unit, Tanzania	6.30	6.30	-	-	-	6.30	FINNIDA will finance study. Financing sought for implementation. Background document prepared by ICAO.
4.0.3	Study on Coordinated Use of Aircraft Maintenance Facilities	0.30	0.30	-	-	-	0.30	Partly covered by an ADB study. TOR revised accordingly. Funding sought.
4.0.5	Study on General Aviation Activities	(0.40)	(0.40)	-	-	-	(0.40)	Under review.
4.0.7	Updating the Aeronautical Information Service	(1.70)	(1.70)	-	-	-	(1.70)	Under review.
4.0.10	Study of Joint Use of Wide Body Aircraft	1.00	1.00	-	-	-	1.00	Funding sought.
TELECOMMUNICATIONS								
5.0.3	Study on AXE 10 Repair Centre	0.40	0.40	-	-	0.10 (SWE)	0.30	Funding sought.
5.0.4	Implementation for Regional Earth Station Connectivity Project, (1989-1993)	21.00	21.00	-	0.50 (CAN)	-	20.50	Financed under Project 0.0.5. Financing is required for project implementation.
5.0.5	Study on the Harmonization of Telephone and Telex Tariffs for the Sub-region	(0.20)	(0.20)	-	(0.20)(CAN)	-	-	Undertaken jointly by ITU Expert & SATCC with financing from P. 0.0.5.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
5.0.6	Study on the Development of a Regional Manufacturing Strategy	0.10	0.10	-	-	-	0.10	
5.0.7	Model Study on Maintenance Procedures and Schedules for PANAFTEL Terrestrial Microwave Radio Systems	0.10	0.10	-	0.10 (ITU)	-	-	ITU is carrying out the study.
5.0.8	Regional Data Communication Strategy Study	0.10	0.10	-	-	-	0.10	
	Sub-total	80.60	79.80	0.80	30.90	0.10	49.60	
TABLE 2(B): TRAINING PROJECTS								
0.0.3	Training Development Programme	(2.00)	(2.00)	-	(0.80)	(0.30)	(0.90)	
(1)	Road Traffic & Transport Training Study and Task Group	(0.60)	(0.60)	-	(0.30)(CAN)	-	-	Study completed, financed under project 0.0.5. Task Group expected to be financed under Project 0.0.5.
(4)	Training Course in National Telecommunications Network Planning	0.50	0.50	-	0.50 (SWE)	-	-	A SIDA mission is preparing the courses.
(5)	Satellite Communications Technology Course	0.20	0.20	-	-	-	0.20	First Course completed August 87, financed under Project 0.0.5. Financing sought for 2nd Course in 1989.
(7)	Workshop/Seminar on Telecommunications Switching Signalling Systems in the Sub-region	0.10	0.10	-	-	-	0.10	ITU is financing the provision of lecturers.
(8)	Local Network (External Plant) Planning Course	0.20	0.20	-	-	-	0.20	Italy financed the first course. Funding sought for follow-up course.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(9)	Telecommunications Training Needs Survey	0.10	0.10	-	-	-	0.10	New project. Funding sought.
(10)	Telecommunications Course in Traffic, Tariffs & Accounting Procedures	0.30	0.30	-	-	-	0.30	New project. Funding sought.
1.0.4	Task Group for the Road Transport Training Plan	(0.30)	(0.30)	-	-	-	(0.30)	Funding requested under Project 0.0.5.
2.0.2	Study on Railway Training Programmes	(1.60)	(1.60)	-	(1.60)(FRG)	-	-	Completed in 1987.
2.0.6	Development of Railway Training, Regional	8.60	8.60	-	0.60 (FRG)	8.00 (FRG/SWI CAN/UK)	-	New elements added to the project as a result of completed project 2.0.2.
2.5.13	Development of Railway Training for Portuguese Speaking Personnel	25.30	24.20	1.10	14.30 (FRA) 2.50 (POR) 7.40 (EEC) 1.10 (MOZ)	-	-	
2.6.3	Technical Assistance & Management Training to Swaziland Railway	4.70	3.50	1.20	3.50 (USA) 1.20 (SWA)	-	-	
3.1.1 (P-TA-2)	Port School Lobito, ANGOLA	5.30	5.30	-	-	-	5.30	Funding sought. Included in the 10 Year Plan for Lobito System.
3.5.5	Port Staff Training Institute, MOZAMBIQUE	6.80	5.80	1.00	5.80 (NOR) 1.00 (MOZ)	-	-	Agreement with NORAD signed. Management Agreement with ILO to be signed.
4.0.6	Civil Aviation Manpower & Training Requirements Survey	0.30	0.30	-	0.30 (ICAO)	-	-	Completed except for Angola.
4.5.4	SADCC Boeing 737 Flight Training Centre	3.60	3.60	-	-	-	3.60	Funding sought.
4.6.5	Improvement of Zambia Air Services Training Institute (ZASTI)	1.70	1.70	-	-	-	1.70	Updated project description to be prepared.

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
TELECOMMUNICATIONS								
5.1.6	Expansion of Telecommunication Training Centre, Angola	1.50	1.00	0.50	0.50 (ANG)	-	1.00	Funding sought.
METEOROLOGY								
6.0.1	Meteorological Expert Services and Fellowships	4.50	4.50	-	0.80 (FIN)	2.80 (FIN)	0.90	
POSTAL SERVICES								
7.0.1	Postal Training Development Programmes	1.10	1.00	0.10	0.20 (FIN) 0.10 (SADCC)	-	0.80	Two management courses financed by Finland.
7.1.2	Development of Postal Training in Angola	2.70	2.20	0.50	0.50 (ANG)	-	2.20	
7.3.1	Postal Training School, Lesotho	0.20	0.20	-	-	-	0.20	Costs to cover equipment and transport facilities.
7.4.2	Upgrading of Postal Wing of the MCTC in Blantyre, Malawi	0.20	0.20	-	-	0.20	-	
7.5.2	Development of Postal Training in Mozambique	1.00	1.00	-	-	-	1.00	
	Sub-total	68.90	64.50	4.40	40.30	11.00	17.60	
TABLE 2(C): MAPUTO PORT TRANSPORT SYSTEM PROJECTS								
ROADS								
1.3.1	Upgrading of the Road Mohales Hoek - Quthing - Qachas Nek, Lesotho	89.00	81.00	8.00	8.00 (LES) 23.00 (EEC) 34.00 (USA) 5.00 (DEN)		19.00	Ongoing.

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
1.3.2	Upgrading and Reconstruction of the Road Taung - Mokhotlong - Sani Top. LESOTHO	(35.70)	(28.50)	(7.20)	(7.20)(LES)	-	(28.50)	Under review.
1.3.3	Upgrading of the Road Thaba Tseka-Taung-Mpiti. LESOTHO	(35.70)	(28.50)	(7.20)	(7.20)(LES)	-	(28.50)	Viability of 1st stage to be reviewed.
1.3.4	Construction of a New Road Ramabanta-Seaukong-Sekake. LESOTHO	(36.80)	(29.40)	(7.40)	(7.40)(LES)	-	(29.40)	Under review.
1.3.5	Upgrading of the Road Mokhotlong-Oxbow. LESOTHO	51.30	44.00	7.30	7.39 (LES) 22.00 (ADB) 10.00 (BADEA) 2.00 (OPEC)	10.00 (KUW)	-	Design completed.
1.5.4	Rehabilitation of the Road Maputo - Swaziland. MOZAMBIQUE	21.00	17.00	4.00	0.80 (SWE) 4.00 (MOZ)	-	16.20	Works on Matola bridge started Jan'88 and resealing of section Km 35-75 to start shortly, financed by Sweden.
1.5.6	Road Linking Southern Zimabwe with the Maputo Area, Mozambique	(20.00)	(16.00)	(4.00)	(4.00)(MOZ)	-	(16.00)	Under review.
1.6.1	Rehabilitation and Upgrading of the Road Mozambique border at Lomahasha-Siteki-Big Bend.	22.00	18.70	3.30	5.70 (ADB) 3.20 (SWE) 3.30 (SWA)	-	9.80	Work completed on section Lomahasha-Siteki. Financing is being sought for the section Siteki-Big Bend.
1.6.2	Improvement of Mbabane-Manzini Road, SWAZILAND	28.90	23.10	5.80	5.80 (SWA)	-	23.10	Financing sought.
RAILWAYS								
2.2.1	Rehabilitation of the Main Railway Line BOTSWANA	(114.0)	(91.0)	(23.0)	(18.0)(CHI) (23.0)(BOT)	-	(73.00)	See phasing of project.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(1)	Gaborone - Southern Border	19.00	15.00	4.00	15.00 (CHI) 4.00 (BOT)	-	-	
(2)	Francistown - Northern Border	15.00	12.00	3.00	3.00 (CHI) 3.00 (BOT)	-	9.00	Canada is financing study on Section 2 & 3 under Project 0.0.5.
(3)	Gaborone - Francistown	80.00	64.00	16.00	16.00 (BOT)	-	64.00	See note for Section 2 above.
2.2.2	Rehabilitation of Railway Telecommunications Facilities. BOTSWANA	4.10	4.10	-	4.10 (SWE)	-	-	Work started in 1986.
2.2.4	Renewal of Train Working System. BOTSWANNA	5.00	4.70	0.30	4.70 (SWE) 0.30 (BOT)	-	-	Work started in 1986.
2.2.6	Procurement of Railway Rolling Stock, BOTSWANA	18.50	18.50	-	18.50 (JAP)	-	-	
2.2.8	Exchange Yard for Botswana Railways at Rakhuna, BOTSWANA	1.60	1.20	0.40	0.40 (BOT)	-	1.20	
2.3.2	Expansion of Oil Storage Facilities LESOTHO	(5.80)	(5.80)	-	-	-	(5.80)	Transferred to the Energy Sector.
2.5.1	Rehabilitation of the Mozambique Swaziland Railway, Study.	(60.00)	(42.00)	(18.00)	(18.00	-	(42.00)	
(2)	Rehabilitation of the Machava-Swaziland Border	23.00	16.00	7.00	7.00 (MOZ)	16.00 (ITA)	-	
(3)	Rehabilitation of Matsapha-Mozambique Border	37.00	26.00	11.00	11.00 (SWA)	-	26.00	Funding sought.
2.5.6	Railways in Southern Mozambique	-	-	-		-	-	See phasing of project.
(2)	Study on Engineering for Bridges in Southern Mozambique.	(0.4)	(0.4)	-	(0.4) (CAN)	-	-	Financed under P. 0.0.5.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(3)	Rehabilitation of the Maputo - Chicualacuala Railway	(220.00)	(205.00)	(15.00)	(40.00) (15.00(MOZ)	(40.10)	(139.90)	A Study on Rehabilitation has been completed.
	Phase 1: Track Renewal for Resleepering, Welding Plant, Communications, etc.	27.00	25.00	2.00	25.00 (UK) 2.00 (MOZ)	-	-	Work in progress.
	Phase 2: Completion of Rehabilitation including Motive Power & Rolling Stock	193.00	180.00	13.00	13.00 (MOZ)	3.10 (BOT) 16.60 (CAN) 20.40 (USA)	139.90	Discussions with several potential financers in progress.
(A-BR1-5)	Housing, Buildings, Water & Power	(6.30)	(5.70)	(0.60)	-	-	(6.30)	
(AFC1)	Assistance for Financial Control	(1.10)	(1.10)	-	-	-	(1.10)	
(A-LO1-3)	Locomotives: Spares, Materials and Technical Assistance	(55.80)	(55.60)	(0.20)	-	-	(55.80)	
(A-SC1-2)	Equipment for Stores & Inventory Control	(1.50)	(1.50)	-	-	-	(1.10)	
(A-ST1-2)	B. Additional Support Train Control/ Signalling	(5.00)	(4.50)	(0.50)	-	-	(5.00)	
(A-TE-1)	Track Maintenance Equipment	(0.50)	(0.50)	-	-	-	(0.50)	
(A-WA1-3)	Wagons: Spares, Materials & Technical Assistance	(31.50)	(31.30)	(0.20)	-	-	(31.50)	
(C-BR1)	Other Buildings and Services	(0.80)	(0.70)	(0.10)	-	-	(0.80)	
(C-LO1-5)	Locomotives: Spares, Tools, Workshops, Technical Assistance	(15.20)	(14.70)	(0.50)	-	-	(15.20)	US$ 6.4 million under Project 2.5.1.
(C-MD1)	Rail Depot	(0.30)	(0.30)	-	-	-	(0.30)	
(C-OM1)	Workshop Study	(0.60)	(0.60)	-	-	-	(0.60)	

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(C-QO1-3)	Quarry and Ballast	(2.10)	(1.20)	(0.90)	-	-	(2.10)	
(C-RM1-2)	Track Renewal by BMS, Technical Assistance	(4.40)	(2.60)	(1.80)	-	-	(4.40)	
(C-RZ1-3)	Concrete Sleepers, Ballast, Track Renewal by National Railways of Zimbabwe	(29.70)	(29.70)	-	-	-	(29.70)	
(C-SF1-2)	Sleeper Factory/Sleepers	(7.90)	(1.40)	(6.50)	-	-	(7.90)	
(C-TA1-4)	Technical Assistance to BMS and CFM	(5.20)	(5.10)	(0.10)	-	-	(5.20)	
(C-TM1-3)	Steel Sleepers, Rails, Turnouts	(5.40)	(5.40)	-	-	-	(5.40)	
(C-TU1-2)	Track Upgrading, Bridge Works	(2.60)	(2.20)	(0.40)	-	-	(2.60)	
(C-WA1-5)	Wagons: Spares, Tools, Buildings, Technical Assistance	(10.60)	(10.10)	(0.50)	-	-	(10.60)	
2.6.1.	Modification of Wagons and Wagon Maintenance, Swaziland Railway. SWAZILAND	1.20	0.90	0.30	0.30 (SWA)	-	0.90	Funding sought.
PORTS & WATER TRANSPORT								
3.5.1	Maputo Port, Mozambique	(121.30)	(115.20)	(6.10)	(9.0) (ITA) (1.8) (UK) (6.10)(MOZ)	-	(104.40)	Estimates of costs & funding represent the total of the sub-projects listed below.
(1)	Feasibility Study on Improvement of the Entrance Channel to Maputo Port	1.70	1.40	0.30	0.30 (MOZ)	-	1.40	Dredging of existing channel to 9.4m started July'87, completion June'88.
(2)	Matola Coal Terminal, Mozambique	90.60	89.00	1.60	1.60 (MOZ)	-	89.00	

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(3)	Container Terminal Equipment and Management Assistance, Port of Maputo	29.00	24.80	4.20	9.00 (ITA) 1.80 (UK) 4.20 (MOZ)		14.00	US$ 9.00 million Italian credit for cranes and other equipment. UK is financing a Management Assistance Scheme over 5 years, to Sept'89.
(4)	Maputo Port (Other Projects), Mozambique	-	-	-	-	-	-	
	Sub-total	757.90	666.40	91.50	******	66.10	413.50	

TABLE 2(D): BEIRA PORT TRANSPORT SYSTEM PROJECTS

0.5.1	Multimodal projects in Beira Port Transport System Development Plan	(33.70)	(33.70)	-	(26.50)	(7.20)	-	
PR-M-1	A) Organisation and Manpower Development Plan	0.50	0.50	-	0.50 (EEC)	-	-	Prestudy completed (NORAD). Preliminary report will be ready by September 1988.
PR-M-1	B) Financial and Tariff	0.50	0.50	-	0.50 (EEC)	-	-	The study and report should be completed by March, 1989.
PR-M-1	C) Management Information	0.10	0.10	-	0.10	-	-	TOR prepared.
PR-M-2	Support to Workers	8.40	8.40	-	1.20 (SWE)	-	7.20	Funding sought.
PR-M-3	Study of the Development of the Town of Beira	0.90	0.90	-	0.90 (FIN)	-	-	Completed. Documents for 15 specific projects have been prepared.
PR-M-4	Project Coordination	6.00	6.00	-	6.00 (NORDICs)	-	-	Project Coordination Team started work in July, 1987.
PR-M-5	Beira Town Projects	17.30	17.30	-	11.20 (SWE) 2.10 (FIN) 1.10 (NOR) 1.60 (NET) 1.30 (DEN)	-	-	

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
1.5.1	Road Projects in Beira Port Transport System Development Plan	(37.30)	(34.60)	(2.70)	(2.70) (MOZ) (8.40)	(16.50)	(9.70)	Japan to provide additional US$2.5 million for 2 phases of projects.
RO-CE-1	Beira-Machipanda	27.80	26.60	1.20	1.20 (MOZ) 3.40 (SWE) 5.00 (ADB)	13.00 (ADB) 3.50 (EEC)	1.70	Emergency repairs estimated at US$ 9.20 million started early 1988 Design for reconstruction to be mad
RO-CE-2	Lusaka-Kafue Junction	-	-	-	-	-		Included in Project 1.8.3
RO-CE-3	Chimoio-Changara	3.00	3.00	-	-	-	3.00	
RO-CE-4	Matundo-Chiuta	6.50	5.00	1.50	1.50 (MOZ)	-	5.00	
1.8.4	Rehabilitation of Kafue-Chirundu Road, Zambia	16.00	13.00	3.00	3.00 (ZAM) 13.00 (USA)	-	-	Works expected to be completed Aug'
1.9.1	Rehabilitation of Harare-Chirundu Road, ZIMBABWE	1.80	1.30	0.50	0.50 (ZIM)	-	1.30	
1.9.3	Upgrading of Eastern end of Harare-Mutare, Mozambique Border Road	15.00	11.00	4.00	4.00 (ZIM)	-	11.00	Funding sought.
2.5.3	Railway Projects in Beira Port Transport System Development Plan	(216.70)	(192.80)	(23.90)	(131.30)	(61.50)	(23.90)	Project derived from Beira Port Reh litation Study of 1981.
R-CE-1	Track Upgrading, Rehabilitation Beira-Machipanda	11.70	9.00	2.70	3.00 (AUST) 0.40 (USA) 2.70 (CAN) 1.10 (SWE) 1.00 (NOR) 2.70 (ZIM)	-	-	Technical assistance from Zimbabwe.
R-CE-3	Track Rehabilitation Blantyre - Border	15.50	12.40	3.10	3.10 (MAL)	12.40 (UK)	-	Ongoing.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
R-CE-4	Rehabilitation Dondo-Vila Nova	84.00	71.50	12.50	8.00 (OPEC) 63.50 (ITA) 12.50 (MOZ)	-	-	Quarry in Chimoio & Sleeper Factory in Dondo being built.
R-CE-5	Study, Rail Link Kafue - Lions Den	0.80	0.80	-	-	-	0.80	
R-CE-6	Line Doubling Beira to Dondo	8.00	6.40	1.60	1.60 (MOZ)	-	6.40	
R-CE-7	Track Maintenance CFM(C)	3.50	3.50	-	1.00 (AUST)	-	2.50	Funding sought.
R-ME-1	Scrapping, Salvaging of Wagons and Locomotives, Rehabilitation of Wagons. Conversion to Roller Bearings CFM(C)	4.60	4.60	-	-	2.10 (DEN) 2.50 (USA)	-	Implementation in the biginning of
R-ME-2	A) Rehabilitation of Locomotives CFM(C)	4.10	4.10	-	4.10 (USA)	-	-	Completed.
R-ME-2	B) Acquisition of Second Hand Locomotive	20.00	20.00	-	-	20.00 (JAP)	-	Acquisition of new locomotives unde Project 2.5.12.
R-ME-3	Replacement of Malawi Railway Wagons	2.00	2.00	-	-	-	2.00	Funding sought.
R-ME-4	Rehabilitation of Locomotive Workshops CFM(C)	5.00	5.00	-	2.70 (USA)	2.30 (IDA/IBRD)	-	
R-ME-5	Extension of Limbe Workshop	0.60	0.60	-	0.60 (UK)	-	-	
R-ME-6	Facilities, Spares, Equipment for CFM(C) Workshops	6.20	5.00	1.20	1.20 (MOZ)	-	5.00	
R-ME-7	Rescue Cranes and Rerailing Equipment	3.60	3.60	-	1.80 (FRG) 1.80 (US)	-	-	Delivery of cranes for the beginnin of 1990.
R-OP-1	Motive Power, Rolling Stock Operation Plan	(0.2)	(0.2)		(0.2) (CAN)	-	-	Financed under P. O.O.5. Completed in 1987.

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
R-OP-2	Electrification Study	0.70	0.70	-	-	-	0.70	
R-ST-1	Emergency Repairs to Telecommunications Beira to Machipanda and Vila Nova	0.20	0.20	-	0.20 (NET)	-	-	Completed: The system is in operation.
R-ST-2	Radio Telecommunication CFM(C)	10.70	9.30	1.40	7.00 (ITA) 1.40 (MOZ)	-	2.30	1st phase Beira-Machipanda line.
R-ST-3	Train Control System CFM(C)	10.60	9.20	1.40	3.80 (ITA) 1.40 (MOZ)	-	5.40	Funding sought.
R-ST-4	Wagon Control System CFM(C)	1.00	1.00	-	-	-	1.00	
R-ST-5	Replacement of Railway Telephone Exchanges CFM(C)	0.50	0.50	-	0.20 (DEN)	-	0.30	Funding sought.
R-ST-6	Solar Power Panels, Blantyre to Border	0.10	0.10	-	-	-	0.10	Funding sought.
R-TA-1	Technical Assistance to CFM (C)	21.10	21.10	-	3.50 (SFA)	17.60 (IDA/IBRD)		First members of the team will arrive in Beira in September 1988.
R-TA-2	Technical Assistance to Malawi Railways	2.00	2.00	-	-	-	2.00	
3.5.2	Port Projects in Beira Port Transport Development Plan	(357.20)	(329.10)	(28.10)	(149.40)	(33.50)	(174.30)	Estimates of costs & funding represent the total of the sub-projects listed below.
P-A-1	Channel Dredging to 10.0 metres, Beira Port	13.00	13.00		13.00 (NET)	-	-	Dredging to 8 metres, 1st phase. Tender documents prepared. Dredging to start 2nd half of 1988.
P-A-2	Navigational Aids, Beira Port	(1.0)	(1.0)		(1.0) (SWE)		-	Included in 1st phase of P. 3.5.4.
P-CE-1	Multipurpose & Container Handling Terminal (Berths 2-5)	54.80	54.80		52.50 (EEC) 2.30 (NET)		-	Works being initiated, Supervision will be financed by the Netherlands.
P-CE-2	New Oil Terminal, Beira Port	10.40	9.40	1.00	1.00 (MOZ) 9.40 (NOR)		-	Contract to be signed.

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
P-CE-3	Port Railways, Beira Port	14.60	13.12	1.50	13.10 (ITA) 1.50 (MOZ)	-	-	TOR prepared. Consultant selected.
P-CE-4	Sugar & Cereal Terminal, Beira Port	[illegible]00	8.10	0.90	-	-	9.00	Study on Cereal Terminal financed by Netherlands. Users of the facilities are expected to be involved in funding.
P-CE-5	Cold Storage Facilities, Beira Port	8.00	7.20	0.80	7.20 (DEN) 0.60 (MOZ)	-	-	Feasibility study carried out (DANIDA)
P-CE-6	Tobacco Terminal, Beira Port	3.00	2.70	0.30	-	-	3.00	Users of the facilities are expected to finance the project.
P-CE-7	Cotton Terminal, Beira Port	3.00	2.70	0.30	-	-	3.00	Users of the facilities are expected to finance the project.
P-CE-8	Grain Silos (combined with P-CE-4)	-	-	-	-	-	-	Waiting for the findings of study P-CE-4.
P-CE-9	Coastal Protection Scheme, Beira Port	10.00	9.00	1.00	1.00 (MOZ)	-	9.00	
P-CE-10	Service Port Facilities, Beira Port	5.00	4.60	0.40	0.40 (MOZ)	3.20 (DEN)	1.40	
P-CE-11	Port Roads, Beira Port	1.00	-	1.00	1.00 (MOZ)	-		Being undertaken by Mozambican contractors.
P-CE-12	High Capacity Coal Terminal	160.00	144.00	16.00	16.00 (MOZ)	-	144.00	
P-CE-13	Port Construction Supervision	2.00	2.00	-	2.00 (NET)	-	-	
P-ME-1	Equipment for Multipurpose and Container Handling Terminal	46.60	41.70	4.90	11.40 (FIN)	22.70 (ADB) 7.60 (SWE)	4.90	1st phase 1987-88 secured. Agreement on grant part signed June'87. Implementation started.

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
P-ME-2	Tugs, Pilot Boats and Line Boats	10.70	10.70	-	10.70 (DEN)	-	-	Tenders Aug/Sept'87. Yard contract by end of 1987.
P-TA-1	Technical Assistance to the Beira Port	5.10	5.10	-	5.10 (NET)	-	-	Funding secured for three years. Assistance team arrived in Jul-Aug' Suplementary financing (US$0.5 mil) Offices & other equipment being con by the Netherlands.
	Sub-total	676.50	614.30	62.20	337.60	106.90	232.00	

TABLE 2(E): NACALA PORT TRANSPORT SYSTEM PROJECTS

ROADS								
1.4.1	Study on Upgrading of road Mangochi Mandimba-Mitande. MALAWI/MOZAMBIQUE.	(0.20)	(0.20)	-	-	-	(0.20)	Under review.
1.8.6	Rehabilitation of the Road Lusaka-Chipata. ZAMBIA	26.30	16.60	9.70	9.70 (ZAM)	-	16.60	Engineering study completed.
RAILWAYS								
2.4.2	Rehabilitation & Acquisition of Locomotives, Rolling Stock & Maintenance Equipment, MR	16.00	16.00	-	-	-	16.00	To provide capacity for the reopeni of the Nacala Line. Funding sought.
2.5.5	Rehabilitation of the Nacala-Cuamba Railway 530 Km. MOZAMBIQUE	225.40	195.40	30.00	32.50 (CAN) 87.70 (FRA) 40.00 (POR) 28.00 (EEC) 2.10 (UK) 30.00 (MOZ) 0.90 (FIN) 2.20 (ITA)	-	-	About 230Kms of track have been ren Track laying of 2nd phase started i July 1987.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
PORTS & WATER TRANSPORT								
3.5.3	Design, Construction & Operational Assistance of Container Terminal for the Nacala Port, MOZAMBIQUE	28.00	24.00	4.00	24.00 (FIN) 4.00 (MOZ)		-	Ongoing project, progressing on schedule. Management study to be completed by April 1988, financed b FINNIDA.
	Sub-total	293.70	250.00	43.70	261.10	0.00	32.60	
TABLE 2(F): DAR-ES-SALAAM PORT TRANSPORT SYSTEM								
ROADS								
1.4.3	Road Link Balaka-Salima-Karonga-Uyole, MALAWI/TANZANIA	52.80	52.80	-	22.80 (EEC) 12.00 (FRG)	-	18.00	Works for the Karonga-Ibanda & Bala Salima sections started 1988.
1.7.3	Rehabilitation/Strengthening of the TANZAM Highway. TANZANIA.	62.00	41.50	20.50	15.20 (IDA) 19.40 (ADB) 6.90 (NOR) 20.50 (TAN)	-	2.00	Two contracts have been let. Works start September 1988.
1.8.8	Rehabilitation of the TANZAM Highway. ZAMBIA.	9.30	5.90	3.40	3.40 (ZAM)	5.90 (DEN)	-	Study completed. Funding sought.
RAILWAYS								
2.7.1	TAZARA 10 Year Development Plan Projects	(268.80)	(245.60)	(23.20)	(192.80)	(25.10)	(60.90)	An updated 10-Year Plan has been prepared.
CE:1	Rehabiliattion of Quarries	17.90	16.20	1.70	11.50 (SWE) 4.70 (EEC) 1.70 (TAZARA)	-	-	The implementation has started.
CE:2	Permanent Rectification of Landslides	45.00	40.00	5.00	5.00 (TAZARA) 20.40 (ADB)	19.60 (ADB)	-	Study made earlier, to be completed by Australian Consultants.

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
CE:3	Mechanized Track Maintenance	13.70	13.60	0.10	2.40 (SWI) 4.80 (EEC) 3.90 (AUSt) 0.10 (TAZARA)	2.50 (SWI)	-	Third tamping machine without finance.
CE:4	Rail Welding	16.40	6.70	9.70	9.70 (TAZARA)	-	6.70	Study to be carried out to determine whether to be implemented during phases 2 or 3.
CE:5	Rail Burn Repairs	8.10	7.60	0.50	5.40 (SWE) 2.20 (SWI) 0.50 (TAZARA)	-	-	Ongoing.
CE:6	Terminal Facilities at New Kapiri Mposhi	0.30	-	0.30	0.30 (TAZARA)	-	-	
CE:7	Railway Link TAZARA-Mpulungu Port, ZAMBIA	0.40	0.40	-	-	0.40 (ADB)	-	TOR submitted to ADB. Prefeasibility study carried out in October, 1987.
CE:8	Malawi Cargo Centre, Mbeya	6.40	6.40	-	6.40 (USA)	-	-	(Malawi - Dar-es-Salaam)
CE:9	Malawi Cargo Centre, DAR-es-SALAAM	8.60	8.60		8.60 (USA)	-	-	(Malawi - Dar-es-Salaam)
GM:1	Technical Assistance to the Head Office	4.50	4.50	-	3.90 (USA)	-	0.60	In addition Tanzania, Zambia & China have signed an agreement for technical cooperation involving 200 experts.
GM:2	Manpower Development Plan & Training Facilities	6.50	6.00	0.50	2.60 (NOR) 0.50 (TAZARA) 2.20 (FRG) 1.20 (USA)	-		
GM:3	Project Coordinating Unit	4.20	4.00	0.20	2.00 (NORDICs) 0.20 (TAZARA)	-	2.00	Financing for Phase 2 (US$2.0 million) sought.
ME:1	Locomotives	45.00	42.50	2.50	2.50 (TAZARA) 40.70 (USA) 1.80 (FRG)	-	-	

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
ME:2	Goods Wagons	50.00	50.00	-	17.00 (SWE)	-	33.00	
ME:3	Trolleys and Trailers	6.60	6.60	-	-	-	6.60	Funding sought.
ME:4	Handling Equipment for Goods Depots	2.00	2.00	-	-	-	2.00	Project is being re-appraised.
ME:5	Rescue Crane and Rerailing Equipment	8.00	7.80	0.20	7.80 (FIN) 0.20 (TAZARA)	-	-	Implementation started. The need for a 2nd crane will be assessed during implementation of ongoing project.
ME:6	Wheel Lathes	3.70	3.60	0.10	3.60 (EEC) 0.10 (TAZARA)	-	-	
ME:7	Mechanical Equipment for Workshops	9.60	9.60	-	1.80 (EEC)	-	7.80	
ME:8	Malawian Tank Wagons and Tank Containers	1.30	1.30	-	1.30 (USA)	-	-	
ST:1	Solar Power Panels	4.30	3.40	0.90	3.40 (DEN) 0.90 (TAZARA)	-	-	Implementation 1987-88.
ST:2	Back-up HF Radio Link (Combined with ST-1)	-	-	-	-	-	-	Implementation 1987-88.
ST:3	Teleprinters (Combined with ST-1)	-	-	-	-		-	Implementation 1987-88.
ST:4	Feasibility Study of Future Telecommunications System	0.20	0.20	-	-	-	0.20	The project will be re-appraised.
ST:5	Automatic Train Stops	4.50	3.50	1.00	1.00 (TAZARA)	-	3.50	The project will be re-appraised.
ST:6	Track Circuiting	1.60	1.10	0.50	0.50 (TAZARA)	-	1.10	The project will be re-appraised.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
PORTS & WATER TRANSPORT								
3.7.1	Development of Navigation on Lake Niassa/Nyasa/Malawi, Malawi, Mozambique & Tanzania	(12.6)	(12.6)	-	(12.6)	-	-	Estimates of costs and fundings represent the total of the sub-projects listed below.
(1)	Lake Navigation Study	0.40	0.40	-	0.40 (DEN)	-	-	Revised TOR completed. Steering Committee being established.
(2)	Lake Ports, Chilumba, Chipoka & Monkey Bay	5.80	5.80	-	5.80 (USA)	-	-	
(3)	Self Propelled Pontoons	3.70	3.70	-	3.70 (FRG)	-	-	
(4)	Monkey Bay Shipyard	2.70	2.70	-	2.70 (USA)	-	-	
3.7.2	Development of the Port of Dar-es-Salaam TANZANIA.	(207.50)	(177.60)	(29.90)	(133.10)	-	(74.40)	Estimates of costs & fundings represent the total of the sub-projects listed below.
(1)	Kurasini Oil Terminal Rehabilitation (Phase 2)	4.70	4.30	0.40	4.30 (NOR) 0.40 (TAN)	-	-	Started January 1987. Cost increases to be clarified.
(2)	Improvement of Harbour Entrance Channel, Port of Dar-es-Salaam	45.40	41.00	4.40	4.40 (TAN)	-	41.00	Tender documents ready. Financing being sought.
(3)	Construction of Container Terminal, Ubungo ICD & Kurasini Warehouse - Dar-es-Salaam, Tanzania	34.00	25.50	8.50	25.50 (IDA) 8.50 (TAN)	-	-	Including (5) Ubungo Container Depot. Execution started Sept.'85. Completion February 1988.
(4)	Construction of Grain Facility Port of Dar-es-Salaam	12.80	9.50	3.30	9.50 (NET) 3.30 (TAN)	-	-	Implementation started June 1987. Completion February 1989.
(5)	Ubungo Container Depot, Dar-es Salaam		-		-	-	-	Included under (03).
(6.1)	Belgian Wharf Reconstruction, Port of Dar-es Salaam	2.40	1.70	0.70	0.70 (TAN)	-	1.70	Tender documents ready. Financing being sought.

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(6.2)	Modernization of Lighter Wharf, Phase 2-Paving & Service Part	3.50	0.50	3.00	3.00 (TAN) 0.50 (IDA)	-	-	
(6.3)	Modernization of Lighter Wharf, Phase 2-Transit Shed Part	0.30	-	0.30	0.30 (TAN)		-	Financed by THA in local currency.
(7)	Construction of Tug Berth, Port of Dar-es-Salaam	5.20	5.20	-	-		5.20	Financing being sought. Tender document ready.
(8.1)	Purchase of Container Handling Equipment	33.60	33.60	-	33.60 (DEN)		-	Equipment started to arrive in June'86. Complete late 1987.
(8.2)	Purchase of Copper Handling Equipment	2.10	2.10	-	2.10 (SWE)	-	-	Equipment started to arrive in June 1986. Complete late 1987.
(8.3)	Purchase of General Cargo Handling Equipment	3.20	3.20	-	-		3.20	Financing being sought.
(9)	Purchase of Floating Craft	21.10	21.10	-	-	-	21.10	Financing being sought.
(10)	Technical Assistance to THA and Improvement of Bandari College	3.20	2.80	0.40	2.80 (NOR) 0.40 (TAN)	-	-	Project started in October 1987.
(11)	Rehabilitation of Berths 1-8	32.60	23.70	8.90	23.70 (NOR/SWE) 8.90 (TAN)	-	-	Detailed design underway. Civil works commenced Jul'87, complete 1991.
(12)	Study on New Oil Terminal	0.20	0.20	-	-	-	0.20	Funding sought.
(13)	Study on Increasing Port Capacity for SADCC Transit Goods	(0.2)	(0.2)	-	(0.2) (CAN)	-	-	Financing under P. O.O.S. Scheduled for 1987.
(14)	Study on Container Handling in Tanzania & Neighbouring Countries, Dar-es-Salaam	0.50	0.50	-	0.50 (NOR)	-	-	Completed in 1987.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(15)	Improvement of Central Workshop, Port of Dar-es-Salaam	2.50	2.50	-	0.50	-	2.00	Financing being sought.
(16)	* Summary Malawi - Dar-es-Salaam Corridor Projects	(81.30)	(81.30)	-	(63.30)	-	(18.00)	
	Sub-total	612.80	535.80	77.00	426.50	28.40	157.90	

TABLE 2(G): LOBITO PORT TRANSPORT SYSTEM PROJECTS

0.1.1	Multimodal Projects in the 10-Year Plan for Lobito Port Transport System	(86.4)	(86.4)	-	(13.8)	-	(72.6)	
(G-CE-1)	Development of the Town of Lobito	13.50	13.50	-	-	-	13.50	
(G-CE-2)	Rehabilitation of Cement Factory	6.00	6.00	-	-	-	6.00	
(G-E-1)	Repair & Extension of Lumaum Hydroelectric Power Plant	42.00	42.00	-	10.80 (POR) 3.00 (FEG)	-	28.20	
(G-M-1)	Project Coordination Unit	5.00	5.00	-	-	-	5.00	
(G-M-2)	Support to Workers and Their Families	7.60	7.00	-	-	-	7.00	
(G-M-3)	Housing for Technical Assistant Staff in Lobito and Huambo	9.40	9.40	-	-	-	9.40	
(G-M-4)	Rehabilitation of Hotel Terminus	3.50	3.50				3.50	
ROADS								
1.1.3	Roads & Road Transport Projects in the 10-Year Development Plan for Lobito Port Transport System	19.20	19.20	-		-	19.20	

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(RD-CF-1)	Benguela-Lobito Road & Access Roads to the Port and Railway in Lobito	12.20	12.20	-	-	-	12.20	
(RD-TR-1)	Reinforcement of the Capacity of the Road Transport Company	7.00	7.00	-	-	-	7.00	
1.8.1	Study on Angola-Zambia Road Link, ZAMBIA	(0.20)	(0.20)	-	-	-	(0.20)	Under review.
RAILWAYS								
2.1.1	Benguela Railway Projects in the 10-Year Development Plan for Lobito Port Transport System	(340.2)	(340.2)	-	-		(340.2)	
(R-CE-1)	Track Repair and Upgrading	159.90	159.90	-	-	-	159.90	
(R-CE-2)	Establishment of Quarries	6.40	6.40	-	-	-	6.40	
(R-CE-3)	Sleeper Production Plants	3.00	3.00	-	-	-	3.00	
(R-CE-4)	Track Maintenance Equipment	16.00	16.00	-	-	-	16.00	
(R-CE-5)	Realignment Design Cubal to Huambo	0.60	0.60	-	-	-	0.60	
(R-CE-6)	Realignment Study Huambo to Luau	0.40	0.40	-	-	-	0.40	
(R-E-1)	Electric Supply & Distribution Systems for Lobito, Huambo and Luena	1.80	1.80	-	-	-	1.80	
(R-M-1)	Manpower Development Plan	1.50	1.50	-	-	-	1.50	
(R-M-2)	Upgrading & Extension of Computer Facilities	0.90	0.90	-	-	-	0.90	
(R-M-3)	Railway Training Assistance	15.00	15.00	-	-	-	15.00	

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(R-M-4)	Technical Assistance for Operation of the Railway	7.50	7.50	-	-	-	7.50	
(R-M-5)	Improvement of Railway Hospitals	6.00	6.00	-	-	-	6.00	
(R-ME-1)	Rehabilitation & Acquisition of Locomotives	20.00	20.00	-	-	-	20.00	
(R-ME-2)	Rehabilitation & Acquisition of Rolling Stock	65.00	65.00	-	-	-	65.00	
(R-ME-3)	Completion of Diesel Workshop and Re-equipment of Wheel Shop at Huambo	7.00	7.00	-	-	-	7.00	
(R-ME-4)	Conversion of the Steam Depot at Luena to Diesel Maintenance Depot	1.00	1.00	-	-	-	1.00	
(R-ME-5)	Workshop Facilities at Lobito	0.60	0.60	-	-	-	0.60	
(R-ME-6)	Review & Acquisition of Spare Parts and Reorganisation of Main Stores	10.30	10.30	-	-	-	10.30	
(R-ME-7)	Rescue Equipment & Accident Prevention Programme	1.10	1.10	-	-	-	1.10	
(R-ME-8)	Installation of 21 Automatic Barriers	0.60	0.60	-	-	-	0.60	
(R-ME-9)	Study on Improvement of Specialist Workshops in Huambo	0.10	0.10	-	-	-	0.10	
(R-OP-1)	Motive Power, Rolling Stock & Operation Plan	0.40	0.40	-	-	-	0.40	
(R-ST-1)	Train Control System and Telecommunications	14.50	14.50	-	-	-	14.50	

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(P-ST-2)	Telephone Exchanges CFB & Lobito Port	0.60	0.60	-	-	-	0.60	
3.1.1	Port & Water Transport Projects in the Ten Year Development Plan for the Lobito Port Transport System	(76.60)	(76.60)	-	-	-	(76.60)	
(P-CE-1)	Inspection & Reinforcement of Quays, Port of Lobito	15.80	15.80	-	-	-	15.80	
(P-CE-2)	Grain Bulk Facilities Improvement, Lobito Port	1.00	1.00	-	-	-	1.00	
(P-CE-3)	New Coastal Terminal & Service Port Facilities, Lobito Port	6.50	6.50	-	-	-	6.50	
(P-CE-4)	Rehabilitation of Port Railway, Lobito Port	2.50	2.50	-	-	-	2.50	
(P-CE-5)	Study on Rehabilitation of Existing Ore Bulk Facilities, Lobito Port	0.50	0.50	-	-	-	0.50	
(P-CE-6)	New Multi purpose Terminal (Study), Lobito Port	1.00	1.00	-	-	-	1.00	
(P-CE-7)	New Container Terminal, Lobito Port	1.00	1.00	-	-	-	1.00	
(P-CE-8)	Coastal Protection Works, Lobito Port	1.30	1.30	-	-	-	1.30	
(P-M-1)	Welfare & Office Facilities, Lobito Port	3.50	3.50	-	-	-	3.50	
(P-ME-1)	Rehabilitation of Power & Lighting System, Lobito Port	2.50	2.50	-	-	-	2.50	
(P-ME-2)	Purchase of General Port Equipment, Lobito Port	2.60	2.60	-	-	-	2.60	

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(P-ME-3)	Port Maintenance Workshop & Store, Lobito Port	3.50	3.50	-	-	-	3.50	
(P-ME-4)	Mobile Cranes Rehabilitation & Scrapping Programme, Lobito Port	3.00	3.00	-	-	-	3.00	
(P-ME-5)	Floating Equipment, Lobito Port	5.00	5.00	-	-	-	5.00	
(P-ME-6)	Shipyard Rehabilitation, Lobito Port	15.00	15.00	-	-	-	15.00	
(P-MS-1)	Maritime Security Programme, Angola	1.50	1.50	-	-	-	1.50	
(P-S-1)	Improvement of the Capacity of the Coastal Shipping Company, Angola	8.00	8.00	-	-	-	8.00	
(P-TA-1)	Technical Assistance to the Port of Lobito	3.00	3.00	-	-	-	3.00	
PORTS & WATER TRANSPORT								
3.1.2	Development of the Port of Luanda	(38.00)	(31.90)	(6.10)	(10.0) (ANG)♦ (6.1) (ANG)	-	(21.90)	Under review.
(1)	Container and Ro/Ro Terminal in the Port of Luanda	(10.70)	(9.10)	(1.60)	(1.60) (ANG)	-	(9.10)	Under review.
(2)	Construction of a Grain Terminal & Silos Port of Luanda	(12.70)	(10.80)	(1.90)	(1.90) (ANG) (3.70) (ANG)♦	-	(7.10)	Under review.
(3)	Modernisation and Enlargement of Electrical Systems, Port of Luanda	(5.50)	(5.50)		(3.00) (ANG)♦	-	(2.50)	Under review.
(4)	Earth Works, Port of Luanda	(5.50)	(3.30)	(2.20)	(3.30) (ANG)♦ (2.20) (ANG)			Under review.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(5)	Construction of Canteen Facilities, Port of Luanda	(3.60)	(3.20)	(0.40)	(0.40) (ANG)	-	(3.20)	Under review.
5.1.9	Telecommunications Projects in the 10-Year Development Plan for the Lobito Port Transport System	33.60	33.60	-	-		33.60	
	Sub-total	575.80	575.80	0.00	13.80	0.00	562.00	

* Indicates foreign exchange contribution.

TABLE 2(H): INTRA-REGIONAL SURFACE TRANSPORT SYSTEM PROJECTS

ROADS

1.1.1	Study of the Road N'Zeto-Soyo. ANGOLA.	(1.10)	(1.10)	-	-	-	(1.10)	Under review.
1.1.2	Studies of Four Roads. ANGOLA	(1.60)	(1.60)	-	-	-	(1.60)	Under review.
1.2.1	Partial Reconstruction of Nata-Kazungula Road. BOTSWANA	8.90	7.10	1.80	3.30 (SWE) 1.80 (BOT)	-	3.80	
1.2.2	Study on Jwaneng-Mamuno Road Link. BOTSWANA	1.40	1.40	-	1.40 (SWE)	-	-	TOR have been prepared. ADB (Swedis Funds) has secured funding. Study t start July 1988.
1.4.2	Study on the Upgrading of the Road Blantyre-Milanje-Mocuba, Malawi/ Mozambique	(0.5)	(0.5)	-	(0.2) (CAN)	-	(0.3)	
(1)	Study on the Upgrading of the Road Blantyre-Milange-Mocuba (Feasibility Study)	(0.2)	(0.2)	-	-	(0.2) (CAN)	-	Feasibility study intended to be funded under Project 0.0.5.
(2)	Study on the Upgrading of the Road Blantyre-Milanje-Mocuba (Design)	0.30	0.30	-	-	-	0.30	Engineering design of part of Mozambique section completed.

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
1.5.2	Rehabilitation of the Zimbabwe-Tete-Malawi Road. MOZAMBIQUE.	18.60	12.60	6.00	12.60 (KUW) 6.00 (MOZ)	-	-	Work in progress.
1.5.5	Study on Unity Bridge and Access Roads. MOZAMBIQUE/TANZANIA.	(0.90)	(0.90)	-	-	-	(0.90)	Under review.
1.7.1	Rehabilitation & Upgrading of the Mtwara-Songea-Moamba Bay Road. TANZANIA	(80.00)	(54.00)	(26.00)	(26.00) (TAN) (8.00) (NET)	(24.50) (EEC)	(21.50)	Under review.
1.8.3	Rehabilitation of the Lusaka-Kafue-Livingstone-Kazungula Road. ZAMBIA	50.10	19.00	11.10	12.50 (NOR) 11.10 (ZAM)	-	6.50	Work completed on Livingstone-Zimba section. Works on Kafue-Monze secti to start end 1988.
1.8.5	Rehabilitation of the Lusaka-Kapiri-Chingola-Zaire Border Road. ZAMBIA	45.70	28.80	16.90	16.90 (ZAM)	-	28.80	Engineering study completed.
1.8.7	Improvement of the Road Lusaka-Mongu. ZAMBIA	(25.00)	(15.80)	(9.20)	(9.20) (ZAM) (15.80) (CHI)	-	-	Under review.
RAILWAYS								
2.2.7	Establishment of Dry Ports/IOD's in BOTSWANA.	5.00	4.50	0.50	0.50 (BOT) 0.50 (DEN)	-	4.00	Denmark financing study. Funding for implementation sought.
2.3.1	Establishment of Dry Port/IOD's in Lesotho	1.40	1.00	0.40	0.40 (LES)		1.00	Study concluded financed by EEC.
2.4.3	Establishment of Dry Ports/IOD's in MALAWI.	4.00	3.20	0.80	0.50 (DEN) 0.80 (MAL)	-	2.70	Study financed by Denmark. Funding implementation sought.
2.4.4	Improvement of Communications Systems. Malawi Railways	0.80	0.80		-	-	0.80	
2.5.8	Rehabilitation & Maintenance of Wagons CFM, Mozambique	14.60	11.50	3.10	3.10 (MOZ) 2.80 (ITA)	-	8.70	

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
2.5.11	Computerized Wagon Control System for CFM, MOZAMBIQUE	2.50	2.00	0.50	1.50 (KUW) 0.50 (MOZ)	-	0.50	
2.5.12	Rehabilitation and Acquisition of Locomotives for CFM, MOZAMBIQUE.	85.00	85.00	-	6.40 (USA)	-	78.60	Funding sought.
2.6.2	Establishment of Dry Port/IOD, SWAZILAND	0.70	0.50	0.20	0.20 (SWA)	-	0.50	Funding sought.
2.8.1	Feasibility Study for New Rail Links Connecting Zambia with Malawi and Mozambique.	(0.60)	(0.60)	-	-	-	(0.60)	Under review.
2.8.2	Acquisition and Refurbishment of Locomotives & Wagons, Zambia Railways.	262.00	243.50	18.50	10.00 (SWE) 1.20 (BEL) 13.90 (USA) 18.50 (ZAM)	-	218.40	
2.8.3	Railway Bridges, ZAMBIA Railways	(14.00)	(11.70)	(2.30)	(2.30) (ZAM)	-	(11.70)	Under review.
2.8.4	Establishment of Dry Ports/IODs in ZAMBIA	6.00	5.40	0.60	0.60 (ZAM)	-	5.40	Funding sought.
2.8.5	Track Rehabilitation & Maintenance Zambia Railways.	64.60	48.70	15.90	6.20 (ADB) 15.90 (ZAM)	-	42.50	
2.8.6	Telecommunications & Data Base Management System, Zambia Railways.	4.50	3.40	1.10	1.10 (ZAM)	-	3.40	
2.8.7	Motive Power, Rolling Stock and Operation Plan for Zambia Railways.	(0.2)	(0.2)	-	-	(0.2) (CAN)	-	Included in proposed programme of Project 0.0.5.
2.9.1	Repair Tracks and Wagon Maintenance Equipment, National Railways of Zimbabwe ZIMBABWE	1.10	0.60	0.50	0.60 (ZIM) 0.50 (ZIM)	-	-	

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
2.9.2	Equipment for Central Electrical Workshop, National Railways of Zimbabwe.	0.40	0.40	-	-	-	0.40	
2.9.3	Telecommunications, Signalling & Wagon Control, NRZ, Zimbabwe	12.00	9.00	3.00	3.00 (ZIM)		9.00	
PORTS & WATER TRANSPORT								
3.5.4	Navigational Aids, Mozambique	15.40	14.70	0.70	7.90 (SWE) 0.70 (MOZ)	-	6.80	Financing of first phase secured, organization of project established. Detail design being prepared.
(1)	Buoy Handling & Maintenance Vessel, MOZAMBIQUE	7.20	7.20	-	7.20 (DEN)	-	-	Agreement signed June 1987. Estimated time for delivery of vessel is Oct'88.
3.7.3	Coastal Navigational Aids, TANZANIA	0.20	0.20	-		0.20 (NOR)		TOR prepared. Preappraisal mission (Norway) August 1987.
3.8.1	Study of the Navigation of the Zambezi and Shire Rivers	0.30	0.30	-	-	0.30 (UNDP)	-	Steering Committee being established.
	Sub-total	592.70	511.10	81.60	170.10	0.50	422.10	
TABLE 2(I): CIVIL AVIATION PROJECTS								
4.0.8(i)	Rehabilitation of Aeronautical Telecommunications in the Region	30.00	30.00		-		30.00	Each SADCC State should try to find a donor for its national part of the project.
4.1.1	Civil Aviation Projects in the 10-Year Development Plan for the Lobito Port Transport System	(10.1)	(10.1)				(10.1)	
(CA-CL-1)	Upgrading of Benguela Airport	10.00	10.00		-		10.00	
(CA-CL-2)	Study on New Airport between Lobito and Benguela.	0.10	0.10				0.10	

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
4.2.1	Acquisition of New Aircraft for Air Botswana.	9.00	9.00	-	-	-	9.00	
4.2.2	Improvement to Gaborone Airport	8.00	5.00	3.00	3.00 (BOI) 0.10 (NZ) 3.70 (UNSPEC'd)	-	1.20	
4.2.3	Flight Information Region for Botswana	9.40	8.50	0.90	0.90 (BOT)	-	8.50	
4.3.3	Acquisition of New Aircraft for Air Lesotho	40.00	40.00	-	-	-	40.00	
4.3.4	Rehabilitation of Aeronautical Telecommunications, LESOTHO	0.30	0.30	-	-	-	0.30	
4.4.1	New Airport at Mzuzu, MALAWI	(17.30)	(13.00)	(4.30)	(2.60) (FRA) (4.30) (MAL)	-	(10.40)	Under review.
4.5.3	Civil Aviation Projects in Beira Port Transport System Development Plan	(29.5)	(28.3)	(1.2)	(1.2) (MOZ)	-	(28.3)	
C-CE:1	Development of Beira Airport Terminal	2.00	2.00	-	-	-	2.00	
C-CE:2	Strengthening of Runways in Beira and Tete.	4.50	3.60	0.90	0.90 (MOZ)	-	3.60	
C-CE:3	Airport Building, Chimoio	1.50	1.20	0.30	0.30 (MOZ)	-	1.20	
C-ME:1	Acquisition of Two New Aircraft	7.00	7.00	-	-	-	7.00	
C-ME:2	Communication & Navigation at Beira, Chimoio and Tete	6.00	6.00	-	-	-	6.00	
C-ME:3	Fire Fighting Equipment (Beira, Chimoio & Tete)	2.50	2.50	-	-	-	2.50	

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
C-ME:4	Maintenance Equipment	0.50	0.50	-	-	-	0.50	
C-ME:5	Airport Lighting, Chimoio	0.50	0.50	-	-	-	0.50	Funding sought.
C-TA:1	Technical Assistance	5.00	5.00	-	-	-	5.00	
4.5.5	Development of Maputo Airport, MOZAMBIQUE	6.50	5.20	1.30	1.30 (MOZ)	-	5.20	
4.5.6	Development of Inhambane Airport, MOZAMBIQUE	(6.00)	(5.00)	(1.00)	(1.00) (MOZ)	-	(5.00)	Under review.
4.5.7	Development of Vilanculos Airport, MOZAMBIQUE	(2.50)	(2.00)	(0.50)	(0.50) (MOZ)	-	(2.00)	Under review.
4.6.1	Development of Matsapa Airport, SWAZILAND	38.00	32.00	6.00	2.00 (EEC) 1.80 (FRA) 17.00 (SWA)* 6.00 (SWA)	-	11.20	Control tower, training and telecoms are financed by EEC. France has agreed to finance Training, Technical Assistance, Navigation Aids & Landing Equipment. Runway financed by local funds for remaining parts.
4.8.1	Study on Improvement Livingstone, Ndola & Southdown Airports, Zambia	(0.70)	(0.70)	-	-	-	(0.70)	Under review.
4.8.4	Study on New Hangar at Lusaka International Airport. ZAMBIA	(0.10)	(0.10)	-	-	-	(0.10)	No action until result of Project 4.0.3 is available.
4.8.6	Lusaka International Airport Development, Zambia	44.10	44.10				44.10	New project in SATCC Programme.
4.[illegible]	Study on New Harare Airport Terminal, ZIMBABWE	0.50	0.50	-	0.50 (ZIM)		-	Initiation of the project will await the results of an ongoing master plan study.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
4.9.3	Modernization of AFIN - Message Switching Centre at Harare International Airport, ZIMBABWE	0.60	0.60	-	-	-	0.60	Funding sought.
4.9.4	Improvement and Expansion of Radar Coverage, Zimbabwe	8.00	8.00	-	-	-	8.00	
	Sub-total	234.00	221.60	12.40	37.50	0.00	196.50	
TABLE 2(J): TELECOMMUNICATIONS PROJECTS								
5.1.1	Telecommunication Projects in the 10-Year Development Plan for Lobito Port Transport System	(35.10)	(35.10)	-	-	-	(35.10)	Feasibility study on the Earth Stat Stnd "A", Benguela/Lobito carried o under P. 0.0.5 (CIDA). Implementati not included in the Plan.
(T-M-1)	Technical Assistance to ENATEL	2.50	2.50	-	-	-	2.50	
(T-MC-1)	Provision of HF Radio Maritime Communications to Lobito Harbour	0.80	0.80	-	-	-	0.80	
(T-MC-2)	Expansion of Maritime Communication Facilities	1.80	1.80	-	-	-	1.80	
(T-PT-1)	Microwave Link Benguela/Lobito-Luau	11.40	11.40	-	-	-	11.40	
(T-PT-2)	Spur Routes Along the Benguela/Lobito-Luau Corridor	5.90	5.90	-	-	-	5.90	
(T-PT-3)	Extension/Rehabilitation of Switching & Outside Plant Along the Corridor	9.10	9.10	-	-	-	9.10	
(T-PT-4)	Rehabilitation of Troposcatter Link Malange-Saurimo-Luena-Zambia	1.30	1.30	-	-	-	1.30	

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Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
(T-FT-5)	Microwave Link Luanda-Benguela/Lobito	2.30	2.30	-	-		2.30	
5.1.2	Expansion of International Telecommunication Services, ANGOLA	38.00	32.40	5.60	32.40 (ADB) 5.60 (ANG)	-	-	Ongoing project. Completion in 1989
5.1.3	Microwave Link Luanda-Cabinda, ANGOLA	5.10	4.10	1.00	1.00 (ANG)	-	4.10	Financing sought.
5.1.6	Expansion of Telecommunication Training Centre, Angola	1.50	1.00	0.50	0.50 (ANG)	-	1.00	
5.1.7	Expansion of Circuit Capacities for Transmission Routes South of LUANDA	1.50	1.50	-	-	-	1.50	
5.2.3	Expansion of the Microwave Trunk Network, BOTSWANA	30.50	28.00	2.50	2.50 (BOT) 13.00 (NOR)	-	15.00	Norway is financing Francistown-Kas with extension from Nata-Maun.
5.2.5	Rural Telecommunications Development Study for BOTSWANA	0.30	0.20	0.10	0.10 (BOT) 0.20 (ADB)	-	-	ADB is financing the study.
5.3.2	Rural Communication System, LESOTHO	2.20	2.00	0.20	0.20 (LES) 0.10 (CAN)	-	1.90	CIDA has provided US$ 0.1 million f study under F. O.D.S. Financing wil be required for project implementat
5.3.3	Rural Automatic Telephone Exchanges, LESOTHO	3.00	2.50	0.50	0.50 (LES)	-	2.50	
5.4.2	Digitalization of the Trunk Network, MALAWI	21.00	19.00	2.00	19.00 (JAP) 2.00 (MAL)	-		DECF (Yen Credit) of Japan is carry out project implementation.
5.4.3	Supply of Digital Equipment for the Expansion of Telephone Exchanges in Blantyre, Lilongwe and Zomba	20.60	19.40	1.20	1.20 (MAL)	-	19.40	
5.5.1	National/Regional Satellite Communication System, MOZAMBIQUE	20.60	20.10	0.50	13.20 (FRA) 4.30 (KUW) 1.60 (CAN)	-	1.00	CIDA has provided funds for the Boa rehabilitation, upgrade & feasibili study for Lichinga & Pemba domestic

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
					0.50 (MOZ)			satellites.
5.5.3	National Telecommunications Development Project with Connections to Neighbouring Countries (Regional Part)	347.70	307.90	39.80	55.20 (ITA) 15.90 (ADB) 13.80 (SWE) 8.10 (BADEA) 6.00 (NOR) 39.00 (MOZ)	26.20 (FRG)	182.70	The parts of the project related to Beira Corridor are presented under P. 5.5.5. Financing of telex exchan in Beira sought. NORAD & Sweden finance microwave link Zimbabwe/Tet Blantyre.
5.5.5	Telecommunication Projects in Beira Port Transport System Development Plan	(20.1)	(18.1)	(2)	(0.7) (ITA) (2.0) (MOZ)	(0.1) (POR)	(17.3)	
T-CE-1	Spur Routes Beira-Machipanda, Mozambique	3.70	3.30	0.40	0.40 (MOZ)	-	3.30	
T-CE-2	Crossborder Section of the Link Beira Chimoio-Mutare, ZIMBABWE	0.80	0.70	0.10	0.70 (ITA) 0.10 (MOZ)	-	-	
T-CE-3	Digital Microwave Link Beira-Caia-Tete	8.70	7.80	0.90	0.90 (MOZ)	-	7.80	
T-CE-4	Spur Routes Along Beira-Vila Nova da Fronteira, Malawi Corridor	6.30	5.70	0.60	0.60 (MOZ)	-	5.70	
T-TA-1	Technical Assistance to TDM, Mozambique	0.60	0.60	-	-	0.10 (POR)	0.50	Funding sought.
5.5.6	Maritime Radio Communication Project, MOZAMBIQUE	2.50	2.30	0.20	0.20 (MOZ) 0.10 (NOR)	0.10 (NOR)	2.10	Existing equipment Survey completed Norway. Financing is required for t complete study.
5.6.2	ITSC at Mtendozi, SWAZILAND	2.90	2.40	0.50	0.50 (SWA) 2.40 (ITA)	-	-	Implementation contract signed with Italy.
5.6.3	Expansion of the National Microwave Trunk Network, SWAZILAND	3.00	2.50	0.50	0.50 (SWA) 2.50 (ITA)	-	-	Implementation contract signed with Italy.
5.6.4	Provision of Group and Channel Translating Equipment for 20 Super-	1.40	1.30	0.10	0.10 (SWA) 1.30 (ITA)	-	-	Implementation contract signed with Italy.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
	groups at Ntondozi for the Combined National and International Switching Centre ITSC, SWAZILAND							
5.7.2	Extension of ITSC Capacity, Dar-es-Salaam, TANZANIA	4.70	4.50	0.20	4.50 (SWE) 0.20 (TAN)	-	-	Sweden is to finance project implementation.
5.7.3	Standard A Earth Station Satellite Station at Dar-es-Salaam, TANZANIA	12.00	11.50	0.50	11.50 (ITA) 0.50 (TAN)	-	-	Contract on implementation signed with Italy.
5.7.4	New Transit Digital Telephone Exchange for Dodoma, TANZANIA	3.10	2.40	0.70	0.70 (TAN)	-	2.40	
5.7.5	Digital Microwave Link Dar/Dodoma/Zanzibar & Expansion of Multiplex Equipment at Dodoma	8.60	8.10	0.50	0.50 (TAN)	-	8.10	Funding sought.
5.7.7	Provision of a Digital Microwave Link Dar-es-Salaam/Mtwara/Songea & Exchange at Songea	0.20	0.20	-	-	-	0.20	
5.8.1	Extension of the International Telephone Switching Centre (ITSC) in Lusaka, ZAMBIA	2.50	2.50	-	-	-	2.50	
5.8.2	Expansion of the Earth Station at Mwembeshi, ZAMBIA	25.00	23.00	2.00	2.10 (CAN) 2.00 (ZAM)	-	15.90	Canada is financing Phase I for Mwembeshi II. Completed end 1987. Financing required for Mwembeshi II
5.8.3	Microwave Terminal at Chingola to complete the Link Zambia/Zaire, ZAMBIA	0.20	0.20	-	-	-	0.20	An interim 120 channel link is in operation.
5.8.4	Microwave Link Zamberi-Luene, ZAMBIA	1.00	1.00	0.20	0.20 (ZAM)	-	3.80	
5.8.6	Microwave Link Katiba (Zimbabwe)-Siavonga/Lusaka (Zambia), ZAMBIA	1.60	1.60	-	1.60 (ITA)	-		Italy is financing Zambian portion up to Siavonga.

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
5.8.7	Message Switching System in Lusaka, ZAMBIA	0.80	0.80	-		-	0.80	
5.8.8	Livingstone-Kasane (Botswana) Microwave Link	0.80	0.70	0.10	0.10 (BOT) 0.70 (NOR)	-	-	Norway is financing the project as extension of P. 5.9.3, Bulawayo-Liv Microwave Link.
5.8.9	Masterplan Study & Fundamental Planning Unit for ZAMBIA	0.40	0.40	-	-	-	0.40	
5.9.6	Provision of Packet Switching for Data Network in ZIMBABWE	3.60	3.20	0.40	0.40 (ZIM)	-	3.20	
5.9.7	Supply of Digital Telephone Exchanges in ZIMBABWE	52.60	47.50	5.10	47.50 (JAP) 5.10 (ZIM)	-	-	
5.9.8	Expansion of the Earth Station at Mazowe, ZIMBABWE	11.50	10.50	1.00	1.00 (ZIM)	-	10.50	Funding sought.
	Sub-total	688.60	620.70	67.90	330.60	26.40	331.60	

* Indicates foreign exchange contribution.

TABLE 2(f): METEOROLOGY PROJECTS

6.0.2	Regional Drought Monitoring Centre, HARARE	1.80	1.70	0.10	0.10 (ZIM)	1.70 (UNDP)	-	1st Phase of the construction of th building space is completed.
6.0.3	Regional Meteorological Telecommucation Hub and Data Exchange, Lusaka	2.20	1.70	0.50	0.50 (ZAM)	-	2.00	
6.0.4	Regional Maintenance Support of Meteorological Services	0.30	0.30	-	-	-	0.30	
6.0.5	Data Processing in Meteorological Services	1.70	1.70	-	0.40 (FIN)		1.30	

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
6.0.6	Meteorological Observing Networks	6.50	6.50	-	1.50 (FIN)		5.00	
6.0.7	Meteorological Telecommunications	3.10	3.10	-	0.60 (FIN)	-	2.50	
6.0.8	Data Rescue Project	0.50	0.50	-		-	0.50	
6.5.1	Meteorological Buoys for Mozambique	0.10	0.10	-	-	-	0.10	
6.5.2	Aeronautical Equipment for Airports in Mozambique	0.70	0.70	-	-	-	0.70	
6.7.1	Meteorological Buoys for Tanzania	0.40	0.40		-		0.40	
	Sub-total	17.30	16.70	0.60	3.10	1.70	12.80	
TABLE 2(L): POSTAL SERVICES PROJECTS								
7.0.2	Feasibility Study on the Introduction of a Postal Giro System in the SADCC Countries	0.20	0.20				0.20	Funding sought.
7.0.3	Technical Assistance to Postal Services	1.10	1.00	0.10	0.40 (SWE) 0.10 (NOR)		0.90	
7.0.4	Postal Terminals-Regional Programme for Improved & Secured Mail Handling at the Sorting Centre	27.70	16.30	11.40	0.60 (SWE) 2.60 (ANG) 0.00 (BOT) 2.00 (LES) 0.10 (MAL) 0.40 (SWA) 2.00 (TAN) 2.40 (ZIM)		16.80	

Project	Project Title	Estimated Cost US$ Million Total	Foreign	Local	Funding Secured & Source US$ Million	Funding under Negotiation US$ Million	Financing Gap US$ Million	Comments/Status
7.5.1	Sorting Centre & Stamp Printing Facilities in Maputo, Mozambique	2.30	2.00	0.30	1.00 (MOZ) 0.20 (SWE)		1.10	In addition to the local cost US$0.7 million of the foreign component has been funded by Mozambique (acquisition of printing machinery).
	Sub-total	31.60	19.50	12.10	12.60	0.00	19.00	
	TOTAL	4630.40	4176.20	454.20	1942.40	241.10	2447.20	

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TRANSPORT AND COMMUNICATIONS

AMENDMENTS

S A T C C, January 1989

SOUTHERN AFRICAN DEVELOPMENT COORDINATION CONFERENCE

Luanda, People's Republic of Angola.
1st – 3rd February, 1989

1. Introduction

As in previous years, the report of Southern Africa Transport and Communications Commission (SATCC) for this years SADCC Annual Consultative Conference was prepared and submitted to the SADCC Secretariat for distribution in September 1988.

These "Amendments", in accordance with the practice established in the past, update the information given in the report, taking account of development in the status of projects since September 1988. This is done basically by issuing an updated version of Annex 2 of the report, Funding Status of Projects.

2. Update of Programme Status

Since the issuance of the report "Transport and Communications", one new project has been added to the SATCC programme,viz.Project No. 3.0.4, Package of Port Statistics Programmes (project brief enclosed in Annex 1.)

Annex 1 includes also the project briefs for the following projects where substantive changes have taken place:

- 2.2.6 Procurement of Railway Rolling Stock, Botswana Railways

  The acquisition of passenger coaches has been added to the project. Financing of this new element is urgent, as the coaches are required in 1989 to replace the coaches presently hired from the National Railways of Zimbabwe, who will need them for their own operations.

- 2.5.5 Rehabilitation of Nacala-Entre Lagos Railway, Mozambique

  The rehabilitation of locomotives, telecommunications, workshop equipment and materials and logistical support have been added to the project. Additional financing is needed for these components.

- 2.5.6 (03) Rehabilitation of Maputo-Chicualacuala Railway

  Significant progress was made in securing support for the project at the meeting with cooperating partners held in December 1988.

- 3.5.3 Rehabilitation of Port of Nacala, Mozambique

  A phase 3 has been added to the project, consisting of additional civil works, equipment, technical assistance and training. Funding to cover these additions is being negotiated with Finland.

Also included in Annex 1 are the briefs for the following projects, which by oversight were left out from the report:

- 2.1.1 Benguela Railway Projects in Ten Year Development Plan for Lobito Port Transport System, Angola.

- 2.4.2 Rehabilitation and Acquisition of Locomotives, Rolling Stock and Maintenance Equipment, Malawi Railways.

The tables in Annex 2 present the updated costs and financing status of each individual project in the SATCC programme. Table 1 of that Annex summarizes the programme by transport system/subsector.

As seen in Table 1, the total cost of the SATCC programme as at January 1989 stands at USD 5023.2 million. The corresponding figure in January 1988 was USD 4602.5 million, the increase in cost during the year thus being 9 per cent. The increase has resulted from addition of new projects and revision of cost estimates during the year.

We note that the total programme cost indicated in the corresponding table of the report distributed by SADCC Secretariat in advance of this year's Conference is USD 4630.4 million. That figure had been arrived at by omitting from the totals a number of projects which were being reviewed during last year. With those projects added to the total cost (the review exercise having been completed), the total figure as at September 1988 stood at close to USD 5000 million.

The percentage of secured funding and of the funding gap have remained at roughly the same level as in the previous reporting, at 43 per cent and 52 per cent respectively. This indicates that in absolute terms both the secured financing and the shortfall in financing have grown in proportion with the total cost of the programme.

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As regards the funding gap in the various transport systems/subsectors as shown in Table 1, the Lobito Port Transport System has the highest relative gap, 95 per cent. Support for this system will be discussed with the cooperating partners at the forthcoming Technical Coordination Conference this month, and it is expected that the situation will improve as a result.

Apart for the Lobito System, by far the highest funding gap is in civil aviation, 80 per cent. We point out that several of the civil aviation projects in the SATCC programme are directly related to flight safety, especially those concerning aeronautical telecommunications and air traffic control. With the continuous increase in air traffic, the situation is becoming critical. Therefore, special efforts should be made to secure adequate support to this field.

The SATCC programme of projects has constantly grown over the years, the total now exceeding USD 5000 million. This growth has been caused by continuous addition of new elements. However, the programme has by now been basically established at least as far as the surface transport systems are concerned, with longer term plans and programmes covering most of the basic regional systems. It can thus be expected that the growth of the programme will be slowing down in the future. Such restraint of growth should also be actively aimed at by SATCC and the member countries, to keep the size of the programme in a realistic relation to the resources and capacities, both internal and external.

SATCC
Maputo, January 1989

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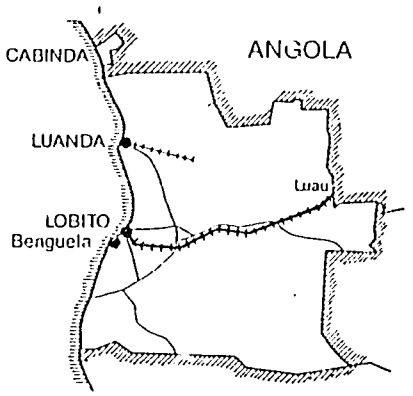
Annex 1

PROJECT BRIEFS :

Projects - 2.1.1
- 2.2.6
- 2.4.2
- 2.5.5
- 2.5.6 (03)
- 3.0.4
- 3.5.3

2.1.1 Benguela Railway Projects in the Ten Year Development Plan for Lobito Port Tran. System



Estimated Costs
Total : USD 346.2 million
Foreign : USD 346.2 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 346.2 million

Executing Agency:
CFB

Start : 1989
Duration: 10 years

Objectives : Rehabilitation and upgrading of the Benguela Railway to provide adequate capacity for future transport needs.

Description : The Ten Year Development Plan for the Lobito Port Transport System includes the following railway projects (Benguela Railway):

Projects		Costs USD, million
R-M-1,	Manpower Development Plan (Study)	1.5
R-M-2,	Upgrading and Extension of Computer Facilities	0.9
R-M-3,	Railway Training Assistance	15.0
R-M-4,	Technical Assistance for Operation of the Railway	12.5
R-M-5,	Improvement of Railway Hospitals	6.0
R-OP-1,	Motive Power, Rolling Stock and Operation Plan	0.4
R-CE-1,	Track Repair and Upgrading	159.9
R-CE-2,	Establishment of Quarries	6.4
R-CE-3,	Sleeper Production Plants	3.0
R-CE-4,	Track Maintenance Equipment	16.0
R-CE-5,	Realignment Design - Cubal to Huambo	0.6
R-CE-6,	Realignment Study - Huambo to Luau	0.4
R-ST-1,	Train Control System and Telecommunications	14.5
R-ST-2,	Telephone Exchanges, CFB and Lobito Port	0.6
R-ME-1,	Rehabilitation and Acquisition of Locomotives	20.0
R-ME-2,	Rehabilitation and Acquisition of Rolling Stock	65.0
R-ME-3,	Completion of Diesel Workshop and Re-equipment of Wheel Shop at Huambo	7.0
R-ME-4,	Conversion of the Steam Depot at Luena to Diesel Maintenance Depot	1.0
R-ME-5,	Workshop Facilities at Lobito	0.6
R-ME-6,	Review and Acquisition of Spare Parts and Re-organisation of Main Stores	10.3
R-ME-7,	Rescue Equipment and Accident Prevention Programme	1.1
R-ME-8,	Installation of 21 Automatic Barriers	1.6

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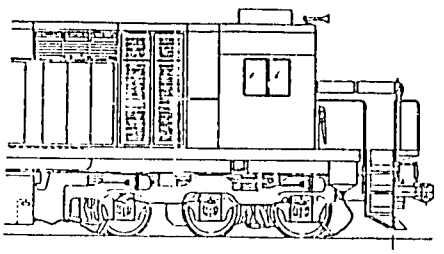
R-ME-9,	Study on Improvement of Specialist Workshops in Huambo	0.1
R-E-1,	Electrical Supply and Distribution Systems for Lobito, Huambo and Luena	1.8
	Total	346.2

Status : A Technical Co-ordination Conference to discuss the Plan is scheduled for January, 1989.

January 1989

2.2.6 Procurement of Railway Rolling Stock, Botswana Railways



Estimated Costs
Total : USD 34.5 million
Foreign : USD 34.0 million
Local : USD 0.5 million

Funding Secured
Foreign : USD 18.5 million
Local : USD 0.5 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 15.5 million

Executing Agency:
Botswana Railways

Start : 1988
Duration: 5 years

Objectives : Procurement of adequate railway rolling stock for the Botswana Railways.

Progress : Botswana Railways have been formally established and have taken over the operation of railways in Botswana from the National Railways of Zimbabwe. The National Railways of Zimbabwe need their rolling stock, formerly operated in Botswana, for their own operations. Passenger coaches will be withdrawn from the Botswana lines in 1989. Therefore the Botswana Railways urgently need their own rolling stock.

The project includes the following acquisitions:

(i) goods wagons: 150 high side open, 230 drop side open (container carrying), 90 covered and 80 patrol/oil tanks;

(ii) 10 guards vans;

(iii) 35 passenger coaches in 1989 (US$ 13.125 million), spare parts (US$ 0.875 million), and maintenance facilities (US$ 0.5 million);

(iv) two coaches in 1994 (US$ 0.75 million);

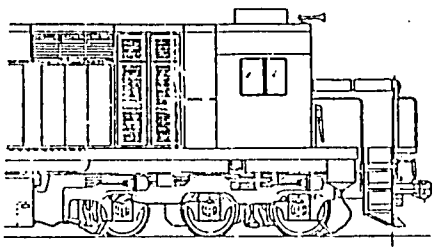
(v) two coaches in 2002 (US$ 0.75 million).

Goods wagons and guard vans are being acquired from Zimbabwe financed by Japan (US $18.5 million).

A project description for the passenger service has been prepared by the Botswana Railways.

Status : Passenger coaches (35), spares and maintenance facilities for passenger coaches are needed in 1989 since the National Railways of Zimbabwe need the present fleet (operated on hire basis) for their own operations after 1989. US$ 14.5 million are urgently needed for that purpose. In addition US$ 0.75 million in 1994 and 0.75 million in 2002 are needed to complete the programme (In addition 20 refrigerated containers are financed by DANIDA).

2.4.2 Rehabilitation and Acquisition of Locomotives, Rolling Stock and Maintenance Equipment, MR



Estimated Costs
Total : USD 16.0 million
Foreign : USD 16.0 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 16.0 million

Executing Agency:
Malawi Railways

Start : 1989
Duration: 2 years

Objectives : Provision of adequate motive power rolling stock and track maintenance equipment for international traffic on the Nacala Line.

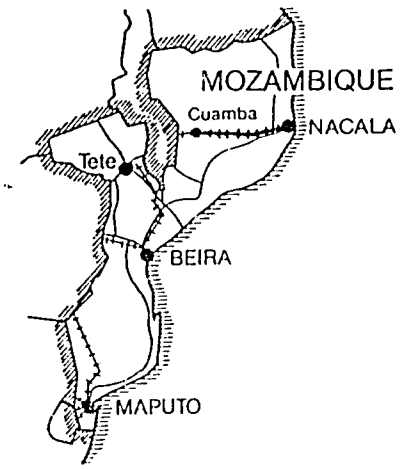
Description: International traffic on the Nacala-Malawi railway line has been interrupted for a few years. The rehabilitation works have progressed so that the line will be reopened for international traffic in 1989. CFM motive power will be inadequate to begin with since motive/power units are needed for rehabilitation works. Malawi will have to supply additional motive power. The rolling stock fleet has deteriorated to such an extent that additional wagons will have to be acquired. In addition a rescue crane and equipment for track maintenance are needed.

The project consists of the following parts:

		USD million
(i)	Rehabilitation of 3 and upgrading of 8 locomotives;	0.90
(ii)	Acquisition of 180 goods wagons, passenger coaches and vans;	9.70
(iii)	Acquisition of a rescue crane;	2.00
(iv)	Six trolleys;	0.25
(v)	Two tampers, ballast regulator two mobile diesel generators and track maintenance equipment;	0.32
(vi)	20 WP diesel generators and associated water pumps for outstations;	1.00
		14.17
	Contingencies	1.83
	TOTAL	16.00

Status : Detailed project descriptions have been prepared by Malawi Railways. Financing is being sought. USA has been approached.

2.5.5 Rehabilitation of the Nacala – Entre-Lagos Railway, Mozambique



Estimated Costs
Total : USD 300.0 million
Foreign : USD 269.7 million
Local : USD 30.3 million

Funding Secured
Foreign : USD 220.6 million
Local : USD 30.3 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 49.1 million

Executing Agency:
DNFCF, Mozambique

Start : 1983
Duration: 12 years

Objectives : To rehabilitate and upgrade the line between Nacala and Cuamba and to improve the stretch between Cuamba and Malawi border (Entre Lagos) by heavy maintenance, and rehabilitation and acquisition rolling stock and other facilities in order to provide means for international traffic between Nacala and Malawi and for Mozambique's internal development.

Progress : The project is composed of the following parts:

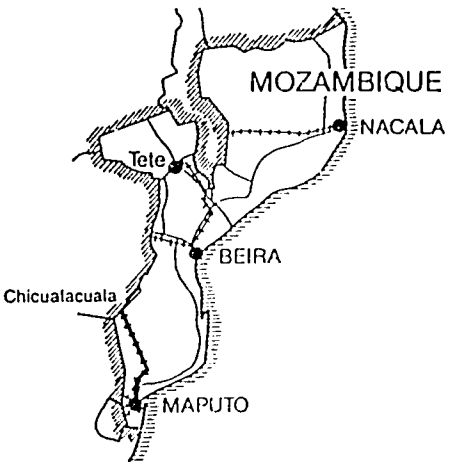
		Cost (USD, million)	
		Foreign	Local
1.	Track Rehabilitation		
	(i) 1st Phase (Nacala-Nampula 192 Km)	100.6	0.9
	(ii) 2nd Phase (Nampula-Cuamba 346 Km)	121.4	22.2
	(iii) 3rd Phase (Cuamba-Entre Lagos 77 Km)	12.8	5.9
2.	Rehabilitation of 7 GE and 10 DH Locomotives	8.3	0.0
3.	Railway Telecommunications	6.8	0.1
4.	Workshop equipment and material	6.5	1.2
5.	Logistics	13.3	0.0
	Total	269.7	30.3

Acquisition of new locomotives, wagons, coaches, additional maintenance equipment etc. are programmed after 1994 (not included in the above). Rehabilitation of wagons is included in P. 2.5.8 and acquisition of new locomotives for CFM as a whole, in P. 2.5.12.
The 1st Phase of the track rehabilitation has been completed, and the 2nd phase is ongoing.

Status : The following funds have been secured:
France USD 107.7 million, Portugal 40.0, Canada 35.5, EEC 30.3, Italy 4.0, UK 2.1, Finland 1.0 and Mozambique 30.3 million. Additional USD 49.1 million is needed to complete the programme.

January 1989

2.5.6(03) Rehabilitation of Maputo – Chicualacuala Railway



Estimated Costs
Total : USD 216.8 million
Foreign : USD 202.2 million
Local : USD 14.6 million

Funding Secured
Foreign : USD 109.0 million
Local : USD 2.0 million

Funding Under Negotiation
Total : USD 10.0 million

Financing Gap:
Total : USD 95.8 million

Executing Agency:
DNFCF/EMS Mozambique

Start : 1986
Duration: 10 years

Objectives : Rehabilitation and upgrading of the track, motive power, rolling stock, workshops and other facilities to make it possible to reopen the line for international traffic and to provide adequate capacity for the future traffic demand.

Progress : The first phase of the project was initiated in 1986, financed by UK and Mozambique, and continues until 1989. The second phase, based on the Study on Rehabilitation, Operation and Maintenance of Limpopo Line by Mott, Hay and Anderson of UK and SLI Consultants of Canada, has also been initiated.

On that basis, the project is composed of the following subprojects :

(i) First Phase

	Cost Estimate USD ('000)		
	Total	Foreign	Local
Operations study, track renewal km 471-525; Resleepering ballasting and welding km 4-84; Track renewal in Maputo yard; quarry; sleeper factory; welding plant; railway telecommunications Maputo-Chicualacuala; tools and equipment; and technical assistance	27,000	25,000	2,000

(ii) Core Programme

C-QO-1	Quarry equipment	721	721	0
C-QO-2	Ballast for track upgrading	252	82	170
C-QO-3	Ballast for track renewal	1,117	366	751

C-SP-1	Equipment for sleeper factory	225	225	0
C-SP-2	Sleepers for track renewal	7,688	1,147	6,541
C-MD-1	Equipment and yard improvement, Machava rail depot	285	285	0
C-TM-1	Steel sleepers by NRZ	1,260	1,260	0
C-TM-2	New rails (70 km)	3,780	3,780	0
C-TM-3	New turnouts	380	380	0
C-TU-1	Track upgrading	243	195	48
C-TU-2	Bridge works	2,400	1,975	425
C-RM-1	Track renewal operations by BMS	3,446	1,605	1,841
C-RM-2	Technical assistance to BMS	975	975	0
C-RM-3	Hopper Wagons	3,200	3,200	0
C-RZ-1	Concrete sleepers, track renewal by NRZ	10,032	10,032	0
C-RZ-2	Ballast, track renewal by NRZ	4,293	4,293	0
C-RZ-3	Track renewal operations by NRZ	15,376	15,376	0
C-OM-1	Workshop organization and methods study	600	600	0
* C-LO-1	Spare parts and materials for locomotive workshops	6,450	6,450	0
C-LO-2	Repairs to tools and equipment (locos)	750	750	0
C-LO-3	New tools and equipment (locos)	2,500	2,500	0
C-LO-4	Building repairs, loco workshops	1,747	1,525	222
* C-LO-5	Technical assistance and training (loco workshops)	800	800	0
C-LO-6	Accommodation, technical assistance (locos)	3,000	2,700	300
C-WA-1	Spare parts and materials, wagon workshops	750	750	0
C-WA-2	Equipment repair and replacement (wagons)	500	500	0
C-WA-3	Building repairs (wagon workshops)	1,562	1,353	209
C-WA-4	Technical assistance and training (wagon workshops)	4,800	4,800	0
C-WA-5	Accommodation for technical assistance	3,000	2,700	300
C-BR-1	Repair and rehabilitation, other buildings and services	823	715	108
** C-RD-1	Road Maputo-Chokwe-Chicualacuala	00	00	00
C-TA-1	Technical assistance to BMS	2,406	2,395	11
C-TA-2	Management technical assistance to CFM	1,253	1,253	0
C-TA-3	Train operations technical assistance to CFM	500	500	0
C-TA-4	Accommodation for technical assistance	1,000	900	100
	Subtotal, Core Programme	88,114	77,088	11,026

* USD 2.4 million for spares and 4.0 million for technical assistance are included in Project No. 2.5.12, Rehabilitation and Acquisition of Locomotives for C.F.M.

** Project cost, USD 24,970 million, included in Project No. 1.5.6. Road Linking Southern Zimbabwe with Maputo Aerea.

(iii)	Additional Support Programme			
A-ST-1	Train control study preliminary design (signal system Maputo – Infulene)	500	475	25
A-ST-2	System implementation	4,500	4,000	500
A-SC-1	Equipment for stores and inventory control	941	941	0
A-SC-2	Implementation (spares and inventory control)	566	560	6
A-LO-1	Spare parts and materials (loco workshops)	26,550	26,550	0
A-LO-2	Technical assistance and training (loco workshops)	27,200	27,200	0
A-LO-3	Accommodation for technical assistance	2,000	1,800	200
A-WA-1	Spare parts and materials (wagons)	2,250	2,250	0
A-WA-2	Technical assistance and training (wagon workshops)	27,200	27,200	0
A-WA-3	Accommodation for technical assistance	2,000	1,800	200
A-BR-1	Railway housing	738	645	93
A-BR-2	Station buildings	920	800	120
A-BR-3	Other buildings	1,839	1,605	234
A-BR-4	Permanent water supplies	1,792	1,670	122
A-BR-5	Power generation facilities	1,046	1,000	46
A-FC-1	Technical assistance for financial control	1,125	1,125	0
A-TE-1	Track maintenance equipment	543	543	0
	Subtotal, Additional Support Programme	101,710	100,164	1,546
	Grande total	216,824	202,252	14,572

Status : The first phase is fully financed by UK (USD 25.0 million) and Mozambique (USD 2.0 million).

A Technical Coordination Conference on this project was held in Maputo on 27-28 July, 1988 and a follow-up meeting on 14.12.88. The following pledges and statements of support were made:

Botswana — Pula 5.0 million (USD 3.1 million) for concrete sleepers, produced in Botswana.

Canada — CAD 23.0 million (USD 19.1 million) for rails, turnouts, equipment, materials and bush clearing along the line (about half to be spent in the region).

Denmark — Workshop Organisation and Methods Study and participation in wagon rehabilitation programme.

Federal Rep. of Germany — DEM 22.0 million (USD 11.9 million) for renewal operations and signalling.

Portugal	USD 1.0 million for management assistance.
Sweden	USD 1.5 million for track renewal operations.
UK	GBP 15.0 million (USD 25.5 million) for production of sleepers and ballast in Mozambique, welding plant, track renewal operations and technical assistance.
USA	USD 20.4 million for locomotives and workshop rehabilitation (USD 6.4 million under project No. 2.5.12, Rehabilitation and Acquisition of Locomotives for C.F.M.).
IBRD	USD 1.5 million for management assistance.
Austria	Interested in track rehabilitation and maintenance.
Japan	Interested in supporting Core Programme projects to be identified.
EEC	ECU 8-10 million (USD 9-11 million) to finance, among other things, hopper wagons and track maintenance equipment.
ADB	Interested in workshop improvements, technical assistance and training.

Additional finding is being sought.

January 1989

3.0.4 Package of Port Statistics Programmes

Estimated Costs
Total : USD 1.1 million
Foreign : USD 1.1 million
Local : USD 0.0 million

Funding Secured
Foreign : USD 0.0 million
Local : USD 0.0 million

Funding Under Negotiation
Total : USD 0.0 million

Financing Gap:
Total : USD 1.1 million

Executing Agency:
Port Authorities in Member States
Start : 1989
Duration: 2 Years

Objectives : Introduction of a harmonized system for port statistics and performance indicators as adopted by SATCC in the regional sea ports and the main lake ports.

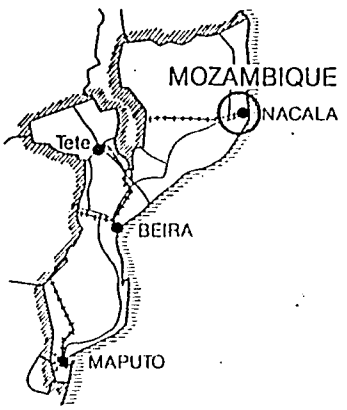
Description : Implementation of a uniform system for port statistics and performance indicators based on a manual prepared by UNCTAD is considered a priority matter to improve port statistics and provide the background for better operational performance in the ports. The project also aims at improving commodity statistics in the port sector based on a uniform commodity classification system for the region. A regional manual on port statistics in English and Portuguese will be prepared by SATCC with the assistance of the UNDP/UNCTAD Transit Transport Project. In addition a common software package will be developed on a regional basis to facilitate initiation of the project.

The project comprises five national projects, three covering the regional sea ports in Angola, Mozambique and Tanzania and two covering the lake ports in Malawi and Zambia. The project includes four main items, namely technical assistance, training, computer hardware and software.

Status : Project descriptions with detailed cost estimates are being prepared. Financing is being sought.

January 1989

3.5.3 Rehabilitation of the Port of Nacala



Estimated Costs
Total : USD 35.0 million
Foreign : USD 30.5 million
Local : USD 4.5 million

Funding Secured
Foreign : USD 24.0 million
Local : USD 4.5 million

Funding Under Negotiation
Total : USD 6.5 million

Financing Gap:
Total : USD 0.0 million

Executing Agency:
INPCF, Mozambique

Start : 1984
Duration: 10 years

Objectives : Design and construction of container facilities, purchase of container handling equipment and technical assistance to the management, general improvement of the port.

Progress : The project is composed of the following parts:

		Costs (USD, Million)	
		Foreign	Local
Phases 1 and 2			
Improvement of old facilities, development of the container terminal, including equipment, maintenance facilities, management and training.		24.0	4.0
Phase 3			
(i)	Additional civil works	3.3	0.5
(ii)	Technical assistance and training, including studies on marketing and tariffs and on new oil handling installation	2.0	0.0
(iii)	Equipment for the Port Authority	1.0	0.0
(iv)	Contingencies	0.2	0.0
	Total	30.5	4.5

Phase 1 has been completed and Phase 2 is about to be completed.

Status : FINNIDA and Mozambique have financed Phases 1 and 2. Funds for Phase 3 are being negotiated with FINNIDA.

Annex 2

PROJECT COST AND STATUS

Table 1	:	Summary of Costs and Funding
Table 2A	:	Regional Operational Co-ordination Projects
Table 2B	:	Training Projects
Table 2C	:	Maputo Port Transport System Projects
Table 2D	:	Beira Port Transport System Projects
Table 2E	:	Nacala Port Transport System Projects
Table 2F	:	Dar es Salaam Port Transport System Projects
Table 2G	:	Lobito Port Transport System Projects
Table 2H	:	Intra - Regional Surface Transport Projects
Table 2I	:	Civil Aviation Projects
Table 2J	:	Telecommunications Projects
Table 2K	:	Meteorology Projects
Table 2L	:	Postal Services Projects

Maputo, January 1989

Table 1: Summary of Costs and Funding (All amounts in USD Million)

Project Type	Number of Projects	Project Costs			Secured Funding		Funding Under Negotiation		Funding Gap	
		Total	Foreign	Local	Total	%	Total	%	Total	%
Regional Operational Coordination Projects	24	87.4	86.2	1.2	31.4	36	3.2	4	52.8	60
Training Projects	17	65.1	60.7	4.4	40.3	62	12.5	19	12.3	19
Maputo Port Transport System Projects	18	919.8	798.1	121.7	389.4	42	21.6	2	508.8	55
Beira Port Transport System Projects	7	666.6	615.2	51.4	331.5	50	109.4	16	225.7	34
Nacala Port Transport System Projects	5	377.5	333.0	44.5	289.1	77	6.5	2	81.9	22
Dar es Salaam Port Transport System Projects	6	582.9	516.0	66.9	407.3	70	51.5	9	124.1	21
Lobito Port Transport System Projects	6	572.5	566.4	6.1	30.1	5	0.0	0	542.4	95
Intra-Regional Surface Transport Projects	31	715.9	596.8	119.1	231.4	32	35.9	5	448.6	63
Civil Aviation Projects	18	261.1	242.9	18.2	45.4	17	8.0	3	207.7	80
Telecommunications Projects	34	724.0	656.1	67.9	329.5	46	38.5	5	356.0	49
Meteorology Projects	10	18.8	18.1	0.7	2.7	14	7.2	38	8.9	47
Postal Service Projects	4	31.6	19.5	12.1	12.6	40	0.0	0	19.0	60
TOTAL	180	5023.2	4509.0	514.2	2140.7	43	294.3	6	2588.2	52

Table 2(A): Regional Operational Coordination Projects (All Amounts in USD Million)

Project No.	Project Title	Estimated Cost Total	Estimated Cost Foreign	Estimated Cost Local	Secured Funding Amount/Source	Funding Under Negotiation Amount/Source	Funding Gap	Implementation Start	Implementation Duration	Comments/Status
0.0.1	Technical Assistance to the SATCC	13.5	13.0	0.5	8.5 (Nordics) 1.0 (Italy) 0.1 (Canada) 0.1 (France) 0.3 (ITU) 0.5 Regional	3.0	0.0	1981	10 Years	Covers the period 1981-91. Nordic countries have been approached for extension of technical assistance 1989-91.
0.0.2	* Operational Coordination Development Programme	3.8	3.8	0.0	3.2 (Unspec'd)	0.0	0.6	1983	To 1990	
(01)	Road Infrastructure	0.5	0.5	0.0	0.5 (Denmark)	0.0	0.0	1985	4 Years	Covers the period 1985-89.
(02)	Road Traffic and Transport	1.1	1.1	0.0	1.1 (Norway)	0.0	0.0	1984		Covers the period 1984-90.
(03)	Railway Administrations	0.8	0.8	0.0	0.8 (Denmark)	0.0	0.0	1985		Covers the period 1985-68.
(04)	* Civil Aviation Administrations	0.0	0.0	0.0	0.0	0.0	0.0			Financed under P 0.0.1 from July 1987.
(05)	* National Airlines	0.0	0.0	0.0	0.0	0.0	0.0			Financed under P 0.0.1 from July 1985.
(06)	Port Administration	0.6	0.6	0.0	0.6 (Norway)	0.0	0.0	1985		Covers the period 1985-90.
(07)	* Shipping, Clearing and Forwarding	0.0	0.0	0.0	0.0	0.0	0.0			Financed under P 0.0.1.
(08)	* Telecommunications (SADA)	0.5	0.5	0.0	0.2 (Canada)	0.0	0.3	1986		SADA Annual. Financed under P. 0.0.5.
(09)	* Meteorology	0.0	0.0	0.0	0.0	0.0	0.0			Financed under P 0.0.1.
(10)	* Postal Services	0.0	0.0	0.0	0.0	0.0	0.0			Financed under P 0.0.1.
(11)	Survey for Regional Frequency Management and Radio Monitoring	0.3	0.3	0.0	0.0	0.0	0.3	1989	2 Years	FRG has been approached.

Table 2A : Regional Operational Coordination Projects (continued)

0.0.4	Transit Transport Project	4.8	4.8	0.0	3.5 (UNDP) 1.3 (USA)	0.0	0.0	1984	Till 1991	Covers the period 1984-91.
0.0.5	SATCC Technical Services Fund	11.4	11.4	0.0	11.0 (Canada) 0.4 (Norway)	0.0	0.0	1985	6 Years	
0.0.6	* SATCC Statistics Data System	0.1	0.1	0.0	0.1 (Canada)	0.0	0.0	1987	1 Year	Financed under P 0.0.5, studies completed. System being implemented.
0.0.7	SATCC Housing in Maputo	2.2	2.2	0.0	0.0	0.0	2.2	1989	18 months	Housing site to be confirmed.
0.0.8	* Regional Transport Operations Plan	0.3	0.3	0.0	0.3 (Canada)	0.0	0.0	1989	7 months	Financed under Project 5.0.5. Started in January 1989.
1.0.1	Package of Road Safety Programmes	14.0	14.0	0.0	0.0	0.0	14.0	1989	3 Years	Preparation of country programmes is ongoing.
(02)	* Road Safety Programme, Lesotho	2.0	2.0	0.0	0.0	0.0	2.0			Programme prepared.
(03)	* Road Safety Programme, Malawi	2.0	2.0	0.0	0.0	0.0	2.0			Programme prepared.
(05)	* Road Safety Programme, Swaziland	1.8	1.8	0.0	0.0	0.0	1.8			Programme prepared. Nordic Countries have been approached.
(06)	* Road Safety Programme, Tanzania	1.6	1.6	0.0	0.0	0.0	1.6			Programme prepared. Nordic countries have been approached.
(07)	* Road Safety Programme, Zambia	1.8	1.8	0.0	0.0	1.8 (Finland)	0.0			Programme prepared. Finland considering funding.
1.0.2	Package of Weighbridge Programmes	2.2	1.7	0.5	0.3	0.0	1.9	1989	3 years	Descriptions have been prepared.
(01)	* Weighbridge Project, Angola	0.4	0.3	0.1	0.1 Angola	0.0	0.3			
(02)	* Weighbridge Project, Botswana.	0.2	0.2	0.0	0.0	0.0	0.2			
(03)	* Weighbridge Project, Lesotho	0.1	0.1	0.0	0.0	0.0	0.1			

(04)	* Weighbridge Project, Malawi.	0.2	0.2	0.0	0.0	0.0	0.2			
(05)	* Weighbridge Project, Mozambique	0.2	0.2	0.0	0.0	0.0	0.2			
(06)	* Weighbridge Project, Swaziland	0.3	0.2	0.1	0.1 Swaziland	0.0	0.2			
(07)	* Weighbridge Project, Tanzania	0.3	0.2	0.1	0.0	0.0	0.3			
(08)	* Weighbridge Project, Zambia	0.3	0.2	0.1	0.0	0.0	0.3			
(09)	* Weighbridge Project, Zimbabwe	0.3	0.2	0.1	0.1 Zimbabwe	0.0	0.2			
1.0.3	Implementation of Harmonized Road Maintenance Management System in SADCC Countries	2.6	2.4	0.2	0.2	0.0	2.4	1989	4 years	Denmark has been approached for funding.
2.0.0	* Study on Rail Wagon Standardization and Wagon Spare Parts	0.2	0.2	0.0	0.0	0.2 (Canada)	0.0	1989	7 months	Funding expected through the Canadian Technical Services Fund.
3.0.1	Regional Cooperation in Shipping	[illegible]	0.6	0.0	0.6 (Italy)	0.0	0.0	1986	3 years	Phase I completed. Phase II in progress.
3.0.3	Marine Safety Development Programme for SADCC Coastal States	0.3	0.3	0.0	0.0	0.0	0.3	1989	1.5 years	TOR revised to cover all SADCC coastal countries. Financing being sought.
3.0.4	Package of Port Statistics Programmes	1.1	1.1	0.0	0.0	0.0	1.1	1989	2 Years	Detailed project descriptions are being prepared.
4.0.01 (02)	Expansion of DCA Flight Calibration Unit, Tanzania	6.3	6.3	0.0	0.0	0.0	6.3	1989	2 Years	Study financed by FINNIDA. Financing is being sought for implementation. Background document prepared by ICAO.
4.0.03	Study on Coordinated Use of Aircraft Maintenance Facilities	0.3	0.3	0.0	0.0	0.0	0.3	1989	8 Months	Partly covered by an ADB study. TOR revised accordingly. ADB interested in combination with 4.0.10.

Table 2(A): Regional Operational Coordination Projects (continued)

4.0.05	Study on General Aviation Activities	0.4	0.4	0.0	0.0	0.0	0.4	1989	9 Months	
4.0.07	Updating the Aeronautical Information Services	1.7	1.7	0.0	0.0	0.0	1.7	1989	2 Years	Short term experts with SAICC/IU have made a preliminary study.
4.0.10	Study on the Joint Use of Wide Body Aircraft and Sub-Regional Cooperation	1.0	1.0	0.0	0.0	0.0	1.0	1989	9 Months	ADB interested, see P.4.0.03. Canada also approached under P.0.0.5. World Bank to carry out related study, plans to be coordinated.
5.0.3	Study on AXE 10 Repair Centre	0.4	0.4	0.0	0.0	0.1 (Sweden)	0.3	1989	2 Years	Sweden has been approached.
5.0.4	Implementation Plan for Regional Earth Station Connectivity Project (1989-93)	21.0	21.0	0.0	0.5 (Canada)	0.0	20.5	1989	1 Year	Study financed under project 0.0.5. Financing is required for project implementation.
5.0.5	* Study on the Harmonization of Telephone and Telex Tariffs for the Sub-Region.	0.2	0.2	0.0	0.1 (Canada) 0.1 (ITU)	0.0	0.0	1988	1 Year	Undertaken jointly by ITU Expert and SAICC with financing from P. 0.0.5.
5.0.6	Study on the Development of a Regional Manufacturing Strategy	0.1	0.1	0.0	0.0	0.0	0.1	1989	1 Year	
5.0.7	Model Study on Maint Procedure and Scheds for PANAFTEL Terrestrial Microwave Radio Systems	0.1	[illegible]	0.0	0.1 (ITU)	0.0	0.0	1988	1 Year	ITU is carrying out the study.
5.0.8	Regional Data Communication Strategy Study	0.1	0.1	0.0	0.0	0.1 (Italy)	0.0	1989	1 Year	Italy has been approached.
	TOTAL	87.4	86.2	1.2	31.4	3.2	52.8			

* The costs associated with this entry are not directly included in the Totals. They appear either under another Project or as costs for sub-Projects.
( ) Brackets around a country or financing agency indicates a foreign exchange contribution.

Table 2(B): Training Projects (All Amounts in USD Million)

Project No.	Project Title	Estimated Cost Total	Estimated Cost Foreign	Estimated Cost Local	Secured Funding Amount/Source	Funding Under Negotiation Amount/Source	Funding Gap	Implementation Start	Implementation Duration	Comments/Status
0.0.3	* Training Development Programme	2.0	2.0	0.0	0.8	0.3	0.9	1987		
(01)	* Road Traffic and Transport Training Study and Task Group	0.6	0.6	0.0	0.3 (Canada)	0.3 (Canada)	0.0	1987	2 Years	Study about to be completed, financed under Project 0.0.5. Task Group expected to be financed under P. 0.0.5.
(04)	Training Course in National Telecommunications Network Planning	0.5	0.5	0.0	0.5 (Sweden)	0.0	0.0	1988	2 Years	First course to be run by SIDA in 1989 and follow-up course in 1990.
(05)	Satellite Communications Technology Course	0.2	0.2	0.0	0.0	0.0	0.2	1989	8 weeks	First course completed August 87, financed under P. 0.0.5. Financing sought for second course in 1989.
(07)	Workshop/Seminar on Telecoms Switching Signalling Systems in the Sub-Region	0.1	0.1	0.0	0.0	0.0	0.1	1989	1 Week	ITU is financing the provision of lecturers.
(08)	Local Network (External Plant) Planning Course	0.2	0.2	0.0	0.0	0.2 (Italy)	0.0	1989	8 weeks	Italy financed the first course, and is to finance follow-up course in 1989.
(09)	Telecommunications Training Needs Survey	0.1	0.1	0.0	0.0	0.0	0.1	1989	1 year	
(10)	Telecommunications Course in traffic, tariffs and Accounting procedures	0.3	0.3	0.0	0.0	0.0	0.3	1989	8 weeks	
1.0.4	* Task Group for the Road Transport Training Plan	0.3	0.3	0.0	0.0	0.3 (Canada)	0.0	1989	9 months	Funding has been requested through the Canadian Technical Services Fund.
2.0.6	Development of Railway Training, Regional	8.6	8.6	0.0	0.6 (FRG)	8.0 (FRG) (Canada) (Switzerland) (UK)	0.0	1988	3 years	Based on Study on Railway Training Programmes, P.2.0.2.

Table 2(B): Training Projects (continued)

2.0.7	* Seminar on Marketing for the SADCC Port and Railway Administrations	0.1	0.1	0.0	0.1 (Canada)	0.0	0.0	1989	3 months	The seminar funded through the Canadian Technical Services Fund, scheduled for April 1989.
2.5.13	Development of Railway Training for Portuguese speaking Personnel	25.3	24.2	1.1	14.3 (France) 2.5 (Portugal) 1.1 Mozambique 7.4 (EEC)	0.0	0.0	1984	6 Years	
2.6.3	Provision of Technical Assistance and Management Training to Swaziland Railway	4.7	3.5	1.2	3.5 (USA) 1.2 Swaziland	0.0	0.0	1989	5 years	
3.5.5	Port Staff Training Institute, Mozambique	6.8	5.8	1.0	5.8 (Norway) 1.0 Mozambique	0.0	0.0	1987	3 Years	In progress. Administration and technical assistance through ILO with NORAD funding.
4.0.06	Civil Aviation Manpower and Training Requirements Survey	0.3	0.3	0.0	0.3 (ICAO)	0.0	0.0	1986	1 Month	Completed except for Angola.
4.5.4	SADCC Boeing 737 Flight Training Centre	3.6	3.6	0.0	0.0	0.0	3.6	1989	1 year	EEC and OPEC have been approached.
4.8.5	Improvement of Zambia Air Services Training Institute (ZASTI)	1.7	1.7	0.0	0.0	0.0	1.7	1989	2 years	Updated project description to be prepared.
5.1.6	Expansion of Telecommunication Training Centre, Angola	1.5	1.0	0.5	0.5 Angola	0.0	1.0	1989	2 Years	
6.0.1	Meteorological Expert Services and Fellowships	6.0	6.0	0.0	0.8 (Finland)	4.1 (Finland)	1.1	1988	5 years	
7.0.1	Postal Training Development Programmes	1.1	1.0	0.1	0.1 Regional 0.2 (Finland)	0.0	0.8	1987	3 years	Two management courses financed by Finland. Instructors course financed by Norway.
7.1.2	Development of Postal Training in Angola	2.7	2.2	0.5	0.5 Angola	0.0	2.2	1989	3 years	

7.3.1	Postal Training School, Lesotho	0.2	0.2	0.0	0.0	0.0	0.2	1989	1 year	Costs to cover equipment and transport facilities.
7.4.2	Upgrading of Postal Wing of the MCTC in Blantyre, Malawi	0.2	0.2	0.0	0.0	0.2 (EEC)	0.0	1989	1 year	
7.5.2	Development of Postal Training in Mozambique	1.0	1.0	0.0	0.0	0.0	1.0	1988	1,5 years	
	TOTAL	65.1	60.7	4.4	40.3	12.5	12.3			

* The costs associated with this entry are not directly included in the Totals. They appear either under another Project or as costs for sub-Projects.
( ) Brackets around a country or financing agency indicates a foreign exchange contribution.

Table 2(C): Maputo Port Transport System Projects (All Amounts in USD Million)

Project No.	Project Title	Estimated Cost Total	Estimated Cost Foreign	Estimated Cost Local	Secured Funding Amount/Source	Funding Under Negotiation Amount/Source	Funding Gap	Implementation Start	Implementation Duration	Comments/Status
1.3.1	Upgrading of the Road Mohales Hoek-Quthing-Qachas Nek, Lesotho	89.0	81.0	8.0	8.0 Lesotho 15.5 (EEC) 34.0 (USA) 5.0 (Denmark)	0.0	26.5	1981	8 years	Ongoing.
1.3.2	Upgrading and Reconstruction of the Road Taung-Mokhotlong-Sani Top, Lesotho	50.0	41.0	9.0	9.0 Lesotho	0.0	41.0	1989	3 years	Feasibility study and engineering design are completed (financed by UK). Financing is being sought.
1.3.3	Upgrading of the Road Thaba Tseka-Taung-Mpiti, Lesotho	35.7	28.5	7.2	7.2 Lesotho	0.0	28.5	1989	3 years	Feasibility study financed by Canada has been completed.
1.3.4	Construction of a New Road Rambanta-Semonkong-Sekake, Lesotho	36.8	29.4	7.4	7.4 Lesotho	0.0	29.4	1990	3 years	Engineering design of the Rambanta-Semonkong section completed financed by F.R.Germany which has been approached for financing of works.
1.3.5	Upgrading of the Road Mokhotlong-Qacow, Lesotho	51.3	44.0	7.3	7.3 Lesotho 22.0 (ADB) 10.0 (BADEA) 2.0 (OPEC)	10.0 (Kuwait)	0.0	1989	3 years	Design has been completed.
1.5.4	Rehabilitation of the Road Maputo - Swaziland Border, Mozambique	21.0	17.0	4.0	0.8 (Sweden) 4.0 Mozambique	0.0	16.2	1988	4 years	Works on the Matola Bridge started January 1988, and resealing of section km 35-75 to start shortly, financed by Sweden.
1.5.6	Road Linking Southern Zimbabwe with the Maputo Area, Mozambique	25.0	17.5	7.5	7.5 Mozambique	0.0	17.5	1989	3 years	Financing sought urgently for upgraded service road for Limpopo Railway (cf. P.2.5.6(03)).
1.6.1	Rehabilitation/Upgrading of the Road Mozambique Border at Lomahasha-Siteki-Big Bend	22.0	18.7	3.3	5.7 (ADB) 3.2 (Sweden) 3.3 Swaziland	0.0	9.8	1992	2 years	Work completed on the Lomahasha-Siteki section. Financing is being sought for Siteki-Big Bend section.

Table 2(C): Maputo Port Transport System Projects (continued)

1.6.2	Improvement of the Mobane-Manzini Road, Swaziland	28.9	23.1	5.8	5.8 Swaziland	0.0	23.1	1989	2 years	
2.2.1	* Rehabilitation of the Main Railway Line, Botswana	114.0	91.0	23.0	18.0 (PR China) 23.0 Botswana	0.0	73.0	1984	9 years	See phasing of project.
(01)	Section 1: Gaborone to the Southern Border	19.0	15.0	4.0	15.0 (PR China) 4.0 Botswana	0.0	0.0			Completed.
(02)	Section 2: Francistown to the Northern Border	15.0	12.0	3.0	3.0 (PR China) 3.0 Botswana	0.0	9.0			Canada financed study on Sect 2 and 3 under Project 0.0.5, USD 0.15 mn, and has been approached for funding of implementation.
(03)	Section 3: Gaborone to Francistown	80.0	64.0	16.0	16.0 Botswana	0.0	64.0			See note for Section 2 above.
2.2.2	Rehabilitation of Railway Telecoms Facilities, Botswana	4.1	4.1	0.0	4.1 (Sweden)	0.0	0.0	1986	2,5 years	Work commenced in 1986.
2.2.4	Renewal of the Train Working System, Botswana	5.0	4.7	0.3	4.7 (Sweden) 0.3 Botswana	0.0	0.0	1987	2 years	Work commenced in 1986.
2.2.6	Procurement of Railway Rolling Stock, Botswana Railways	34.5	34.0	0.5	18.5 (Japan) 0.5 Botswana	0.0	15.5	1988	5 years	Goods wagons being manufactured in Zimbabwe. In addition, 20 refrigerated containers finance by Denmark. Funding needed for passenger coaches.
2.2.8	Exchange Yard for Botswana Railways at Rakhuna	1.6	1.2	0.4	0.4 Botswana	0.0	1.2	1987	2 years	
2.5.1	* Rehabilitation of the Mozambique-Swaziland Railway	60.0	42.0	18.0	18.0	0.0	42.0			
(02)	Rehabilitation of the Machava - Swaziland Railway, Machava - Swaziland Border	23.0	17.0	6.0	17.0 (Italy) 6.0 Mozambique	0.0	0.0	1988	3 years	

Table 2(C): Maputo Port Transport System Projects (continued)

(03)	Rehabilitation of Machava – Swaziland Railway, Matsapha – Mozambique Border	37.0	26.0	11.0	11.0 Swaziland	0.0	26.0	1989	3 years	Italy and EEC have been approached.
2.5.6	Railways in Southern Mozambique	0.0	C.0	0.0	0.0	0.0	0.0			See phasing of project.
(03)	* Rehabilitation of Maputo – Chicualacuala Railway	216.8	202.2	14.6	109.0 2.0 Mozambique	10.0	95.8	1986	10 years	A Study on Rehabilitation has been completed.
(031)	Phase I: Track Renewal for resleepering, welding plant, communications etc.	27.0	25.0	2.0	25.0 (UK) 2.0 Mozambique	0.0	0.0	1986	3 years	Work in progress.
(032)	Phase 2: Completion of Rehabilitation, including motive power and rolling stock	189.8	177.2	12.6	3.1 Botswana 19.1 (Canada) 20.4 (USA)	10.0 (EEC)	95.8	1989	10 years	Discussions with several financiers. See project brief.
(032)	Continuation of Phase 2	0.0	0.0	0.0	11.9 (FRG) 1.0 (Portugal) 1.5 (Sweden)	0.0				
(032)	Continuation Phase 2	0.0	0.0	0.0	25.5 (UK) 1.5 (IDA/IBRD)					
(A-HR1-5)	* Housing, buildings, water and power	6.3	5.7	0.6						
(A-FC1)	* Assistance for financial control	1.1	1.1	0.0						
(A-LO1-3)	* Locomotives : spares, materials and technical assistance	55.8	55.6	0.2						
(A-SC1-2)	* Equipment for stores and inventory control	1.5	1.5	0.0						
(A-BT1-2)	* B. Additional Support Train control/signalling	5.0	4.5	0.5						

Table 2(C): Maputo Port Transport System Projects (continued)

(A-IE-1)	* Track maintenance equipment	0.5	0.5	0.0	
(A-WA1-3)	* Wagons : spares, materials and technical assistance	31.5	31.3	0.2	
(C-BR1)	* Other buildings and services	0.8	0.7	0.1	
(C-LO1-5)	* Locomotives : spares, tools, workshops, technical assistance	15.2	14.7	0.5	USD 6.4 million under P. 2.5.12
(C-MD1)	* Rail Depot	0.3	0.3	0.0	
(C-OM1)	* Workshop study	0.6	0.6	0.0	
(C-QO1-3)	* Quarry and Ballast	2.1	1.2	0.9	
(C-RD-1)	* Road Maputo - Chokwe - Chicualacuala	0.0	0.0	0.0	USD 25 million under P. 1.5.6.
(C-RM1-3)	* Track renewal by EMS, technical assistance	7.6	5.8	1.8	
(C-RZ1-3)	* Concrete sleepers, ballast, track renewal by NRZ	29.7	29.7	0.0	
(C-SF1-2)	* Sleeper factory/sleepers	7.9	1.4	6.5	
(C-TA1-4)	* Technical assistance to EMS and CFM	5.2	5.1	0.1	
(C-TM1-3)	* Steel sleepers, rails, turnouts	5.4	5.4	0.0	
(C-TU1-2)	* Track upgrading, bridge works	2.6	2.2	0.4	
(C-WA1-5)	* Wagons : spares, tools, buildings, technical assistance	10.6	10.1	0.5	

Table 2(C): Maputo Port Transport System Projects (continued)

2.6.1	Modifications of Wagons and Wagon Maintenance, Swaziland Railway	1.2	0.9	0.3	0.3 Swaziland	0.0	0.9	1989	3 years	Denmark has been approached.
3.5.1	* Maputo Port, Mozambique	121.3	115.2	6.1	9.0 (Italy) 1.8 (UK) 6.1 Mozambique	0.0	104.4	1984	7 years	Estimates of costs and funding represent the total of the sub-projects listed below
(01)	Feasibility Study on Improvement of the Entrance Channel to Maputo Port	1.7	1.4	0.3	0.3 Mozambique	0.0	1.4	1989	2 years	Dredging of existing channel to 9.4 m started July 87, completion June 88.
(02)	Matola Coal Terminal, Mozambique	90.6	89.0	1.6	1.6 Mozambique	0.0	89.0	1985	7 years	Phase 1 (USD 1.6 million) completed. Phases 2 and 3 (USD 89.0 million) will be initiated when warranted by foreseen increase in traffic.
(03)	Container Terminal Equipment and Management Assistance, Port of Maputo	30.6	26.4	4.2	9.0 (Italy) 1.8 (UK) 4.2 Mozambique	1.6 (Italy)	14.0	1985	7 years	A USD 9 m Italian credit for cranes and other equip. UK financing the management assist. scheme over 5 years, to September 1989
(04)	* Maputo Port (Other Projects), Mozambique	0.0	0.0	0.0	0.0	0.0	0.0			
	TOTAL	919.8	798.1	121.7	389.4	21.6	508.8			

* The costs associated with this entry are not directly included in the Totals. They appear either under another Project or as costs for sub-Projects.
( ) Brackets around a country or financing agency indicates a foreign exchange contribution.

Table 2(D): Beira Port Transport System Projects (All Amounts in USD Million)

Project No.	Project Title	Estimated Cost Total	Estimated Cost Foreign	Estimated Cost Local	Secured Funding Amount/Source	Funding Under Negotiation Amount/Source	Funding Gap	Implementation Start	Implementation Duration	Comments/Status
0.5.1	* Multimodal Projects in the Beira Port Transport System Development Plan	20.8	19.5	1.3	1.3 Mozambique 19.5	0.0	0.0	1986	5 years	Prestudy completed. Preliminary report will be ready by September 1988.
(PR-M-01)	Organization and Manpower Development Plan A) Study	0.5	0.5	0.0	0.5 (EEC)	0.0	0.0			Final Report expected in February 1989.
(PR-M-01)	B) Financial and Tariff Development Plan	0.5	0.5	0.0	0.5 (EEC)	0.0	0.0			The study will be completed during the first half of 1989.
(PR-M-01)	C) Management Information System	0.1	0.1	0.0	0.1 (IDA/IBRD)	0.0	0.0			Final report expected in February 1989.
(PR-M-02)	* Support to Workers	7.5	6.2	1.3	7.5	0.0	0.0			
(PR-M-02)	B) Workers Transport	1.1	1.1	0.0	1.1 (Sweden)	0.0	0.0	1988	3 Years	Buses arrived August 1988.
(PR-M-02)	C) Workers Housing	6.4	5.1	1.3	5.1 (Finland) 1.3 Mozambique	0.0	0.0	1988	5 Years	Project document completed, tendering for assistance in progress.
(PR-M-04)	Core Staff for Beira Corridor Authority	5.6	5.6	0.0	5.6 (Nordics)	0.0	0.0		3 years	The expatriate team is fully staffed.
(PR-M-05)	Housing Complex for Expatriate Personnel	6.6	6.6	0.0	1.3 (Sweden) 1.2 (Denmark) 1.6 (Finland) 1.0 (Norway) 1.5 (Neth'lds)	0.0	0.0	1988	1 year	64 houses. To be completed in 1989. Other projects related to development of the town of Beira transferred to relevant local authorities.
1.5.1	* Road Projects in the Beira Port Transport System Development Plan	37.3	34.6	2.7	2.7 Mozambique 8.4	16.5	9.7	1988	3 years	Japan to provide additional USD 2.5 million for 2 phases of projects.

Table 2(D): Beira Port Transport System Projects (continued)

(RD-CE-1)	Beira – Machipanda	27.8	26.6	1.2	1.2 Mozambique 3.4 (Sweden) 5.0 (ADB)	13.0 (ADB) 3.5 (EEC)	1.7			Emergency repairs estimated at USD 9.2 million started early 1988. Design for reconstruction to be made.
(RD-CE-2)	* Lusaka – Kafue Junction	0.0	0.0	0.0	0.0	0.0	0.0			Included in Project 1.8.3.
(RD-CE-3)	Chimoio – Changara	3.0	3.0	0.0	0.0	0.0	3.0			
(RD-CE-4)	Matundo – Chiuta	6.5	5.0	1.5	1.5 Mozambique	0.0	5.0			
1.8.4	Rehabilitation of Kafue-Chirundu Road, Zambia	16.0	13.0	3.0	3.0 Zambia 13.0 (USA)	0.0	0.0	1983	5 years	Works to be completed in 1988.
1.9.1	Rehabilitation of Harare – Chirundu Road, Zimbabwe	1.8	1.3	0.5	0.5 Zimbabwe	0.0	1.3	1989	1 year	
1.9.3	Upgrading of Eastern end of Harare-Mutare-Mozambique Border Road, Zimbabwe	15.0	11.0	4.0	4.0 Zimbabwe	0.6 (Finland)	10.4	1989	2 years	Finland approached for design and supervision and ADB for works.
2.5.3	* Railway Projects in Beira Port Transport System Development Plan	185.7	167.8	17.9	17.9 Mozambique 92.5	52.5	22.8	1986	10 years	
(R-CE-03)	Track Rehabilitation Blantyre-Border	15.5	12.4	3.1	3.1 Malawi	12.4 (UK)	0.0			Ongoing.
(R-CE-04)	* Rehabilitation Dondo – Vila Nova / Moatize	78.5	66.5	12.0	78.5	0.0	0.0	1987	5 years	
(R-CE-04)	A) Phase 1, Quarry and Sleeper Factory	18.5	18.5	0.0	18.5 (Italy)	0.0	0.0	1987	2 years	
(R-CE-04)	B) Phase 2, Rehabilitation of Dondo – Inhamitanga (156 km)	60.0	48.0	12.0	40.0 (Italy) 8.0 (OPEC) 12.0 Mozambique	0.0	0.0	1989	3 years	
(R-CE-05)	Study, Rail Link Kafue – Lions Den	0.8	0.8	0.0	0.0	0.0	0.8	1989	1 year	Australia has been approached.

Table 2(D): Beira Port Transport System Projects (continued)

(R-CE-06)	Line Doubling Beira to Dondo	8.0	6.4	1.6	1.6 Mozambique	0.0	6.4			
(R-CE-07)	Track Maintenance CFM (C)	3.5	3.5	0.0	1.0 (Austria)	2.5 (Canada)	0.0			
(R-ME-01)	Scrapping, Salvaging and Rehabilitation of Wagons, Conversion to R.B'rings CFM(C)	5.6	5.6	0.0	3.1 (Denmark)	0.0	2.5	1989	3 years	Implementation to start in April 1989.
(R-ME-02)	Acquisition of Second Hand Locomotives	20.0	20.0	0.0	0.0	20.0 (Japan)	0.0			New locos under P.2.5.12. Rehabilitation of 11 locos completed, financed by USA (USD 4.1 million). Mozambique has approached Japan for funding.
(R-ME-03)	Replacement of Malawi Railway Wagons	2.0	2.0	0.0	0.0	0.0	2.0			ADB considering.
(R-ME-04)	Rehabilitation of Locomotive Workshops CFM (C)	5.5	5.5	0.0	5.5 (USA)	0.0	0.0	1989	1 year	
(R-MF-05)	Extension of Limbe Workshop	0.6	0.6	0.0	0.6 (UK)	0.0	0.0	1988		
(R-ME-06)	Facilities, Spares, Equipment for CFM (C) Workshops	6.2	5.0	1.2	1.2 Mozambique	0.0	5.0			
(R-ME-07)	Rescue Cranes and Rerailing Equipment	3.6	3.6	0.0	1.8 (FRG) 1.8 (UK)	0.0	0.0	1989	1 year	Delivery of cranes for the beginning of 1990.
(R-CP-02)	Electrification Study	0.7	0.7	0.0	0.0	0.0	0.7			
(R-ST-01)	Emergency Repairs to Telecommunications Beira to Machipanda	0.2	0.2	0.0	0.2 (Neth'lds)	0.0	0.0	1987	2 years	
(R-ST-02)	Radio Telecommunication System for Beira - Machipanda	5.9	5.9	0.0	5.9 (Italy)	0.0	0.0	1988	2 years	
(R-ST-03)	Train Control System CFM (C)	4.4	4.4	0.0	2.6 (Italy)	0.0	1.8			Sweden has been approached.

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Table 2(D): Beira Port Transport System Projects (continued)

(R-ST-04)	Wagon Control System CFM (C)	1.0	1.0	0.0	0.0	0.0	1.0			System analysis/design ongoing.
(R-ST-05)	Replacement of Railway Telephone Exchanges CFM(C)	0.5	0.5	0.0	0.0	0.0	0.5			
(R-ST-06)	Solar Power Panels, Blantyre to Border	0.1	0.1	0.0	0.0	0.0	0.1			Denmark has been approached.
(R-TA-01)	Technical Assistance to CFM(C) Rail Division	21.1	21.1	0.0	3.5 (Spain)	17.6 (IDA/IBRD)	0.0	1988	3 years	Four members of Spanish team arrived. Seven more will arrive by April 1989.
(R-TA-02)	Technical Assistance to Malawi Railways	2.0	2.0	0.0	0.0	0.0	2.0			
3.5.2	* Port Projects in the Beira Port Transport Development Plan	390.0	368.0	22.0	168.7 28.1 Mozambique	39.8	153.4			Estimates of costs and funding represent the total of the sub-projects listed below.
(P-A-01)	Channel Dredging to CD-8 Metres, Beira Port	17.2	17.2	0.0	17.2 (Neth'lds)	0.0	0.0	1988	3 years	Dredging to 8 metres. Contract awarded. Dredging to start January 1989.
(P-A-02)	* Navigational Aids, Beira Port	1.6	1.6	0.0	0.8 (Sweden)	0.8 (Sweden)	0.0	1989	3 Years	Included in first phase of Project 3.5.4
(P-CE-01)	A) Multipurpose & Container Handling Terminal (Berths 2-5)	55.5	55.5	0.0	53.3 (EEC) 2.2 (Neth'lds)	0.0	0.0	1987	3 years	Works in progress. Supervision financed by the Netherlands.
(P-CE-01)	B) Administration and Maintenance Buildings and Transit Shed	9.0	5.0	0.0	4.0 (Finland)	0.0	5.0	1988	3 Years	Design made. Denmark and EEC approached for funding shortfall.
(P-CE-02)	New Oil Terminal, Beira Port	10.4	9.4	1.0	1.0 Mozambique 9.4 (Norway)	0.0	0.0	1989	2 years	Cost estimate being revised.
(P-CE-03)	Port Railways, Beira Port	14.6	13.1	1.5	13.1 (Italy) 1.5 Mozambique	0.0	0.0	1989	2 years	Consultant selected. Implementation could start in the second half of 1989
(P-CE-04)	Cereal Terminal, Beira Port	9.0	8.1	0.9	0.0	0.0	9.0			Study on Cereal Terminal financed by Netherlands. Users of the facilities are expected to be involved in funding.

Table 2(D): Beira Port Transport System Projects (continued)

(P-CE-05)	Cold Storage Facilities, Beira Port	8.0	8.0	0.0	0.0		4.0 (Denmark) 4.0 (Finland)	0.0			In planning phase.
(P-CE-06)	Tobacco Terminal, Beira Port	3.0	2.7	0.3	0.0		0.0	3.0			Users of the facilities are expected to finance the project.
(P-CE-07)	Cotton Terminal, Beira Port	3.0	2.7	0.3	0.0		0.0	3.0			Users of the facilities are expected to finance the project.
(P-CE-08)	* Grain Silos (combined with P-CE-4), Beira Port	0.0	0.0	0.0	0.0		0.0	0.0			Waiting for the findings of study P-CE-4.
(P-CE-09)	Coastal Protection Scheme, Beira Port	10.0	9.0	1.0	1.0	Mozambique	0.0	9.0			
(P-CE-10)	Service Port Facilities, Beira Port	5.0	5.0	0.0	0.0		5.0 (Denmark)	0.0			
(P-CE-11)	Port Roads, Beira Port	1.0	0.0	1.0	1.0	Mozambique	0.0	0.0	1988		Being undertaken by Mozambican contractors.
(P-CE-12)	High Capacity Coal Terminal, Beira Port	160.0	144.0	16.0	16.0	Mozambique	0.0	144.0			Implementation to be started when warranted by foreseen traffic increase.
(P-CE-13)	Port Traffic Control Centre.	8.5	8.5	0.0	0.0		0.0	8.5			Denmark has been approached.
(P-ME-01)	* Equipment for Multipurpose and Container Handling Terminal, Beira Port	57.9	57.9	0.0	31.1		26.8	0.0	1987	5 years	1st phase 1987-88 secured. Agreement on grant part signed June-87. Implementation started. ADB has expressed interest in financing ship-to-shore cranes.
(P-ME-01)	PHASE I - Repair of Cargo Handling Equipment - Crash Programme	1.2	1.2	0.0	0.6 (Finland) 0.6 (Sweden)		0.0	0.0	1987	1 Year	Completed May 1988.
(P-ME-01)	PHASE II - New Equipment for Temporary Container Terminal	11.6	11.6	0.0	6.3 (Finland) 5.3 (Sweden)		0.0	0.0	1988	3 Years	In progress according to schedule.

Table 2(D): Beira Port Transport System Projects (continued)

(P-MI-01)	PHASE III – New Equipment for New Multipurpose and Container Terminal	45.1	45.1	0.0	18.3	(ADB)	26.8	(Finland) (Netherland) (Sweden)	0.0	1989	6 Years	Equipment 1989-90. Technical assistance up to 1995.
(P-MI-02)	Tugs, Pilot Boats and Line Boats, Beira Port	10.7	10.7	0.0	10.7	(Denmark)	0.0		0.0	1987	2 years	Tug and line boats expected to arrive mid-1989.
(P-MI-03)	Procurement of General Cargo Handling Equipment	2.1	2.1	0.0	2.1	(Belgium)	0.0		0.0	1988	1 Year	
(P-TA-01)	Technical Assistance to the Port of Beira	5.1	5.1	0.0	5.1	(Neth'lds)	0.0		0.0	1987	3 Years	Funding secured for 3 years. Ass. team arrived in Jul-Aug 87.
	TOTAL	666.6	615.2	51.4	331.5		109.4		225.7			

* The costs associated with this entry are notdirectly included in the Totals. They appear either under anotherProject or as costs for sub-Projects.
( ) Brackets around a country or financing agencyindicates a foreign exchange contribution.

Table 2(E): Nacala Port Transport System Projects (All Amounts in USD Million)

Project No.	Project Title	Estimated Cost Total	Estimated Cost Foreign	Estimated Cost Local	Secured Funding Amount/Source	Funding Under Negotiation Amount/Source	Funding Gap	Implementation Start	Implementation Duration	Comments/Status
1.4.1	Study on Upgrading of the Road Mangochi-Mandimba-Mitande, Malawi/Mozambique	0.2	0.2	0.0	0.0	0.0	0.2	1989	6 months	
1.8.6	Rehabilitation of the Road Lusaka - Chipata, Zambia	26.3	16.6	9.7	9.7 Zambia	0.0	16.6	1989	3 years	Engineering study completed. ADB has shown interest in funding of works and Denmark in supervision.
2.4.2	Rehabilitation and Acquisition of Locomotives, Rolling Stock and Maintenance Equipment, MR	16.0	16.0	0.0	0.0	0.0	16.0	1989	2 years	To provide capacity for the reopening of the Nacala line. USA has been approached.
2.5.5	Rehabilitation of the Nacala - Entre-Lagos Railway, Mozambique	300.0	269.7	30.3	107.7 (France) 40.0 (Portugal) 35.5 (Canada) 30.3 (EEC) 4.0 (Italy) 2.1 (UK) 1.0 (Finland) 30.3 Mozambique	0.0	49.1	1983	12 years	About 230 km of track have been renewed. Track laying of 2nd phase started in July 1987.
(01)	* Track Rehabilitation (i) 1st Phase (Nacala - Nampula, 192 Km)	100.6	99.7	0.9						
(01)	* Track Rehabilitation (ii) 2nd Phase (Nampula - Cuamba, 346 Km)	121.4	99.2	22.2						
(01)	* Track Rehabilitation (iii) 3rd Phase (Cuamba - Entre Lagos, 77 Km)	12.8	5.9	6.9						
(02)	* Rehabilitation of 7 GE and 10 DH Locomotives	8.3	8.3	0.0						Acquisition of new locomotives is included in P.2.5.12

Table 2(E): Nacala Port Transport System Projects (continued)

(03)	* Railway Telecommunications	6.8	6.7	0.1						
(04)	* Workshops, equipment and material	6.5	5.3	1.2						Rehabilitation of wagons is included in P.2.5.8
(05)	* Logistics	13.3	13.3	0.0						
3.5.3	Rehabilitation of the Port of Nacala	35.0	30.5	4.5	24.0 (Finland) 4.5 Mozambique	6.5 (Finland)	0.0	1984	10 years	Ongoing project, progressing on schedule
	TOTAL	377.5	333.0	44.5	289.1	6.5	81.9			

* The costs associated with this entry are not directly included in the Totals. They appear either under another Project or as costs for sub-Projects.
( ) Brackets around a country or financing agency indicates a foreign exchange contribution.

Table 2(F): Dar es Salaam Port Transport System Project (All Amounts in USD Million)

Project No.	Project Title	Estimated Cost Total	Estimated Cost Foreign	Estimated Cost Local	Secured Funding Amount/Source	Funding Under Negotiation Amount/Source	Funding Gap	Implementation Start	Implementation Duration	Comments/Status
1.4.3	Road Link Balaka - Salima - Karonga - Uyole, Malawi / Tanzania	47.6	47.6	0.0	23.3 (EEC) 12.0 (FRG) 8.0 (Neth'lds) 4.3	0.0	0.0	1988	3 years	Works for the Karonga - Ibanda and Balaka - Salima sections started 1988. (Malawi - Dar es Salaam)
1.7.3	Rehabilitation/Strengthening of the TANZAM Highway, Tanzania	62.0	41.5	20.5	13.2 (IDA/IBRD) 19.4 (ADB) 6.9 (Norway) 20.5 Tanzania	0.0	2.0	1988	2 years	Two contracts have been let. Works have started in September 1988.
1.8.8	Rehabilitation of the TANZAM Highway, Zambia	9.3	5.9	3.4	3.4 Zambia	5.9 (Denmark)	0.0	1988	2 years	Study completed. DANIDA considering funding of works.
2.7.1	* TAZARA 10 Year Development Plan and Malawi-Dar es Salaam Projects	254.6	244.7	9.9	155.3	45.6	53.7	1985	10 years	A revised 10-year Plan has been completed in 1988.
(CE:01)	Rehabilitation of Quarries	19.1	17.8	1.3	12.7 (Sweden) 5.1 (EEC) 1.3 TAZARA	0.0	0.0	1987	5 years	
(CE:02)	Permanent Rectification of Landslides	43.6	40.6	3.0	3.0 TAZARA	40.6 (ADB)	0.0	1988	7 years	Study (1 year) financed by Australia.
(CE:03)	Mechanized Track Maintenance	14.8	14.7	0.1	4.0 (Switz'ld) 5.2 (EEC) 4.3 (Austria) 0.1 TAZARA	0.0	1.2	1987	5 years	Third tamping machine without financing.
(CE:04)	Rail Welding	13.9	12.9	1.0	1.0 TAZARA	0.0	12.9	1989	4 years	Study to be carried out to determine whether to be implemented during phases 1 or 2. Austria has been approached. (USD 0.2 million).

Table 2(F): Dar es Salaam Port Transport System Project (continued)

(CE:05)	Rail Burn Repairs	8.7	8.5	0.2	5.9 (Sweden) 2.6 (Switz'ld) 0.2 TAZARA	0.0	0.0	1987	4 years	
(CE:06)	Terminal Facilities at New Kapiri Mposhi	0.5	0.0	0.5	0.5 TAZARA	0.0	0.0	1989	2 years	
(CE:07)	Railway Link TAZARA-Mpulungu Port (Study), Zambia	1.0	1.0	0.0	0.0	0.0	1.0			TOR submitted to ADB. Prefeasibility study carried out in October, 1987.
(CE:08)	Emergency Bridges	0.9	0.9	0.0	0.0	0.0	0.9	1990	1 year	
(CE:09)	Malawi Cargo Centre, Moya	6.4	6.4	0.0	6.4 (USA) (FRG) (UK)	0.0	0.0	1988	3 years	(Malawi - Dar es Salaam)
(CE:10)	Malawi Cargo Centre, Dar es Salaam	8.6	8.6	0.0	8.6 (USA) (FRG) (UK)	0.0	0.0	1988	3 years	(Malawi - Dar es Salaam)
(GM:01)	Technical Assistance to the Head Office A. First Phase	5.8	5.1	0.7	3.7 (USA) 1.4 (Finland) 0.7 TAZARA	0.0	0.0	1987	5 years	In addition Tanzania, Zambia and Peoples Republic of China have signed an agreement for technical co-operation involving 200 experts.
(GM:01)	B. Second phase.	0.7	0.7	0.0	0.0	0.0	0.7	1990	1 year	
(GM:02)	Manpower Development Plan and Training	6.4	6.1	0.3	2.8 (Norway) 0.3 TAZARA 2.5 (FRG) 0.8 (USA)	0.0	0.0	1988	1 year	
(GM:03)	Project Co-ordinating Unit A. First Phase	2.3	2.2	0.1	2.2 (Nordics) 0.1 TAZARA	0.0	0.0	1986	4 years	
(GM:03)	B. Second phase	3.2	3.0	0.2	0.2 TAZARA	3.0 (Nordics)	0.0	1989	3 years	
(ME:01)	Locomotives	45.3	43.1	2.2	2.2 TAZARA 41.3 (USA) 1.8 (FRG)	0.0	0.0	1988	5 years	KfW financing study on future development (USD 1.8 million). Ongoing.

Table 2(F): Dar es Salaam Port Transport System Project (continued)

(ME:02)	Goods Wagons	31.2	31.2	0.0	18.7 (Sweden)	0.0	12.5	1988	3 years	Not secured refers to 250 wagons, the need for which will be further assessed.
(ME:03)	Trolleys and Trailers	6.9	6.9	0.0	0.0	2.0 (Switz'ld)	4.9	1989	2 years	Switzerland has indicated willingness to finance 13 large trolleys.
(ME:04)	Handling Equipment for Goods Depots	0.5	0.5	0.0	0.0	0.0	0.5	1989	1 year	
(ME:05)	Rescue Crane and Rerailing Equipment	6.0	5.9	0.1	5.9 (Finland) 0.1 TAZARA	0.0	0.0	1988	2 years	The need for a second crane will be assessed during implementation of ongoing project.
(ME:06)	Wheel Lathes	3.9	3.8	0.1	3.8 (EEC) 0.1 TAZARA	0.0	0.0	1987	2 years	
(ME:07)	Mechanical Equipment for Work Shops	10.4	10.4	0.0	2.0 (EEC)	0.0	8.4	1988	5 years	
(ME:08)	Coaches	10.0	10.0	0.0	0.0	0.0	10.0	1990	4 years	
(ME:09)	Malawian Tank Wagons and Tank Containers	1.3	1.3	0.0	1.3 (USA)	0.0	0.0	1987	2 years	(Malawi - Dar es Salaam)
(ST:01)	Solar Power Panels (Combined with ST-2 and ST-3)	2.5	2.4	0.1	2.4 (Denmark) 0.1 TAZARA	0.0	0.0	1987	2 years	
(ST:02)	Back-up HF Radio Link (Combined with ST-1 and ST-3)	0.0	0.0	0.0	0.0	0.0	0.0	1987	2 years	
(ST:03)	Teleprinters (Combined with ST-1 and ST-2)	0.0	0.0	0.0	0.0	0.0	0.0	1987	2 years	
(ST:04)	Feasibility Study of Future Telecommunications System	0.7	0.7	0.0	0.0	0.0	0.7			The need for projects ST:5 and ST:6 will be studied under this project. Costs estimates for those are not given.
(ST:05)	Automatic Train Stops	0.0	0.0	0.0	0.0	0.0	0.0			See ST:4.

Table 2(F): Dar es Salaam Port Transport System Project (continued)

(ST:06)	Track Circuiting	0.0	0.0	0.0	0.0	0.0	0.0			See ST:4.
3.7.1	* Development of Navigation on Lake Niassa/Nyasa/Malawi, Malawi, Mozambique, Tanzania	12.2	12.2	0.0	12.2	0.0	0.0	1987	3 years	Estimates of costs and fundings represent the total of the sub-projects listed below.
(01)	Lake Navigation Study	0.4	0.4	0.0	0.4 (Denmark)	0.0	0.0	1988	1 year	Revised TOR completed. Steering Committee has been established.
(02)	Lake Ports, Chilumba and Chipoka.	5.9	5.9	0.0	5.9 (USA) (UK)	0.0	0.0	1987	2 years	(Malawi - Dar es Salaam)
(03)	Self Propelled Pontoons	3.7	3.7	0.0	3.7 (FRG)	0.0	0.0	1987	2 years	(Malawi - Dar es Salaam)
(04)	Monkey Bay Shipyard	2.2	2.2	0.0	2.2 (USA) (UK)	0.0	0.0	1987	2.5 Years	(Malawi - Dar es Salaam)
3.7.2	* Development of the Port of Dar es Salaam, Tanzania	197.2	164.1	33.1	128.8	0.0	68.4	1985	7 years	Estimates of costs and fundings represent the total of the sub-projects listed below.
(01)	Kurasini Oil Terminal Rehabilitation (Phase 2)	5.6	4.6	1.0	4.6 (Norway) 1.0 Tanzania	0.0	0.0	1987	2 Years	Completion scheduled for January 1989.
(02)	Improvement of Harbour Entrance Channel	45.4	41.0	4.4	4.4 Tanzania	0.0	41.0			Tender documents ready.
(03)	Construction of Container Terminal, Ubungo ICD and Kurasini Warehouse	40.5	33.5	7.0	25.5 (IDA/IBRD) 7.0 Tanzania 8.0 (Sweden)	0.0	0.0	1985		Including (5) Ubungo Container Depot. About to be completed.
(04)	Construction of Grain Facility	27.1	23.1	4.0	23.1 (Neth'lds) 4.0 Tanzania	0.0	0.0	1988		Implementation started January 1988. Completion expected September 1989.
(05)	* Ubungo Container Depot	0.0	0.0	0.0	0.0	0.0	0.0	1985		Included under (03).
(06.1)	Belgian Wharf Reconstruction	2.4	1.7	0.7	0.7 Tanzania	0.0	1.7			Tender documents ready.
(06.2)	Modernization of Lighter Wharf, Phase 2: Paving and Service Part	5.2	1.7	3.5	3.5 Tanzania 0.2 (IDA/IBRD)	0.0	1.5			Tender documents ready, additional financing needed.

(07)	Construction of Tug Berth	5.2	5.2	0.0	0.0	0.0	5.2			Tender documents ready.
(08.3)	Purchase of General Cargo Handling Equipment	8.5	8.5	0.0	3.8 (Italy) 1.8 (UK)	0.0	2.9	1987	2 Years	
(09)	Purchase of Floating Craft	17.5	13.9	3.6	3.6 (Tanzania)	0.0	13.9			
(10)	Technical Assistance to TPA and Improvement of Bandari College, Dar es Salaam	4.5	4.5	0.0	3.7 (Norway) 0.8 (IDA/IBRD)	0.0	0.0	1988	3 Years	October 1988 - September 1991.
(11)	Rehabilitation of Berths 1-8	32.6	23.7	8.9	23.7 (Nor/Swed) 8.9 Tanzania	0.0	0.0	1988		Completion scheduled for September 1991.
(12)	Study on New Oil Terminal	0.2	0.2	0.0	0.0	0.0	0.2			AIB has been approached for use of Danish fund.
(13)	* Study on Increasing Port Capacity for SADCC Transit Goods	0.2	0.2	0.0	0.2 (Canada)	0.0	0.0	1988		Financing under P. 0.0.5. Scheduled for completion July 1989.
(15)	Improvement of Central Work Shop	2.5	2.5	0.0	0.5	0.0	2.0	1989	3 years	
(16)	* Summary of Malawi - Dar es Salaam Corridor Projects	75.7	75.7	0.0	75.7	0.0	0.0			
	TOTAL	582.9	516.0	66.9	407.3	51.5	124.1			

* The costs associated with this entry are not directly included in the Totals. They appear either under another Project or as costs for sub-Projects.
( ) Brackets around a country or financing agency indicates a foreign exchange contribution.

Table 2(G): Lobito Port Transport System Projects (All Amounts in USD Million)

Project No.	Project Title	Estimated Cost Total	Estimated Cost Foreign	Estimated Cost Local	Secured Funding Amount/Source	Funding Under Negotiation Amount/Source	Funding Gap	Implementation Start	Implementation Duration	Comments/Status
0.1.1	* Multimodel Projects in the 10-Year Plan for Lobito Port Transport System	86.4	86.4	0.0	13.8	0.0	72.6	1989	5 years	
(G-CE-1)	Development of the Town of Lobito	13.5	13.5	0.0	0.0	0.0	13.5	1989	4 years	
(G-CE-2)	Rehabilitation of Cement Factory	6.0	6.0	0.0	0.0	0.0	6.0	1989	2 years	
(G-E-1)	Repair and Extension of Lumum Hydroelectric Power Plant	42.0	42.0	0.0	10.8 (Portugal) 3.0 (FRG)	0.0	28.2	1989	5 years	
(G-M-1)	Project Co-ordination Unit	5.0	5.0	0.0	0.0	0.0	5.0	1989	5 years	
(G-M-2)	Support to Workers and their Families	7.0	7.0	0.0	0.0	0.0	7.0	1989	4 years	
(G-M-3)	Housing for Technical Assistance Staff in Lobito and Huambo	9.4	9.4	0.0	0.0	0.0	9.4	1989	2 years	
(G-M-4)	Rehabilitation of Hotel Terminus	3.5	3.5	0.0	0.0	0.0	3.5	1989	2 years	
1.1.3	* Roads & Road Tranport Projects in the 10 Year Develop Plan – Lobito Port Transport System	19.2	19.2	0.0	0.0	0.0	19.2	1989	5 years	
(RD-CE-1)	Benguela-Lobito Road & Access Roads to the Port and Railway in Lobito	12.2	12.2	0.0	0.0	0.0	12.2	1989	5 years	
(RD-TR-1)	Reinforcement of the Capacity of the Road Transport Company	7.0	7.0	0.0	0.0	0.0	7.0	1989	3.5 years	

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Table 2(G): Lobito Port Transport System Projects (continued)

1.8.1	Study on Angola-Zambia Road Link, Zambia	0.2	0.2	0.0	0.2 (EEC)	0.0	0.0			Study adjourned.
2.1.1	* Benguela Railway Projects in the Ten Year Development Plan for Lobito Port Tran. System	346.2	346.2	0.0	0.0	0.0	346.2	1989	10 years	
(R-CE-1)	Track Repair and Upgrading	159.9	159.9	0.0	0.0	0.0	159.9	1989	10 years	
(R-CE-2)	Establishment of Quarries	6.4	6.4	0.0	0.0	0.0	6.4	1989	1.5 years	
(R-CE-3)	Sleeper Production Plants	3.0	3.0	0.0	0.0	0.0	3.0	1989	5 years	
(R-CE-4)	Track Maintenance Equipment	16.0	16.0	0.0	0.0	0.0	16.0	1989	7.5 years	
(R-CE-5)	Realignment Design Cbal to Huambo	0.6	0.6	0.0	0.0	0.0	0.6	1989	1 year	
(R-CS-6)	Realignment Study Huambo to Luau	0.4	0.4	0.0	0.0	0.0	0.4	1989	1 year	
(R-E-1)	Electric Supply and Distribution Systems for Lobito, Huambo and Luena	1.8	1.8	0.0	0.0	0.0	1.8	1988	2.5 years	
(R-M-1)	Manpower Development Plan	1.5	1.5	0.0	0.0	0.0	1.5	1986	2 years	
(R-M-2)	Upgrading and Extension of Computer Facilities	0.9	0.9	0.0	0.0	0.0	0.9	1989	3.5 years	
(R-M-3)	Railway Training Assistance	15.0	15.0	0.0	0.0	0.0	15.0	1989	5.5 years	
(R-M-4)	Technical Assistance for Operation of the Railway	12.5	12.5	0.0	0.0	0.0	12.5	1989	6 years	
(R-M-5)	Improvement of Railway Hospitals	6.0	6.0	0.0	0.0	0.0	6.0	1989	6.5 years	

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Table 2(G): Lobito Port Transport System Projects (continued)

(R-ME-1)	Rehabilitation and Acquisition of Locomotives	20.0	20.0	0.0	0.0	0.0	20.0	1989	4 years
(R-ME-2)	Rehabilitation and Acquisition of Rolling Stock	65.0	65.0	0.0	0.0	0.0	65.0	1989	7.5 years
(R-ME-3)	Completion of Diesel Workshop and Re-equipment of Wheel Shop at Huambo	7.0	7.0	0.0	0.0	0.0	7.0	1989	3 years
(R-ME-4)	Conversion of the Steam Depot at Luena to Diesel Maintenance Depot	1.0	1.0	0.0	0.0	0.0	1.0	1989	1 year
(R-ME-5)	Workshop Facilities at Lobito	0.6	0.6	0.0	0.0	0.0	0.6	1989	1 year
(R-ME-6)	Review and Acquisition of Spare Parts and Reorganization of Main Stores	10.3	10.3	0.0	0.0	0.0	10.3	1989	4 years
(R-ME-7)	Rescue Equipment and Accident Prevention Programme	1.1	1.1	0.0	0.0	0.0	1.1	1989	4 years
(R-ME-8)	Installation of 21 Automatic Barriers	1.6	1.6	0.0	0.0	0.0	1.6	1990	3 years
(R-ME-9)	Study on Improvement of Specialist Workshops in Huambo	0.1	0.1	0.0	0.0	0.0	0.1	1990	1 year
(R-OP-1)	Motive Power, Rolling Stock and Operation Plan	0.4	0.4	0.0	0.0	0.0	0.4	1989	1 year
(R-ST-1)	Train Control System and Telecommunications	14.5	14.5	0.0	0.0	0.0	14.5	1989	7.5 years
(R-ST-2)	Telephone Exchanges CFB and Lobito Port	0.6	0.6	0.0	0.0	0.0	0.6	1989	2.5 years

Table 2(G): Ichito Port Transport System Projects (continued)

3.1.1	* Port & Water Tran. Projects in the Ten Year Dev. Plan for the Ichito Port Transport System	82.5	82.5	0.0	0.0	0.0	82.5	1989	10 years
(P-CE-1)	Inspection and Reinforcement of Quays	15.8	15.8	0.0	0.0	0.0	15.8	1989	3.5 years
(P-CE-2)	Grain Bulk Facilities Improvement	1.0	1.0	0.0	0.0	0.0	1.0	1989	1 year
(P-CE-3)	New Coastal Terminal and Service Port Facilities	6.5	6.5	0.0	0.0	0.0	6.5	1989	1 year
(P-CE-4)	Rehabilitation of Port Railways	2.5	2.5	0.0	0.0	0.0	2.5	1989	1 year
(P-CE-5)	Study on Rehabilitation of Existing Ore Bulk Facilities	0.5	0.5	0.0	0.0	0.0	0.5	1989	1 year
(P-CE-6)	New Multi-purpose Terminal (Study)	1.0	1.0	0.0	0.0	0.0	1.0	1990	2 years
(P-CE-7)	New Container Terminal	1.0	1.0	0.0	0.0	0.0	1.0	1992	2 years
(P-CE-8)	Coastal Protection Works	1.3	1.3	0.0	0.0	0.0	1.3	1989	1 year
(P-M-1)	Welfare and Office Facilities	3.5	3.5	0.0	0.0	0.0	3.5	1989	3 years
(P-ME-1)	Rehabilitation of Power and Lighting System	2.5	2.5	0.0	0.0	0.0	2.5	1989	3.5 years
(P-ME-2)	Purchase of General Port Equipment	2.6	2.6	0.0	0.0	0.0	2.6	1989	3.5 years
(P-ME-3)	Port Maintenance Workshop and Store	3.5	3.5	0.0	0.0	0.0	3.5	1989	3.5 years
(P-ME-4)	Mobile Cranes Rehabilitation and Scrapping Programme	3.0	3.0	0.0	0.0	0.0	3.0	1989	4.5 years

Table 2(G): Lobito Port Transport System Projects (continued)

(P-MS-5)	Floating Equipment	5.0	5.0	0.0	0.0	0.0	5.0	1993	5 years	
(P-MS-6)	Shipyard Rehabilitation	15.0	15.0	0.0	0.0	0.0	15.0	1991	5 years	
(P-MS-1)	Maritime Security Programme, Angola	1.5	1.5	0.0	0.0	0.0	1.5	1989	3.5 years	
(P-S-1)	Improvement of the Capacity of the Coastal Shipping Company, Angola	8.0	8.0	0.0	0.0	0.0	8.0	1989	3 years	
(P-TA-1)	Technical Assistance to the Port of Lobito	3.0	3.0	0.0	0.0	0.0	3.0	1989	4 years	
(P-TA-2)	Port School at Lobito, Angola	5.3	5.3	0.0	0.0	0.0	5.3	1989	3 years	UNDP has been approached.
3.1.2	* Development of the Port of Luanda	38.0	31.9	6.1	10.0 (Angola) 6.1 Angola	0.0	21.9	1985	4 years	Estimates of costs and funding represent the totals for the sub-Projects listed below.
(01)	Container and Ro/Ro Terminal	10.7	9.1	1.6	1.6 Angola	0.0	9.1	1988	2 years	TOR of a study have been prepared. Italy has expressed interest in financing.
(02)	Construction of a Grain Terminal and Silos	12.7	10.8	1.9	1.9 Angola 3.7 (Angola)	0.0	7.1			Financing being sought for civil works.
(03)	Modernisation and Enlargement of Electrical Systems	5.5	5.5	0.0	3.0 (Angola)	0.0	2.5			Financing being sought for remainder.
(04)	Earth Works	5.5	3.3	2.2	3.3 (Angola) 2.2 Angola	0.0	0.0			Under implementation.
(05)	Construction of Canteen Facilities	3.6	3.2	0.4	0.4 Angola	0.0	3.2			
	TOTAL	572.5	566.4	6.1	30.1	0.0	542.4			

* The costs associated with this entry are not directly included in the Totals. They appear either under another Project or as costs for sub-Projects.
( ) Brackets around a country or financing agency indicates a foreign exchange contribution.

Table 2(H): Intra-Regional Surface Transport Projects (All Amounts in USD Million)

Project No.	Project Title	Estimated Cost Total	Estimated Cost Foreign	Estimated Cost Local	Secured Funding Amount/Source	Funding Under Negotiation Amount/Source	Funding Gap	Implementation Start	Implementation Duration	Comments/Status
1.1.1	Study on the Road N'Zeto - Soyo	1.1	1.1	0.0	0.0	0.0	1.1	1989	1.5 years	Terms of Reference for feasibility and engineering study have been drafted. ADB has been approached for financing.
1.1.2	Studies of Four Roads in Angola	1.6	1.6	0.0	0.0	0.0	1.6			
1.2.1	Partial Reconstruction of Nata - Kazungula Road	8.9	7.1	1.8	3.3 (Sweden) 1.8 Botswana	0.0	3.8	1988	2 years	
1.2.2	Study on Jwaneng - Mamuno Road Link, Botswana	1.4	1.4	0.0	1.4 (Sweden)	0.0	0.0	1988	1 year	ADB (Swedish Funds) has secured funding. Study started July 1988.
1.4.2	* Study on the Upgrading of the Road Blantyre-Milanje-Mtoba, Malawi/Mozambique	0.5	0.5	0.0	0.0	0.2 (Canada)	0.3			
(01)	* Study on the Upgrading of the Road Blantyre-Milanje-Mtoba (Feasibility Study)	0.2	0.2	0.0	0.0	0.2 (Canada)	0.0		8 months	Feasibility study intended to be funded under P. 0.0.5.
(02)	Study on the Upgrading of the Road Blantyre-Milanje-Mtoba (Design)	0.3	0.3	0.0	0.0	0.0	0.3		12 months	Engineering design of part of Mozambique section completed.
1.5.2	Rehabilitation of the Zimbabwe -Tete-Malawi Road, Mozambique	18.6	12.6	6.0	12.6 (Kuwait) 6.0 Mozambique	0.0	0.0	1985	4 years	Work in progress.
1.5.5	Study on Unity Bridge and Access Roads, Mozambique/ Tanzania	0.9	0.9	0.0	0.0	0.0	0.9	1989	10 months	TOR have been prepared.
1.7.1	Rehabilitation and Upgrading of the Mtwara- Songea- Mbamba Bay Road, Tanzania	80.0	54.0	26.0	26.0 Tanzania 8.0 (Neth'lds)	24.5 (EEC)	21.5	1989	3 years	Design review for section Songea-Mbamba Bay and feasibility study for Songea-Mtwara completed.

Table 2(H): Intra-Regional Surface Transport Projects (continued)

1.8.3	Rehabilitation of the Lusaka-Kafue-Livingstone-Kazungula Road, Zambia	30.1	19.0	11.1	12.5 (Norway) 11.1 Zambia	0.0	6.5	1988	3 years	Work completed on Livingstone-Zimba section. Works on Kafue-Mmze section to start end 1988.
1.8.5	Rehabilitation of the Lusaka-Kapiri-Chingola-Zaire Border Road, Zambia	45.7	28.8	16.9	16.9 Zambia	0.0	28.8	1989	4 years	Engineering study completed. Denmark shown interest in financing supervision works.
1.8.7	Improvement of the Road Lusaka -Mongu, Zambia	25.0	15.8	9.2	9.2 Zambia 15.8 (PR China)	0.0	0.0	1988	3 years	Works started in May 1988by a Chinese construction team.
2.2.7	Establishment of Dry Ports/ ICD's in Botswana	5.0	4.5	0.5	0.5 (Denmark) 0.5 Botswana	4.0 (Denmark)	0.0	1988	1,5 years	Denmark has financed study and has been approached for implementation.
2.3.1	Establishment of Dry Port/ICD in Lesotho	1.4	1.0	0.4	0.4 Lesotho	0.0	1.0	1989	2 years	Study concluded financed by EEC, which has been approached for financing of implementation
2.4.3	Establishment of Dry Ports/ ICD's in Malawi	4.0	3.2	0.8	0.5 (Denmark) 0.8 Malawi	2.7 (Denmark)	0.0	1989	1,5 years	Denmark has been approached. Study financed by Denmark to be concluded early 1989.
2.4.4	Improvement of Communications Systems, Malawi Railways	0.8	0.8	0.0	0.0	0.0	0.8	1989	1,5 years	
2.5.11	Computerized Wagon Control System for CFM, Mozambique	2.5	2.0	0.5	1.5 (Kuwait) 0.5 Mozambique	0.0	0.5	1989	1 year	
2.5.12	Rehabilitation and Acquisition of Locomotives for CFM	85.0	85.0	0.0	6.4 (USA)	0.0	78.6	1989	5 years	CIDA and IBRD have expressed interest. Feasibility study carried out by RITES.
2.5.8	Rehabilitation and Maintenance of Wagons - CFM, Mozambique	14.6	11.5	3.1	3.1 Mozambique 2.8 (Italy)	4.2 (Italy)	4.5	1987	4 years	DANIDA has pledged participation in the project.
2.6.2	Establishment of Dry Port/ICD in Swaziland	0.7	0.5	0.2	0.2 Swaziland	0.0	0.5	1989	1,5 years	Denmark has been approached.
2.8.1	Feasibility Study for New Rail Links Connecting Zambia with Malawi and Mozambique	0.6	0.6	0.0	0.0	0.0	0.6	1989	8 months	Australia has been approached.

Table 2(H): Intra-Regional Surface Transport Projects (continued)

2.8.2	Acquisition and Refurbishment of Locomotives and Wagons, Zambia Railways	262.0	243.5	18.5	10.0 (Sweden) 1.2 (Belgium) 13.9 (USA) 18.5 Zambia	0.0	218.4	1989	5 years	
2.8.3	Railway Bridges, Zambia Railways	14.0	11.7	2.3	2.3 Zambia	0.0	11.7	1989	2,5 years	
2.8.4	Establishment of Dry Ports/ ICDs in Zambia	6.0	5.4	0.6	0.6 Zambia	0.0	5.4	1989	1,5 years	Denmark has been approached.
2.8.5	Track Rehabilitation and Maintenance, Zambia Railways	64.6	48.7	15.9	6.2 (ADB) 15.9 Zambia	0.0	42.5	1989	5 years	
2.8.6	Telecommunications and Data Base Management System, Zambia Railways	4.5	3.4	1.1	1.1 Zambia	0.0	3.4	1989	4 years	
2.8.7	* Motive Power, Rolling Stock and Operation Plan for Zambia Railways	0.2	0.2	0.0	0.2 (Canada)	0.0	0.0	1989	7 months	Included in programme of P.0.0.5, to be carried out in 1989.
2.9.1	Repair Tracks & Wagon Maint. Equipment, National Railways of Zimbabwe	1.1	0.6	0.5	0.6 (Zimbabwe) 0.5 Zimbabwe	0.0	0.0	1986	3 years	
2.9.2	Equipment for Central Elect. Workshop, NRZ, Zimbabwe	0.4	0.4	0.0	0.0	0.0	0.4	1989	1 year	Australia has been approached.
2.9.3	Telecommunications, Signalling and Wagon Control, National Railways of Zimbabwe	12.0	9.0	3.0	3.0 Zimbabwe	0.0	9.0	1989	4 years	
3.5.4 (01)	Navigational Aids, Mozambique	15.4	14.7	0.7	7.9 (Sweden) 0.7 Mozambique	0.0	6.8	1987	8 years	Financing of first phase secured. Detail design prepared.
3.5.4 (02)	Buoy Handling and Maintenance Vessel, Mozambique	7.2	7.2	0.0	7.2 (Denmark)	0.0	0.0	1987	4 years	Agreement signed June 1987. Estimated time for delivery of vessel is Aug.1989.

Table 2(H): Intra-Regional Surface Transport Projects (continued)

3.7.3	Coastal Navigational Aids, Tanzania	0.2	0.2	0.0	0.0	0.2 (Norway)	0.0	1988	1/2 year	TOR prepared. Preappraisal mission (Norway) August 1987.
3.8.1	Study of the Navigability of the Zambezi and Shire Rivers	0.3	0.3	0.0	0.0	0.3 (UNDP)	0.0	1989	1 year	Steering committee being established.
	TOTAL	715.9	596.8	119.1	231.4	35.9	448.6			

* The costs associated with this entry are notdirectly included in the Totals. They appear either under anotherProject or as costs for sub-Projects.
( ) Brackets around a country or financing agencyindicates a foreign exchange contribution.

Table 2(I): Civil Aviation Projects (All Amounts in USD Million)

Project No.	Project Title	Estimated Cost Total	Estimated Cost Foreign	Estimated Cost Local	Secured Funding Amount/Source	Funding Under Negotiation Amount/Source	Funding Gap	Implementation Start	Implementation Duration	Comments/Status
4.0.8 (01)	Rehabilitation of Aeronautical Telecoms in the Region	30.0	30.0	0.0	0.0	0.0	30.0	1989	5 years	Each SADCC state should try to find a donor for its national part of the project.
4.1.1	* Civil Aviation Projects in the Ten Year Development Plan for the Lobito Port Transport Sys.	10.1	10.1	0.0	0.0	0.0	10.1	1989	5 years	Technical Conference scheduled for early 1989.
(CA-CE-1)	Upgrading of Benguela Airport	10.0	10.0	0.0	0.0	0.0	10.0	1990	3.5 years	
(CA-CE-2)	Study on New Airport between Lobito and Benguela	0.1	0.1	0.0	0.0	0.0	0.1	1989	1 year	
4.2.1	Acquisition of new Aircraft for Air Botswana	9.0	9.0	0.0	0.0	0.0	9.0	1989	1 year	Part of contingency preparations.
4.2.2	Contingency Improvement to Gaborone Airport	8.0	5.0	3.0	3.0 Botswana 0.1 (N.Ze'lnd) 3.7 (Unspec'd)	0.0	1.2	1988	1,5 year	
4.2.3	Flight Information Region for Botswana	9.4	8.5	0.9	0.9 Botswana	0.0	8.5	1989	1 year	Contract documents and TOR completed. Ready for tender procedures.
4.3.3	Acquisition of New Aircraft for Air Lesotho	40.0	40.0	0.0	0.0	0.0	40.0	1988	3 years	
4.3.4	Rehabilitation of Aeronautical Telecommunications, Lesotho	0.3	0.3	0.0	0.0	0.0	0.3	1989	2 years	Financing sought as part of contingency preparations.
4.4.1	New Airport at Mzuzu, Malawi	17.3	13.0	4.3	2.6 (France) 4.3 Malawi	0.0	10.4	1988	3 years	Financier for construction is being sought.
4.5.3	* Civil Aviation Projects in the Beira Port Transport System Development Plan	22.5	21.3	1.2	1.2 Mozambique	0.0	21.3	1988	5 years	

Table 2(I): Civil Aviation Projects (continued)

(C-CE:1)	Development of the Beira Airport Terminal	2.0	2.0	0.0	0.0	0.0	2.0			
(C-CE:2)	Strengthening of Runways in Beira and Tete	4.5	3.6	0.9	0.9 Mozambique	0.0	3.6			
(C-CE:3)	Airport Building, Chimoio	1.5	1.2	0.3	0.3 Mozambique	0.0	1.2			
(C-ME:2)	Communication and Navigation at Beira, Chimoio and Tete	6.0	6.0	0.0	0.0	0.0	6.0			Denmark has been approached for radio navigation system for Chimoio. Est'd cost is USD 0.3 mn.
(C-ME:3)	Fire Fighting Equipment for Beira, Chimoio and Tete	2.5	2.5	0.0	0.0	0.0	2.5			
(C-ME:4)	Maintenance Equipment	0.5	0.5	0.0	0.0	0.0	0.5			
(C-ME:5)	Airport Lighting, Chimoio	0.5	0.5	0.0	0.0	0.0	0.5			Denmark has been approached.
(C-TA:1)	Technical Assistance	5.0	5.0	0.0	0.0	0.0	5.0			
4.5.5	Development of Maputo Airport	6.5	5.2	1.3	1.3 Mozambique	0.0	5.2	1988	3 years	The runway is now being re-surfaced.
4.5.6	Development of Inhambane Airport	6.0	5.0	1.0	1.0 Mozambique	0.0	5.0	1989	5 years	
4.5.7	Development of Vilanculos Airport	2.5	2.0	0.5	0.5 Mozambique	0.0	2.0	1988	3 years	Rehabilitation of passenger terminal building started.
4.5.8	Improvement of ATC Equipment in Beira FIR, Mozambique	8.0	8.0	0.0	0.0	0.0	8.0	1989	1 year	Japan has been approached.
4.6.1	Development of Matsapha Airport	38.0	32.0	6.0	2.0 (EEC) 1.8 (France) 17.0 (Swazil'd) 6.0 Swaziland	0.0	11.2	1984	7 years	Contl tower, training & telecoms by EEC. France to fund training, tech assist, nav aids and landing equip. Runway by local funds. EEC approached for remainder.
4.8.1	Study on the Improvement of Livingstone, Ndola and Southdown Airports, Zambia	0.7	0.7	0.0	0.0	0.0	0.7	1989	1 year	TOR prepared. Financing for feasibility study being sought.

Table 2(I): Civil Aviation Projects (continued)

4.8.4	Study on New Hangar at Lusaka International Airport, Zambia	0.1	0.1	0.0	0.0	0.0	0.1	1989	3 months	ADB has been approached for financing this study together with P. 4.0.3.
4.8.6	Lusaka International Airport Development, Zambia	44.1	44.1	0.0	0.0	0.0	44.1	1990	10 years	
4.9.3	Modernisation of AFTN Message Switching Centre at Harare International Airport	0.6	0.6	0.0	0.0	0.0	0.6	1989	1 year	Implementation postponed.
4.9.4	Improvement and Expansion of Radar Coverage, Zimbabwe	8.0	8.0	0.0	0.0	8.0	0.0	1989	2 years	Equipment manufacturers requested to finance the project.
	TOTAL	261.1	242.9	18.2	45.4	8.0	207.7			

* The costs associated with this entry are not directly included in the Totals. They appear either under another Project or as costs for sub-Projects.
( ) Brackets around a country or financing agency indicates a foreign exchange contribution.

Table 2(J): Telecommunications Projects (All Amounts in USD Million)

Project No.	Project Title	Estimated Cost Total	Estimated Cost Foreign	Estimated Cost Local	Secured Funding Amount/Source	Funding Under Negotiation Amount/Source	Funding Gap	Implementation Start	Implementation Duration	Comments/Status
5.1.1	* Telecommunication Projects in the 10 Year Development Plan for Lobito Port Transp.System	35.1	35.1	0.0	0.0	0.0	35.1	1989	8 years	Project revised on basis of recently completed 10-Year Development Plan.
(T-M-1)	Technical Assistance to ENATEL	2.5	2.5	0.0	0.0	0.0	2.5	1989	2 years	
(T-MC-1)	Provision of HF Radio Maritime Communications to Lobito Harbour	0.8	0.8	0.0	0.0	0.0	0.8	1989	1 year	
(T-MC-2)	Expansion of Maritime Communication Facilities	1.8	1.8	0.0	0.0	0.0	1.8	1989	1 year	
(T-PT-1)	Microwave Link Benguela/Lobito -Luau	11.4	11.4	0.0	0.0	0.0	11.4	1989	3.5 years	
(T-PT-2)	Spur Routes along the Benguela /Lobito-Luau Corridor	5.9	5.9	0.0	0.0	0.0	5.9	1989	3.5 years	
(T-PT-3)	Extension/Rehabilitation of Switching and Outside Plant Along the Corridor	9.1	9.1	0.0	0.0	0.0	9.1	1989	6.5 years	
(T-PT-4)	Rehabilitation of Tropescatter Link Malange-Saurimo-Luena-Zambia	1.3	1.3	0.0	0.0	0.0	1.3	1989	1 year	
(T-PT-5)	Microwave Link Luanda-Benguela /Lobito	2.3	2.3	0.0	0.0	0.0	2.3	1993	3 years	
5.1.2	Expansion of International Telecommunication Services, Angola	38.0	32.4	5.6	32.4 (ADB) 5.6 Angola	0.0	0.0	1983	6 Years	Ongoing project. Completion in 1989.

Table 2(J): Telecommunications Projects (continued)

5.1.3	Microwave Link Luanda-Cabinda	5.1	4.1	1.0	0.2 Angola	0.0	4.9	1989	4 Years	Italy has been approached for financing the radio study.
5.1.6	Expansion of Telecommunication Training Centre, Angola	1.5	1.0	0.5	0.5 Angola	0.0	1.0	1989	2 years	
5.1.7	Expansion of Circuit Capacities for Transmission Routes South Luanda, Angola	1.5	1.5	0.0	0.0	0.0	1.5	1989	1 year	
5.2.3	Expansion of the Microwave Trunk Network, Botswana	30.5	28.0	2.5	2.5 Botswana 13.0 (Norway)	0.0	15.0	1988	6 Years	Norway is financing Francistown-Kasane with extension from Nata-Maun. Japan has been approached.
5.2.5	Rural Telecommunications Development Study for Botswana	0.3	0.2	0.1	0.1 Botswana 0.2 (ADB)	0.0	0.0	1988	1 Year	ADB is financing the study.
5.3.2	Rural Communication System, Lesotho	9.8	9.6	0.2	0.2 Lesotho 0.1 (Canada)	0.0	9.5	1988	2 Years	CIDA has provided USD 0.1 million for study under P. 0.0.5. Spain has been approached for financing implementation.
5.3.3	Rural Automatic Telephone Exchanges, Lesotho	3.0	2.5	0.5	0.5 Lesotho	0.0	2.5	1989	1 Year	Japan has been approached.
5.4.2	Digitalization of the Trunk Network, Malawi	21.0	19.0	2.0	19.0 (Japan) 2.0 Malawi	0.0	0.0	1987	2 Years	OECF (Yen Credit) of Japan is carrying out project implementation.
5.4.3	Supply of Digital Equip. for the Expansion of Tele. Exchngs in Blantyre- Lilongwe-Zomba	20.6	19.4	1.2	1.2 Malawi	4.0 (Italy)	15.4	1989	2 years	Italy is interested in funding the project in Blantyre
5.5.1	National/Regional Satellite Communication System of Mozambique	20.6	20.1	0.5	13.2 (France) 4.3 (Kuwait) 1.6 (Canada) 0.5 Mozambique	0.0	1.0	1984	5 Years	CIDA has provided funds for the Beira rehabilitation upgrade and feasibility study for Lichinga and Pemba domestic satellites.
5.5.3	National Telecoms Development Proj.with Connections to Neighbouring Countries (Reg. Part)	347.7	307.9	39.8	55.2 (Italy) 15.9 (ADB) 13.8 (Sweden) 8.1 (BADEA) 6.0 (Norway) 39.5 Mozambique	26.2 (FRG)	183.0	1985	7 Years	Parts of the proj.related to BCA are presented under P 5.5.5.FRG approached for financing telex exchange/Beira.NORAD & Swed.finance microwave link Zim/Tete/Bla

Table 2(J): Telecommunications Projects (continued)

5.5.5	* Telecommunications Projects in Beira Port Transport System Development Plan	20.1	18.1	2.0	0.7 (Italy) 2.0 Mozambique	0.1 (Portugal)	17.3	1986	10 Years	
(T-CB-1)	Spur Routes Beira-Machipanda, Mozambique	3.7	3.3	0.4	0.4 Mozambique	0.0	3.3			
(T-CB-2)	Crossboarder Section of the Link Beira-Chimoio-Mutare, Zimbabwe	0.8	0.7	0.1	0.7 (Italy) 0.1 Mozambique	0.0	0.0			
(T-CB-3)	Digital Microwave Link Beira-Caia-Tete, Mozambique	8.7	7.8	0.9	0.9 Mozambique	0.0	7.8			
(T-CB-4)	Spur Routes along Beira-Vila Nova da Fronteira, Malawi Corridor	6.3	5.7	0.6	0.6 Mozambique	0.0	5.7			
(T-TA-1)	Technical Assistance to TDM, Mozambique	0.6	0.6	0.0	0.0	0.1 (Portugal)	0.5			ITU with funding from Portugal approached to provide expert.
5.5.6	Maritime Radio Communication Project, Mozambique	2.5	2.3	0.2	0.2 Mozambique 0.1 (Norway)	0.1 (Norway)	2.1	1987	3 Years	Existing equipment Survey completed by Norway. Financing is required for the complete study.
5.6.2	ITSC at Ntondozi, Swaziland	2.9	2.4	0.5	0.5 Swaziland 2.4 (Italy)	0.0	0.0	1988	2 Years	Implementation contract signed with Italy.
5.6.3	Expansion of the National Microwave Trunk Network, Swaziland	3.0	2.5	0.5	0.5 Swaziland 2.5 (Italy)	0.0	0.0	1988	2 Years	Implementation contract signed with Italy.
5.6.4	Provision of Group & Channel Translating Equip. at Ntondozi for ITSC, Swaziland	1.4	1.3	0.1	0.1 Swaziland 1.3 (Italy)	0.0	0.0	1988	2 Years	Implementation contract signed with Italy.
5.7.2	Extension of ITSC Capacity, Dar es Salaam, Tanzania	4.7	4.5	0.2	4.5 (Sweden) 0.2 Tanzania	0.0	0.0	1989	2 Years	Sweden (SIDA) is to finance project implementation.

Table 2(J): Telecommunications Projects (continued)

5.7.3	Standard A Earth Station Satellite Station at Dar es Salaam, Tanzania	12.0	11.5	0.5	11.5 (Italy) 0.5 Tanzania	0.0	0.0	1989	2 Years	Contract on implementation signed with Italy.
5.7.4	New Transit Digital Telephone and Telex Exchanges for Dodoma Tanzania	3.1	2.4	0.7	0.7 Tanzania	0.0	2.4	1989	2 Years	
5.7.5	Digital Microwave Link Dar - Dodoma - Zanzibar and Exp. of Multiplex Equip. at Dodoma	8.6	8.1	0.5	0.5 Tanzania	8.1 (Italy)	0.0	1989	2 Years	Italy has been approached to finance the implementation of the link.
5.7.7	Provision of Digital Microwave Link Dar es Salaam-Mbeara-Songea and Exchange at Songea	28.0	28.0	0.0	0.0	0.0	28.0	1989	3 Years	Japan has been approached to finance Mbeara - Songea link.
5.8.1	Extension of the International Telephone Switching Centre (TISC) in Lusaka, Zambia	2.5	2.5	0.0	0.0	0.0	2.5	1989	2 Years	
5.8.2	Expansion of the Earth Station at Mwanbeshi, Zambia	25.0	23.0	2.0	7.1 (Canada) 2.0 Zambia	0.0	15.9	1989	3 Years	Canada has financed Phase I for Mwanbeshi II. Financing req'd for Mwanbeshi III.
5.8.3	Microwave Terminal at Chingola to Complete the Link Zambia - Zaire	0.2	0.2	0.0	0.0	0.0	0.2	1989	2 Years	An interim 120 channel link is in operation. Norway and Belgium have been approached for financing the 960 channel link.
5.8.4	Microwave Link Zambezi-Lucne, Zambia	4.0	3.8	0.2	0.2 Zambia	0.0	3.8	1989	2 Years	
5.8.6	Microwave Link Kariba (Zimb.)- Siavonga (Zambia) - Lusaka	1.6	1.6	0.0	1.6 (Italy)	0.0	0.0	1989	2 Years	Italy is financing Zambian portion up to Siavonga.
5.8.7	Message Switching System in Lusaka, Zambia	0.8	0.8	0.0	0.0	0.0	0.8	1989	1 Year	

Table 2(J): Telecommunications Projects (continued)

5.8.8	Livingstone-Kasane (Botswana) Microwave Link	0.8	0.7	0.1	0.1 Botswana 0.7 (Norway)	0.0	0.0	1989	1 Year	Norway is financing the project as extension of P. 5.9.3, Bulawayo-Livingstone Microwave Link.
5.8.9	Masterplan Study and Fundamental Planning Unit for Zambia	0.4	0.4	0.0	0.0	0.0	0.4	1989	2 Years	
5.9.6	Provision of Packet Switching for Data Network in Zimbabwe	3.6	3.2	0.4	0.4 Zimbabwe	0.0	3.2	1989	1 Year	
5.9.7	Supply of Digital Telephone Exchanges in Zimbabwe	52.6	47.5	5.1	47.5 (Japan) 5.1 Zimbabwe	0.0	0.0	1988	3 Years	Japan is financing the project.
5.9.8	Expansion of the Earth Station at Mazowe, Zimbabwe	11.5	10.5	1.0	1.0 Zimbabwe	0.0	10.5	1989	2 years	Japan has been approached for financing.
	TOTAL	724.0	656.1	67.9	329.5	38.5	356.0			

* The costs associated with this entry are notdirectly included in the Totals. They appear either under anotherProject or as costs for sub-Projects.
( ) Brackets around a country or financing agencyindicates a foreign exchange contribution.

Table 2(K): Meteorology Projects (All Amounts in USD Million)

Project No.	Project Title	Estimated Cost Total	Estimated Cost Foreign	Estimated Cost Local	Secured Funding Amount/Source	Funding Under Negotiation Amount/Source	Funding Gap	Implementation Start	Implementation Duration	Comments/Status
6.0.2	Regional Drought Monitoring Centre, Harare	0.8	0.7	0.1	0.1 Zimbabwe	0.7 (UK) (UNDP)	0.0	1988	5 Years	First phase of the construction of the building space is completed. Expert services and fellowship components in P.6.0.1.
6.0.3	Regional Meteorological Telecoms Hub and Data Exchange, Lusaka	1.9	1.3	0.6	0.2 Zambia	0.5	1.2	1988	5 Years	Several financiers have been approached.
6.0.4	Regional Maintenance Support of Meteorological Services	0.4	0.4	0.0	0.0	0.4 (Finland)	0.0	1989	5 years	Financing is expected to be considered by FINNIDA.
6.0.5	Data Processing in Meteorological Services	1.4	1.4	0.0	0.4 (Finland)	0.2 (Finland)	0.8	1988	5 Years	
6.0.6	Meteorological Observational Networks	8.2	8.2	0.0	1.3 (Finland)	3.9 (Finland)	3.0	1988	5 Years	
6.0.7	Meteorological Telecommunications	4.4	4.4	0.0	0.7 (Finland)	1.5 (Finland)	2.2	1988	5 Years	
6.0.8	Data Rescue Project	0.5	0.5	0.0	0.0	0.0	0.5	1989	2 Years	
6.5.1	Meteorological Buoys for Mozambique	0.1	0.1	0.0	0.0	0.0	0.1		2 Years	
6.5.2	Aeronautical Equipment for Airports in Mozambique	0.7	0.7	0.0	0.0	0.0	0.7	1989	5 Years	
6.7.1	Meteorological Buoys for Tanzania	0.4	0.4	0.0	0.0	0.0	0.4	1989	2 Years	
	TOTAL	18.8	18.1	0.7	2.7	7.2	8.9			

* The costs associated with this entry are notdirectly included in the Totals. They appear either under anotherProject or as costs for sub-Projects.
( ) Brackets around a country or financing agencyindicates a foreign exchange contribution.

Table 2(L): Postal Services Projects (All Amounts in USD Million)

Project No.	Project Title	Estimated Cost Total	Estimated Cost Foreign	Estimated Cost Local	Secured Funding Amount/Source	Funding Under Negotiation Amount/Source	Funding Gap	Implementation Start	Implementation Duration	Comments/Status
7.0.2	Feasibility Study on the Introduction of a Postal Giro System in the SADCC Countries	0.2	0.2	0.0	0.0	0.0	0.2	1989	10 months	
7.0.3	Technical Assistance to Postal Services	1.4	1.0	0.4	0.4 (Sweden) 0.1 Mozambique	0.0	0.9	1989	3 years	
7.0.4	Regional Programme for the Development of Postal Terminals	27.7	16.3	11.4	0.6 (Sweden) 2.6 Angola 0.8 Botswana 2.0 Lesotho 0.1 Malawi 0.4 Swaziland 2.0 Tanzania 2.4 Zimbabwe	0.0	16.8	1989	5 years	
7.5.1	Sorting Centre and Stamp Printing Facilities in Maputo, Mozambique	2.3	2.0	0.3	1.0 Mozambique 0.2 (Sweden)	0.0	1.1	1988	2 years	In addition to the local cost USD 0.3 million, USD 0.7 million of the foreign cost component has been funded by Moz. (acquisition of printing machinery).
	TOTAL	31.6	19.5	12.1	12.6	0.0	19.0			

* The costs associated with this entry are not directly included in the Totals. They appear either under another Project or as costs for sub-Projects.
( ) Brackets around a country or financing agency indicates a foreign exchange contribution.